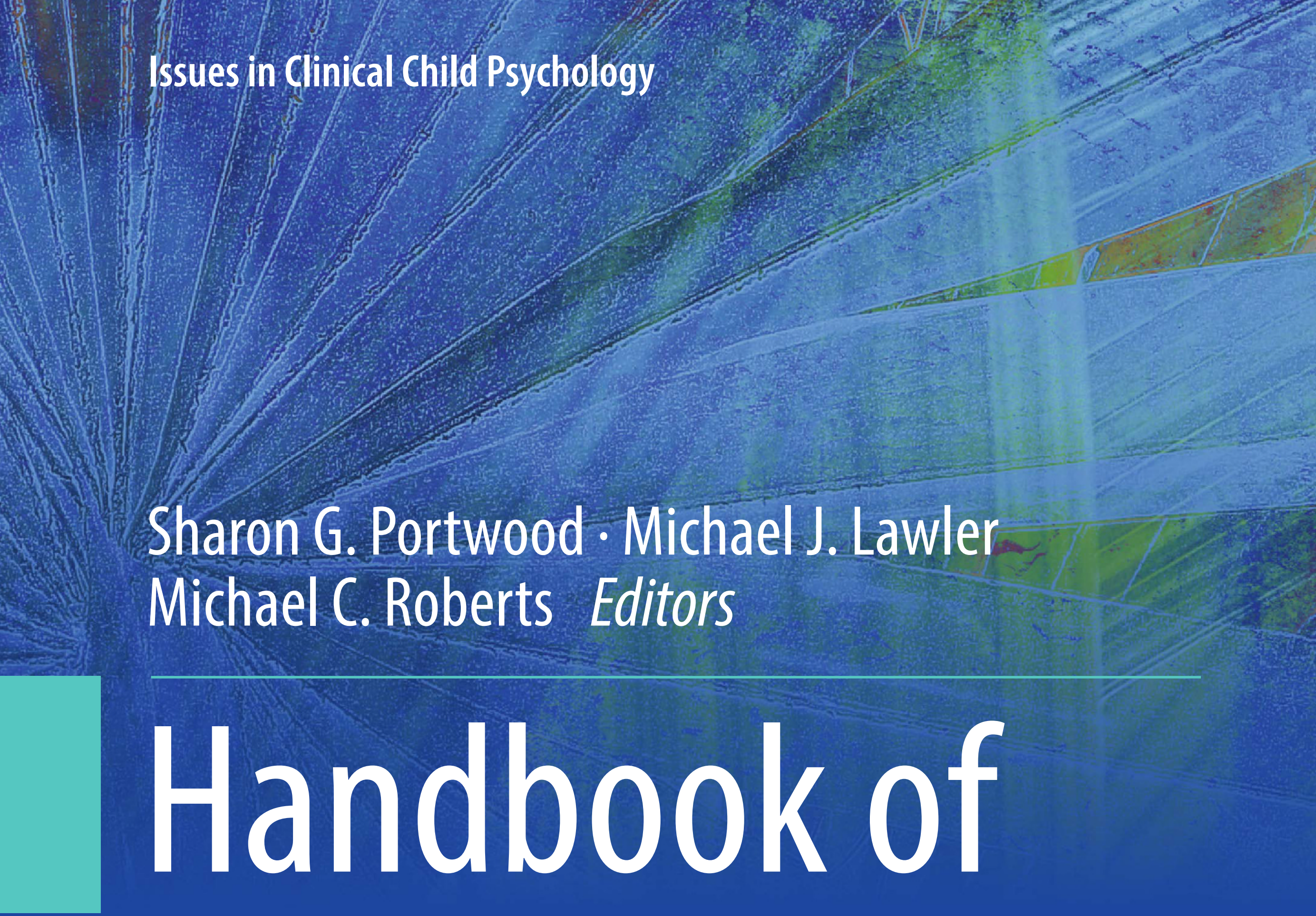

Issues in Clinical Child Psychology

Sharon G. Portwood · Michael J. Lawler
Michael C. Roberts *Editors*

Handbook of Adverse Childhood Experiences

A Framework for Collaborative Health Promotion

Springer

Issues in Clinical Child Psychology

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The *Issues in Clinical Child Psychology* book series represents a broad spectrum of professional psychology books, integrating clinical psychology with the development of children, adolescents, and their families and developmental psychopathology. The age coverage ranges from infancy to childhood to adolescence. Populations of interest include normally developing children and those exhibiting problems in developmental, behavioral, psychological, health, and academic realms. Settings include schools, mental health clinics, independent practice, pediatric offices and centers, and juvenile facilities. Topics of interest include developmental psychopathology, externalizing and internalizing disorders, assessment and diagnosis, interventions and treatments, consultation, prevention, school mental health, normal and abnormal development, family psychology, service delivery, diversity and cultural differences, and ethical and legal issues in clinical practice and research.

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Sharon Portwood

With love to my wife, Kimberly Lawler, our son, Sebastian Lawler, and our friends and family.

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Michael J. Lawler
June 22, 2023

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Part I

Introducing Adverse Childhood Experiences (ACEs) and Resilience

1

The Past, Present, and Promise of Adverse Childhood Experiences (ACEs) Science

Sharon G. Portwood, Michael J. Lawler, and Michael C. Roberts

> *Childhood is a tricky business. Usually something goes wrong.*
> — *Maurice Sendak*

Since its introduction in the landmark work by Felitti et al. (1998), the construct of adverse childhood experiences, or "ACEs," has been embraced by scientists and practitioners across a variety of disciplines. Among health and other human service professionals, as well as policymakers and the general public, awareness of ACEs and their potential to impact an individual's mental and physical health not only in childhood, but rather throughout the lifespan, continues to expand. The extent to which ACEs has resonated with such a broad audience is perhaps attributable to two fundamental truths that underlie this construct: (1) All of us are shaped by our experiences in childhood, and (2) All of us experience at least some "bad things" as children. While variations in the degree of adversity we encounter, as well as our reactions to it, are extreme, this shared experience may nonetheless serve as a common point of understanding from which more united efforts to improve health and well-being can be developed and implemented. To this end, it is important to articulate a unifying framework from which various stakeholders, representing diverse fields and perspectives, can approach understanding, applying, and advancing the empirical knowledge base on ACEs.

Over the past two decades, numerous public and private health agencies have recognized the value of adopting a public health approach to ACEs. This approach reflects a four-step process aimed at enhancing quality of life at the individual, community, and population levels, specifically: (1) define and monitor the public health problem; (2) identify risk and protective factors; (3) develop and test prevention strategies; and (4) implement strategies widely. In contrast with clinical approaches, which emphasize individual diagnosis and treatment, a public health approach to ACEs aims to mitigate the broader impact of ACEs and underscores the importance of prevention efforts. It further emphasizes the need to focus on health disparities and the unique challenges faced by vulnerable populations. Yet another important feature of a public health approach is that it brings together experts across communities and disciplines, including

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medicine, psychology, social work, public health, education, and other human services to shape theory, research, practice, and policy, taking into consideration the roles of biological, socioeconomic, environmental, and behavioral factors. Such an interdisciplinary, multilevel approach is essential to addressing complex problems such as ACEs.

While the construct of ACEs was introduced in the medical literature, it has now been studied extensively across a wide range of disciplines, and applied across an equally broad range of fields, including psychology, health care, education, social work, and criminal justice. This work highlights the promise of ACEs for advancing efforts to improve health and well-being for individuals, families, and communities. However, the development of multiple lines of research, resulting in multiple bodies of literature across disciplines, can make it difficult to identify consistencies across studies and settings, thus presenting a significant barrier to the effective translation of science to practice and policy.

Illustrative of the inconsistencies that characterize the current literature are the discrepancies in the number of "original ACEs" found across studies, with authors routinely referencing either 7 or 10 depending on how they choose to count the events studied by Felitti et al. (1998). More specifically, the ACEs Questionnaire focused on 10 individual items: (1) physical abuse, (2) sexual abuse, (3) emotional abuse, (4) physical neglect, (5) emotional neglect, (6) exposure to adult incarceration, (7) exposure to mental illness, (8) exposure to substance abuse, (9) exposure to violence in the household, and (10) parental separation or divorce. However, many authors group those same items into seven categories, which they label as "the seven original ACEs": (1) abuse (i.e., physical, sexual, and emotional abuse), (2) neglect (i.e., physical and emotional neglect), (3) exposure to adult incarceration, (4) exposure to mental illness, (5) exposure to substance abuse, (6) exposure to violence in the household, and (7) parental separation or divorce. More recently, others have opted for three categories: (1) abuse, (2) neglect, and (3) household dysfunction (comprised of exposure to adult incarceration, mental illness, substance abuse, and violence in the household, along with parental separation or divorce). Such fundamental inconsistencies in what is intended to be the same ACEs concept can create needless confusion and/or inaccuracies.

Varying approaches to and interpretations of research have also impeded meaningful organization of emerging ideas and findings into a cohesive body of knowledge on ACEs. Professionals have observed that there are "hundreds of studies" examining the association of exposure to childhood adversity to negative effects, creating complexity in synthesis (Evans et al., 2013; McLaughlin, 2016). Clearly, there need to be intentional efforts to integrate findings across studies.

Recognizing the widespread interest in ACEs, accompanied by the rapidly expanding number of efforts to apply the relevant science within a range of settings, in 2018, the American Psychological Association Committee on Children, Youth, and Families (CCYF), for which each of these authors served as Chair, undertook an initiative to advance efforts to ensure the effective translation of ACEs science to practice. Among the activities generated was the August, 2021, publication of a special issue of *American Psychologist,* entitled "Adverse Childhood Experiences: Translation to Action," for which these authors served as guest editors. This special issue featured 16 empirical and scholarly articles highlighting current ACEs research, practice, programs, and policy in psychology and allied disciplines. In selecting these manuscripts, we prioritized reports of novel empirical findings, measures, and models. However, the additional need to provide a source of broader, foundational knowledge on the ACEs science and its application was plain, prompting the development of this volume. Notably, this book does share two goals with the Special Issue, specifically, (1) to demonstrate the significance and relevance of psychological research and practice and (2) to catalyze further interdisciplinary and/or collaborative efforts to develop effective programs and policies informed by current ACEs science.

In this introductory chapter, we begin by providing a brief summary of the established knowledge on ACEs. We then provide a review and analysis of current research, aligned with three critical questions we have previously suggested as the basis for a framework for organizing and synthesizing current and future work on ACEs: "(1) How should ACEs be defined?; (2) How should ACEs be assessed?; and (3) How can ACEs science inform high quality services?" (Portwood et al., 2021, p. 183). We conclude by laying a foundation to guide the development of an ACEs framework based on public health principles that can serve to consolidate knowledge and to guide future work across disciplines and relevant study areas in a way that maximizes the quality of empirical findings and the effective translation of science to practice and policy.

Overview of Current Knowledge on ACEs

Given that the history of ACEs is a relatively short one, much is still unknown; however, a core set of facts has emerged from the empirical findings to date. Foremost among these is the clear association of ACEs with a wide range of physical, mental, and behavioral health outcomes across the lifespan. Over two decades of research have now demonstrated the negative impact of ACEs on health outcomes in childhood, adolescence, and adulthood, establishing that adversity in childhood can translate to adversity across the lifespan. Global research efforts have concluded that at least one-third of mental and behavioral disorders can be attributed to ACEs (American Academy of Pediatrics, 2014; Green et al., 2010; Kessler et al., 2010; McLaughlin, 2017; McLaughlin et al., 2012). Negative outcomes in childhood include externalizing disorders (e.g., conduct problems) and internalizing disorders (e.g., anxiety, depression), cognitive issues, and substance use and abuse (e.g., McLaughlin, 2016; Scully et al., 2020). Documented outcomes manifesting in adulthood extend to both physical and mental health, including cancer, stroke, heart disease, severe obesity, diabetes, depression, and suicide (Centers for Disease Control and Prevention [CDC], 2022). Other health risk behaviors associated with ACEs across the lifespan include smoking, alcoholism, and drug use. ACEs further impact additional indicators of well-being, such as academic underachievement, unemployment, and incarceration (see Portwood et al., 2021 and articles in special issue of *American Psychologist*, 2021, "Adverse Childhood Experiences: Translation to Action").

The high prevalence of ACEs is also undisputed. Since 2009, all but 2 of the 50 states (i.e., Massachusetts and Wyoming) have used the Behavioral Risk Factor Surveillance System (BRFSS) to collect some annual data on ACEs from their (noninstitutionalized) adult residents. Consistent with Felitti et al.' (1998) original study of ACEs, BRFSS data confirm that almost two-thirds of adults have experienced at least one ACE, with almost a quarter of all respondents experiencing three or more ACEs (CDC, 2022). While ACEs are common across communities, it is notable that certain groups, including women, Blacks, and members of other minority racial and ethnic groups, demonstrate heightened levels of risk for ACEs (Briggs, Brownlow, Hargrove, Mathies Dinizulu, Tunno, & Woods-Jaeger, Chap. 11, this volume; Merrick et al., 2019; Richards, Schwartz, Gilbert, & Wright, Chap. 12, this volume).

Consistent and compelling findings from the ACEs research have further established that different forms of ACEs frequently co-occur and that the accumulation of risk from multiple ACEs increases the likelihood of negative outcomes in both children and adults (Anda et al., 2006; Hunt et al., 2017). A recent CDC study documented that ACEs are related to no fewer than five of the top ten leading causes of death in the United States, including heart disease, respiratory disease, cancer, and suicide (Merrick et al., 2019). It follows that prevention efforts targeting ACEs extend to the prevention of other, significant health conditions and risks. In addition, since so many individuals can relate their own experiences to an ACEs framework, it has the potential to reduce the stigma often associated with mental health diagnosis and treatment and thus to erode a significant barrier to individuals' seeking care (Portwood et al., 2021).

Other empirical findings support yet another fundamental truth, and one that is widely acknowledged among experts and laypeople alike – "history is not destiny." In fact, many people thrive despite experiencing adversity in childhood. Accordingly, effective approaches to prevention entail not only minimizing adversity but also building resilience.

Current Directions in ACEs Research and Practice

As noted, current work on ACEs and the persistent questions that remain can be organized according to three broad themes: Definition, Assessment, and Application.

Definition

ACEs are generally defined as "potentially traumatic events in childhood" (CDC, 2022). Given the inherently subjective nature of ACEs (i.e., individuals differ on what they experience as traumatic), more precise definitions have been elusive. As McLaughlin (2016) emphasized, "childhood adversity is a construct in search of a definition" (p. 363). To date, researchers have frequently "worked backwards" to designate a specific type of event as an ACE after first establishing a link between that event and a negative physical, mental, and/or behavioral health outcome or outcomes. Based on this criterion (and their inclusion in the original ACEs study [Felitti et al., 1998]), the events universally recognized as ACEs are: physical, sexual, and emotional abuse; physical and emotional neglect; exposure to adult incarceration, mental illness, substance abuse, or violence in the household; and parental separation or divorce. However, if the sole criterion for labeling an event as an ACE is its potential for negative outcomes, it is clear that many more events should qualify for the label of "ACEs." For example, some experts contend that poverty, bullying, and exposure to community violence should be recognized as an ACE (see Cronholm et al., 2015; Finkelhor et al., 2015). There is a particularly strong case to be made that adversities experienced by minority racial and cultural groups, including discrimination and historical trauma, should fall within the purview of ACEs (see Hampton-Anderson et al., 2021; Woods-Jaeger et al., 2021).

Importantly, any expansion of the definition of ACEs must necessarily be balanced with a need for precision. Were ACEs to include *any* event with *any* negative outcome for *any* individual, the term would lose much of its value. A clear and precise definition is essential to the development of good theory, as well as effective intervention and prevention strategies, including sound policies.

Another major advantage to outlining a clear ACEs framework is the potential for leveraging the science in more established areas of study, including child trauma and child maltreatment. However, in order to assess the generalizability of findings across areas of inquiry, the similarities and distinguishing characteristics between ACEs and these constructs must first be clearly delineated. These efforts are still in their infancy. For example, Weems et al. (2021) have suggested that using the term "TRACES+" to designate a distinct class of ACEs involving trauma could facilitate the transfer of findings on children's exposure to trauma from the field of neuroscience.

Assessment

The ACEs Questionnaire continues to be the most popular screening tool and is used widely in both research and practice. Indeed, a significant advantage to the ACEs questionnaire is the ease with which it can be administered and scored. Respondents are asked to indicate whether they have experienced any of the ten life events included, and their score is then calculated simply by totaling the number of types of ACEs experienced. Selected cut-off points ranging from 1 to 4+ ACEs have been used to designate an individual as at risk. Criticisms of the ACEs

Questionnaire highlight the fact that it is limited to the assessment of the ten events on which Felitti et al. (1998) focused on their initial study. Notably, these researchers did not aim to develop a comprehensive, or even representative, list of specific experiences that might be characterized as ACEs; rather, they included events from their observations of a subset of their weight loss patients, who were primarily White and middle class. Given the now extensive body of research evidencing that a range of other experiences are associated with the same or similar outcomes as were associated with the events included in that original study, many (e.g., Karatekin & Hill, 2019; Hamby et al., 2021) have criticized the utility of continuing to rely on the ACEs Questionnaire. The summative scoring approach of the ACEs Questionnaire has also been a focus of criticism. In effect, this approach treats all ACEs as equal, despite the wide range of events included; for example, few, if any, would consider sexual abuse and parents' divorce as equivalent experiences. Beyond the type of event, an extensive body of research establishes that the frequency, duration, and severity of an event, as well as the interactions between and/or among these factors, significantly impact risk and outcomes (Briggs et al., 2021; Hughes et al., 2017; McLaughlin & Sheridan, 2016). One alternative to the ACEs Questionnaire, the Adverse Life Experiences Scale developed by Hawes et al. (2021), also includes age of exposure as an important dimension in the assessment of whether an experience is adverse.

Despite its limitations, the fact that the ACEs Questionnaire has been so widely used in both clinical and community settings would seem to ensure its continued appeal. Not only does the empirical method (and the peer-review process) encourage the selection of measures used in prior research, but practitioners and other community agencies and organizations also prefer measures that have been widely used, in part, because funders and other stakeholders tend to view such measures as credible. Importantly, the field needs assessment tools with strong empirical support that are culturally and developmentally appropriate. Such instruments can assist primary care-health professionals as practice screeners, aid clinical investigators with consistent measurement in their research, and provide clinicians with necessary information to implement and to evaluate preventive and therapeutic interventions.

Application

As previously noted, a relatively unique aspect of ACEs science is the speed with which it has been integrated into practice. This, of course, raises the paramount questions of how effectively research is being translated to practice and how best to ensure that the integrity of empirical findings is preserved. This already complex task is necessarily complicated by the fact that efforts to assess, to mitigate, to treat, and to prevent ACEs are occurring across disciplines and settings, each of which has its own unique characteristics, perspectives, and, often, language. As a result, while a primary strength, the interdisciplinary nature of the work on ACEs can also threaten its successful application in the absence of a clear and unifying framework.

Researchers and practitioners are still in the early stages of developing, implementing, and evaluating responses to ACEs, as well as approaches to preventing ACEs and/or their negative impact. Numerous aspects of intervention and prevention strategies must be considered, including access, content, delivery methods, and timing (see Portwood et al., 2021). There is also a great deal of work to be done to identify the unique needs of diverse service populations (see Briggs et al., Chap. 11, this volume; Hampton-Anderson et al., 2021; Woods-Jaeger et al., 2021). Professionals working in ACEs sciences and applications will need to draw from dissemination and implementation sciences to advance these efforts.

A strong evidence-base and properly framed advocacy efforts can foster the development of appropriate policies at the local, state, federal, and even international levels that intersect with the numerous systems impacted by ACEs and their outcomes. These systems include the child social welfare system, the education system, the juvenile justice system, law enforcement, and the health care and mental health-care systems (which are often bifurcated). There is a corresponding need for significant attention and improvement to the education and preparation of health-care and teaching professionals to ensure the availability of competently trained clinical and developmental scientists, preventionists, and interventionists to form collaborative, interprofessionally integrated teams for research and clinical services. Well-founded policies and adequately funded community programs are also needed. These include not only screening, but also coordinated systems of care, adequately funded and organized to provide effective follow-up services for those identified as requiring assistance.

Developing a Unified ACEs Framework

Past and current work on ACEs demonstrates that there are expansive opportunities for researchers, clinicians, other service providers, and policymakers to collaborate across disciplines to advance science, practice, and policy. However, a clear framework is needed to facilitate such a collaborative, interdisciplinary enterprise. Considerations related to the definition, assessment, and application of ACEs are central to the development of such a framework. Accordingly, this book is organized around these elements. Another critical consideration is the role of resilience, which is specifically addressed in the introductory section of this book and appears regularly in later chapters.

All of the chapters included in this volume were designed to provide readers with a broad understanding of the science and application of ACEs within specific topic areas, as well as to advance discussions on how to catalyze further interdisciplinary and/or collaborative efforts to develop effective programs and policies informed by science. Each chapter includes a review of the foundations and development of the relevant science, current examples of research and applications of ACEs science, and suggestions for continued advancement of the field.

Part I aims to provide the reader with an introduction to key concepts, including the importance of resilience in any conversation regarding ACEs. Following the current chapter, Narayan (Chap. 2) describes a conceptual framework for pathways of family resilience as protective and health-promoting factors for children's development. This chapter reviews the developing research base evidencing that negative consequences of intergenerational ACEs can be prevented through developmental resilience, "salutogenic," and trauma-informed perspectives.

The chapters included in Part II address the definition and measurement of ACEs and other indicators of adversity in childhood. Expanding on the ideas introduced in this chapter regarding the need to apply a public health approach to childhood adversity, Karatekin et al. (Chap. 3) emphasize how the ways in which ACEs are conceptualized influence whether prevention efforts can be successful. Following a scoping review of the sizable, and growing, research literature focusing on how ACEs and outcomes have been assessed, these authors conclude that, although no consensus exists, future research and policy activities need to shift priorities to upstream events to prevent the "roots" of the problem. In order to provide a broad perspective on issues of assessment, we next present two discussions of these issues, each focused on a different setting. In Chap. 4, Gabrielli, Bennett, Clement, Corcoran, and Nelapati explore assessment within a range of health and human service settings. While emphasizing the importance of early identification of ACEs through screening, these authors highlight the multiple barriers to proper assessment that must be overcome to ensure interventions are able to remediate and to prevent future problems. Shifting the focus to the assessment of ACEs in school settings, Staeheli, Mason, and Asby (Chap. 5) review how ACEs and childhood trauma-informed efforts can provide support for school staff, reduce negative events, and facilitate positive interactions and relationships. They then provide a detailed examination of the

School Compassionate Cultural Analytical Tool for Educators (S-CCATE), an initiative to train personnel how to alleviate the effects of ACEs and childhood trauma and to enhance learning, which seeks to transform schools into trauma-skilled and resilience-building communities for children.

The sections that follow focus on applications of ACEs science, beginning with Part III, which addresses applications across a range of health and human service settings. Beginning with medical settings, in Chap. 6, Huth-Bocks et al. characterize pediatric primary care as the ideal setting where childhood adversity can be addressed through screening and trauma-informed care. These authors present key principles and care practices. They also review implementation projects, presenting evaluation research and "lessons learned" from these efforts. Briggs, Carpenter, and MacLaughlin examine the pediatric medical setting further in Chap. 7, shifting the attention to the importance of universal screening for ACEs. Despite objections and barriers, they suggest that universal screening enhances opportunities for interventions for prevention and amelioration of identified problems, providing examples of innovative policies and procedures from the American Academy of Pediatrics and HealthySteps, in particular. Turning to educational settings, Gherardi, Chafouleas, and Koslouski (Chap. 8) review current efforts to implement trauma-informed interventions in pre-kindergarten through 12th grades. These authors propose that such efforts can be integrated with other initiatives, attending to school systemic issues for a more holistic approach to student support that is trauma-informed and resilience-focused. Highlighting yet another important setting in which children and adolescents present, Baglivio and Wolff (Chap. 9) examine the juvenile justice system, noting that the experience of the justice system involvement may itself serve as an ACE. They provide a detailed exploration of the implications for policy, screening, assessment, and trauma-focused intervention, along with training for personnel in juvenile justice and child welfare systems.

Part IV moves the focus to ACEs as they relate to current policy and public health issues, with an emphasis on framing issues according to specific populations of interest, particularly historically underrepresented groups. In Chap. 10, Valdez et al. integrate ACEs science into social justice and equity considerations as they examine the experiences of Latinx children in immigrant families in the United States. The authors' Immigration-Related Adverse Childhood Experiences Framework conceptualizes ways to support Latinx children and to prevent ACEs through comprehensive community, school, and clinical programs. In Chap. 11, Briggs et al. review the impact of racial stressors on the health and well-being of Black Americans, including historical trauma, racial trauma, and ACEs. After describing several interventions for the multiple traumas that impact children and promote positive development, they detail important recommendations for clinicians working with Black youth. In Chap. 12, Richards, Schwartz, Gilbert, and Wright note the limited research on ACEs among Native Americans and consider the historical trauma and oppression that have had long-term effects on Native children and adolescents. They consider the record of oppression and resulting trauma as ACEs in the context of more traditionally defined adverse experiences. This chapter further discusses culturally appropriate applications of evidence-based interventions for prevention and intervention with members of Native communities. In Chap. 13, Bryant, Oo, Azcevedo, and Damian examine the COVID-19 pandemic and the role of ACEs science in understanding and addressing the associated health, psychological, and educational challenges.

Part V focuses on prevention and policy, highlighting important directions for future work on ACEs. In an innovative conceptualization, Harper, Treves-Kagan, and Kennedy (Chap. 14) highlight the value of applying a health equity lens to the prevention of ACEs by focusing on changes to social and structural determinants of health, including financial security, housing, childcare and early childhood education, education and juvenile justice policies, and access to social services. They then offer strategies for community organizing and mobilizing action for primary prevention of ACEs. Ottley et al., the authors of Chap. 15, are affiliated with the Centers for Disease Control and Prevention (National Center on Injury Prevention and Control), and offer an important perspective on current and future directions in ACEs research and prevention activities. More specifically, they describe technical packages and funding initiatives for local and state efforts to effect community change in response to ACEs. Highlighting gaps between the scientific foundations and public policy development, Dodgen and Anderson (Chap. 16) examine how to fill these gaps and to respond to the needs posed by ACEs, promoting greater understanding of policymakers' positions and challenges on the part of scientists and clinicians. Dodgen and Anderson also provide information on how expert professionals can translate their work and expertise into useful communication to inform policy formation from an evidence-base and, thus, impact childhood adversity.

Importantly, while each individual chapter provides a comprehensive discussion of an important topic related to ACEs, it also serves as an important piece of a broader ACEs framework. Accordingly, in Chap. 17, we conclude our examination of ACEs by distilling critical concepts across the preceding chapters and using these to develop a cohesive ACEs framework.

Conclusion

The body of scientific evidence to date clearly establishes that ACEs are important. However, beyond concluding that (1) ACEs can have negative effects in childhood, adolescence, and/or adulthood, (2) as adversity increases, so does the risk of negative outcomes, and (3) although ACEs are common, members of some groups are at disproportionate risk of ACEs, it becomes difficult to reconcile and to apply findings across disciplines and settings. In addition, the outstanding questions are so numerous that a clear framework is needed to organize the areas of inquiry and both current and future findings. Through the development of this framework, we hope to facilitate future discussions that will advance the field of ACEs and help it to reach its full promise for improving the lives of individuals and their families.

References

American Academy of Pediatrics. (2014). *Adverse childhood experiences and the lifelong consequences of trauma*. Available at: www.aap.org/traumaguide

Anda, R. F., Felitti, V. J., Bemner, J. D., Walker, J. D., Whitfield, C., & Perry, B. D. (2006). The enduring effects of abuse and related adverse experiences in childhood. *European Archives of Psychiatry and Clinical Neuroscience, 256*, 174–186. https://doi.org/10.1007/s00406-005-0624-4

Briggs, E. C., Amaya-Jackson, L., Putnam, K. T., & Putnam, F. W. (2021). All ACEs are not equal: The contribution of synergy to ACE scores. *American Psychologist, 76*, 243–252.

Centers for Disease Control and Prevention. (2022). *Fast Facts: Preventing adverse childhood experiences*. https://www.cdc.gov/violenceprevention/aces/fastfact.html

Cronholm, P. F., Forke, C. M., Wade, R., Bair-Merrit, M. H., et al. (2015). Adverse childhood experiences: Expanding the concept of adversity. *American Journal of Preventive Medicine, 49*, 354–361. https://doi.org/10.1016/j.amepre.2015.02.001

Evans, G. W., Li, D., & Whipple, S. S. (2013). Cumulative risk and child development. *Psychological Bulletin, 139*(6), 1342–1396. https://doi.org/10.1037/a0031808

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*, 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Finkelhor, D., Shattuck, A., Turner, H., & Hamby, S. (2015). A revised inventory of adverse childhood experiences. *Child Abuse and Neglect, 48*, 13–21. https://doi.org/10.1016/j.chiabu.2015.07.011

Green, J. G., McLaughlin, K. A., Berglund, P. A., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2010). Childhood adversities and adult psychiatric disorders in the national comorbidity survey replication I: Associations with first onset of DSM-IV disorders. *Archives of General Psychiatry, 67*(2), 113–123. https://doi.org/10.1001/archgenpsychiatry.2009.186

Hamby, S., Elm, J. H. L., Howell, K. H., & Merrick, M. T. (2021). The cumulative burden of childhood adversities transforms the science and practice of trauma and resilience. *American Psychologist, 76*, 230–242.

Hampton-Anderson, J. N., Carter, S., Fani, N., Gillespie, C. F., Henry, T. L., Holmes, E., Lamis, D. A., LoParo, D., Maples-Keller, J. L., Powers, A., Sonu, S., & Kaslow, N. J. (2021). Adverse childhood experiences in African Americans: Framework, practice, and policy. *American Psychologist, 76*, 314–325. https://doi.org/10.1037/amp0000767

Hawes, D. J., Lechowicz, M., Roach, A., Fisher, C., Doyle, F. L., Noble, S., & Dadds, M. R. (2021). Capturing the developmental timing of adverse childhood experiences: The adverse life experiences scale. *American Psychologist, 76*, 253–267.

Hughes, K., Bellis, M. A., Hardcastle, K. A., et al. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health, 2*, e356–e366. https://doi.org/10.1016/S2468-2667(17)30118-4

Hunt, T. K. A., Slack, K. S., & Berger, L. M. (2017). Adverse childhood experiences and behavioral problems in middle childhood. *Child Abuse and Neglect, 67*, 391–402. https://doi.org/10.1016/j.chiabu.2016.11.005

Karatekin, C., & Hill, M. (2019). Expanding the original definition of Adverse Childhood Experiences. *Journal of Child & Adolescent Trauma, 12*, 289–306. https://doi.org/10.1007/s40653-018-0237-5

Kessler, R. C., McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., et al. (2010). Childhood adversities and adult psychopathology in the WHO world mental health surveys. *The British Journal of Psychiatry, 197*(5), 378–385. https://doi.org/10.1192/bjp.bp.110.080499

McLaughlin, K. A. (2016). Future directions in childhood adversity and youth psychopathology. *Journal of Clinical Child and Adolescent Psychology, 45*(3), 361–382. https://doi.org/10.1080/15374416.2015.1110823

McLaughlin, K. (2017, April). Science Brief: The long shadow of adverse childhood experiences. *Psychological Science Agenda*. Accessed from https://www.apa.org/science/about/psa/2017/04/adverse-childhood

McLaughlin, K. A., & Sheridan, M. A. (2016). Beyond cumulative risk: A dimensional approach to childhood adversity. *Current Directions in Psychological Science, 25*(4), 239–245. https://doi.org/10.1177/0963721416655883

McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2012). Childhood adversities and first onset of psychiatric disorders in a national sample of U.S. adolescents. *JAMA Psychiatry, 69*(11), 1151–1160.

Merrick, M. T., Ford, D. C., Ports, K. A., Guinn, A. S., Chen, J., et al. (2019). Vital signs: Estimated proportion of adult health problems attributable to adverse childhood experiences and implications for prevention – 25 states, 2015–1017. *Morbidity and Mortality Weekly Report, 68*, 999–1005. https://doi.org/10.15585/mmwr.mm6844e1

Portwood, S. G., Lawler, M. J., & Roberts, M. C. (2021). Science, practice, and policy related to Adverse Childhood Experiences: Framing the conversation. *American Psychologist, 76*, 181–187.

Scully, C., McLaughlin, J., & Fitzgerald, A. (2020). The relationship between adverse childhood experiences, family functioning, and mental health problems among children and adolescents: A systematic review. *Journal of Family Therapy, 42*(2), 291–316. https://doi.org/10.1111/1467-6427.12263

Weems, C. F., Russell, J. D., Herringa, R. J., & Carrion, V. G. (2021). Translating the neuroscience of Adverse Childhood Experiences to inform policy and foster population level resilience. *American Psychologist, 76*, 188–202.

Woods-Jaeger, B., Briggs, E. C., Gaylord-Harden, N., Cho, B., & Lemon, E. (2021). Translating cultural assets research into action to mitigate adverse childhood experience–related health disparities among African American youth. *American Psychologist, 76*(2), 326–336. https://doi.org/10.1037/amp0000779

2

Intergenerational Resilience in the Context of Adverse Childhood Experiences (ACEs)

Angela J. Narayan

A growing body of research on adverse childhood experiences (ACEs) focuses on understanding the extent to which the intergenerational transmission of ACEs from parents to children occurs (Dube, 2020; Hays-Grudo et al., 2021; Merrick & Guinn, 2018). Within this line of inquiry, it is equally important to consider factors that increase risk for ACEs across generations, and factors that promote family resilience in the context of ACEs (Narayan et al., 2021). It is particularly important to understand how to protect against the effects of parents' family-of-origin ACEs so that ACEs in the next generation may be prevented entirely.

The concept of ACEs and the goal to prevent ACEs in current and future children inherently have intergenerational implications, yet mechanisms responsible for the continuity of or protection against ACEs across generations are not well understood. ACEs were originally operationalized to focus on adults' family-of-origin experiences (Felitti et al., 1998). ACEs reflect a form of cumulative risk tabulated as the sum of a set of individual childhood adversities. Although the individual adversities comprising ACEs have varied and expanded in recent years, ACEs typically include various experiences of childhood maltreatment (emotional, physical, and sexual abuse, and emotional and physical neglect) and various experiences reflecting childhood exposure to family/household dysfunction (parental separation/divorce and domestic violence, and parental/household member substance use, mental illness, and incarceration) (CDC, 2021). The first ACE studies found that higher levels of adults' reported ACEs were linked to higher risk for contemporaneous physical and mental health problems, elevated health risk behaviors, and earlier morbidity, as well as higher risk for teen pregnancy and paternity (Anda et al., 2002; Felitti et al., 1998; Hillis et al., 2004). Yet, the original ACE studies did not extend inquiry beyond unintended pregnancy to explore links between adults' reported ACEs and the ACEs of their children. Efforts have begun to document continuity in ACEs across generations and to identify the protective role of parents' contemporaneous positive relationships with children, romantic partners, or other supportive adults as buffers against intergenerational ACEs (Merrick & Guinn, 2018; Narayan et al., 2017; Schofield et al., 2013), yet much work remains to be done.

Since the original ACEs studies, recent research endeavors and national public health efforts have also shifted to translating science into practice and preventing ACEs in children (CDC, 2019; CDC, 2021; Portwood et al., 2021). Given this prevention focus, it is critical to use a developmental and trauma-informed perspective in understanding resilience in the context of

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intergenerational ACEs, beyond exclusive focus on parents' contemporaneous protective factors. Because the concept of ACEs refers to childhood experiences, it is also important to reflect back on the childhoods of parents when understanding how to prevent ACEs in their children. That is, greater focus is needed to understand how positive experiences in parents' childhoods have supported their adjustment into adulthood and buffered against the transmission of ACEs to their offspring (Bethell et al., 2019; Crouch et al., 2019; Narayan et al., 2021). In other words, the origins of children's risk for ACEs, and an optimal understanding of how to prevent them, stem from their parents' legacy of childhood adversity, as well as their parents' resilience factors during childhood, across their development into adulthood, and before or during parenthood.

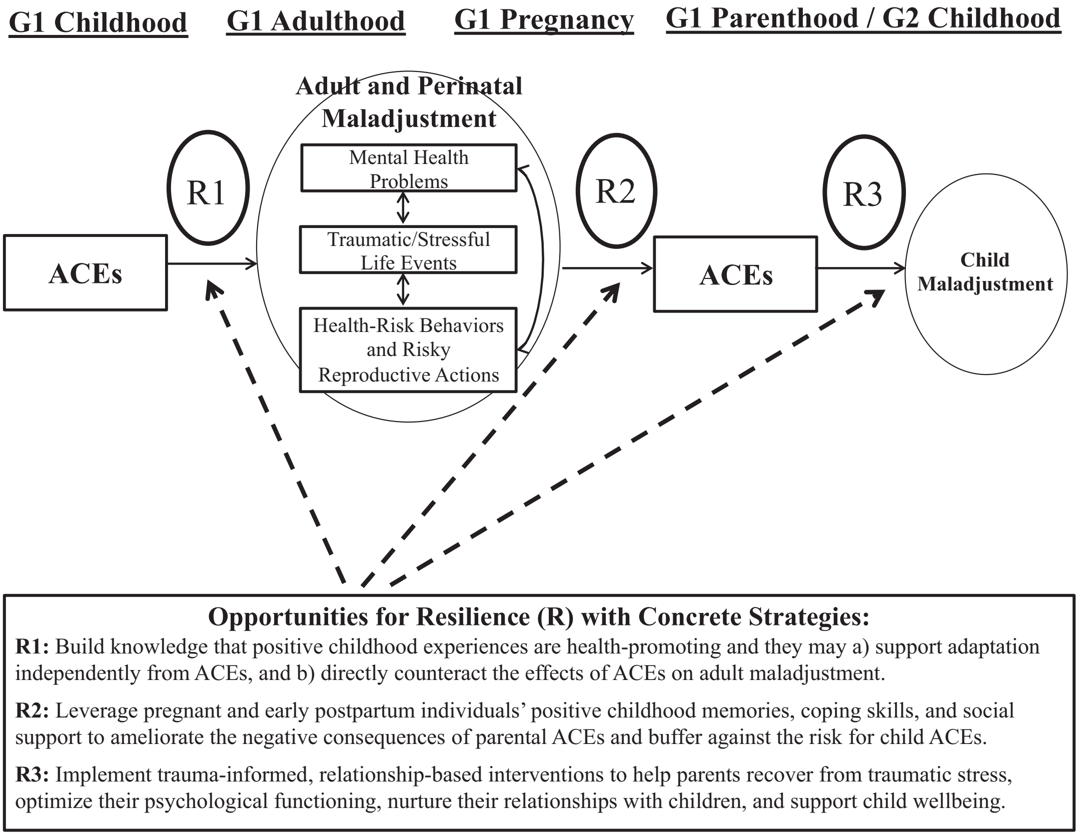
Parents' resilience across their own early development is critical to understand as a process that may buffer against the very maladjustment that in turn becomes ACEs for the next generation of children. This maladjustment includes parents' mental health problems, relationships characterized by violence or victimization, high-risk or criminal behaviors, and negative or abusive parenting practices, all of which have high potential to become ACEs for children (Dube, 2020). Without an intergenerational lens that examines the origins of risk and resilience for children's ACEs *beginning in the childhoods of their parents*, the goal to prevent ACEs in children cannot be fulfilled. Optimal prevention of ACEs in children comes from understanding several windows within the intergenerational pathway of ACEs that may be opportunities to protect children against the consequence of parents' ACEs and prevent ACEs in children entirely (Hays-Grudo et al., 2021; Merrick & Guinn, 2018; Narayan et al., 2021).

The purpose of this chapter is to apply a developmental and trauma-informed perspective and resilience and health-promoting frameworks to identify these windows of opportunity that may inform strategies to prevent ACEs and their consequences in current and future generations of children. The first part of this chapter provides an overview of the resilience and health-promoting frameworks, which were running parallel to, but largely separate from the ACEs literature over the past several decades. The second part identifies several under-recognized risk pathways in the intergenerational transmission of ACEs that also serve as opportunities to promote parent and family resilience with concrete strategies (see Fig. 2.1). This section describes three pathways that are opportunities to buffer the effects of ACEs across generations: (1) parents' childhood experiences to their adulthood functioning (before they became parents); (2) adults' functioning before pregnancy or parenthood, or during pregnancy before childbirth; and (3) the most commonly studied pathway, i.e., parents' functioning during parenthood in the context of the parent–child relationship. This chapter focuses on the first two pathways since they are less developed in the literature. The third part of this chapter concludes with a summary underscoring the importance of considering all parts of these intergenerational pathways as those involving risk for ACEs but also opportunities to promote healthy, resilient functioning in children and families. Conclusions emphasize the need to leverage resilience and health-promoting perspectives continually within the context of ACEs by implementing preventive resources as early as possible for young people, ideally before pregnancy or parenthood.

Part I: Overview of the Resilience and Health-Promoting Frameworks

The Resilience Framework

The earliest waves of research on child resilience emerged in the clinical child and developmental psychopathology literatures in the latter half of the twentieth century when investigators began to take notice of children who seemed to "beat the odds," or show favorable outcomes despite experiencing various forms of adversity (Garmezy, 1987; Rutter, 1987). Researchers noted that many children who experienced adversities that would later be conceptualized as ACEs (e.g., having a parent with serious mental illness, experiencing



Opportunities for Resilience (R) with Concrete Strategies:

R1: Build knowledge that positive childhood experiences are health-promoting and they may a) support adaptation independently from ACEs, and b) directly counteract the effects of ACEs on adult maladjustment.

R2: Leverage pregnant and early postpartum individuals' positive childhood memories, coping skills, and social support to ameliorate the negative consequences of parental ACEs and buffer against the risk for child ACEs.

R3: Implement trauma-informed, relationship-based interventions to help parents recover from traumatic stress, optimize their psychological functioning, nurture their relationships with children, and support child wellbeing.

Fig. 2.1 Opportunities to promote resilience (R) within pathways of intergenerational ACEs

abuse or neglect) developed well and did not necessarily succumb to psychopathology or maladaptation (Cicchetti et al., 1993; Masten et al., 1990; Werner & Smith, 1992). This first wave of resilience research was devoted to identifying and understanding the positive experiences, resources, or assets that helped these at-risk children thrive. For instance, resilience researchers drew from historical accounts that following WWII, children seemed to fare better during severe ongoing adversity such as war (e.g., exposure to armed conflict, bombings, and destruction of cities) if they could rely on at least one supportive caregiver (Freud & Burlingham, 1943). These early observations of child resilience echoed over time to illustrate that the presence of at least one warm, supportive, and consistent caregiver often buffers children against the effects of risky environments (Masten et al., 2023).

Definitions, Key Terms, and Models of Resilience

From this early research, definitions of resilience developed, as did identification of additional influences and processes that seemed to explain why children thrive in adverse contexts. Resilience is now defined as the capacity of a dynamic system (e.g., an individual organism; a unit such as a parent–child dyad or a family; or a broader ecological system) to adapt in the midst or aftermath of adversity that threatens system function or survival, and manifest positive adaptation (Masten et al., 2023; Narayan et al., 2021). A critical assumption of resilience is that it cannot be manifested without the presence of risk.

Around the same time that the original ACE studies were first published at the end of the twentieth century, the child resilience literature underwent a second wave that delineated explanatory factors, mechanisms, and models for resilient outcomes (Masten & Coatsworth, 1998; Luthar et al., 2000; Sameroff, 1999). Promotive factors became defined as assets, resources, or attributes that predict favorable outcomes for most individuals or systems, regardless of the presence or level of risk. Classic examples of promotive factors include warm and supportive parenting, good cognitive ability or self-regulation skills, and high socioeconomic level. Promotive factors are often associated with competence, defined as favorable outcomes in the absence of adversity. While promotive factors predict better outcomes for most people, protective factors predict better outcomes particularly when adversity is elevated. Examples of protective factors include those that only become helpful in high-risk situations (e.g., a seatbelt or helmet during a crash, a vaccination during exposure to a virus), or those that are helpful for most people but become particularly helpful during adversity (e.g., warm and supportive parenting in the context of violence). Child resilience researchers assume that certain factors, such as positive parenting or good self-regulation skills, are generally helpful for everyone and are promotive, but become even more essential during adversity, and are also protective. Models of child resilience therefore assume that there are several plausible processes associated with observations of resilient functioning in an individual. For instance, promotive factors, such as good attendance and high motivation in school, could directly predict favorable outcomes, such as high educational and vocational achievement. These promotive factors could operate independently of other risk factors (e.g., illness, injury, stressful life events) that may also threaten the same positive outcomes. Alternatively, a safe and involved caregiver could operate in interaction with other risk factors (e.g., family or community violence, residential instability) by directly protecting against (i.e., moderating) the effects of violence exposure or inconsistent school attendance on achievement (Masten et al., 2023; Narayan, 2015).

The Salutogenic Model of Health Promotion

Models of child resilience are highly compatible with other strengths-based frameworks for long-term health and well-being. For instance, the Salutogenic Model of Health Promotion was expanded upon at the end of the twentieth century as a counterpoint to medical models that focused on the pathogenic origins of disease. The Salutogenic Model instead emphasized that healthy functioning is not just the absence of risk factors or pathogenic processes but rather, active engagement with positive, health-promoting factors. These factors may include engaging in physical exercise, eating nutritious food, and abstaining from substances; as well as relying on resources, such one's internal capacities (e.g., motivation, persistence, cognitive control), coping strategies (e.g., relaxation skills, religious faith), and social support (Antonovsky, 1996; Idan et al., 2017).

Child resilience researchers called this collection of positive experiences, resources, and assets the "short list" (Masten & Coatsworth, 1998), which reflect factors that may independently promote positive functioning, similar to health-promoting or salutatory factors within the Salutogenic Model (Antonovsky, 1996). Many of the items on the short list include experiences and resources within a developing child's ecology, including internal assets (e.g., a sense of belonging and predictability in home life, positive self-esteem, and strong beliefs), supportive relationships (e.g., with caregivers, teachers, friends), and community assets (e.g., connections to neighbors or mentors; Masten, 2007). The Salutogenic Model also proposed a similar set of resources reflecting both internal factors (e.g., identity, self-esteem, faith and core beliefs, knowledge and intelligence) and external factors (e.g., material resources, support, family and community traditions). These Salutogenic factors were together termed "generalized resistance resources (GRRs)" and also ranged on a continuum, with higher levels of resources associated with more favorable functioning (Antonovsky, 1996; Idan et al., 2017).

Although developed independently from one another, models of child resilience and health promotion both emphasize that the accumulation of positive behaviors, experiences, resources, and assets are important for healthy development, both to promote well-being and to counteract risk. Both models also underscore that health and resilience are processes that require an individual's active and ongoing engagement with their surrounding environment. Furthermore, these models converge in agreement that health and resilience cannot be measured or quantified as singular points in time or finite outcomes because promotive and protective factors, and their relation to risk factors, often operate as dynamic transactional processes (Antonovsky, 1996; Masten, 2007; Rutter, 1987). Indeed, several decades of resilience research have documented that favorable experiences and resources reflecting the "short list" (which could also be conceptualized as GRRs) serve as promotive and protective factors that interact with or counteract various types of ACEs, including exposure to violence and maltreatment (Jaffee et al., 2013; Masten et al., 2023; Narayan et al., 2019).

As the ACEs literature progresses through its third decade, it is critical that it incorporates and integrates the resilience and health-promoting literatures, which were both developed before the original ACEs studies but in separate fields. Original developers of the ACEs literature largely came from the medical and public health fields (Anda et al., 2002; Dube et al., 2002; Felitti et al., 1998). Alternatively, leaders in the child resilience and health promotion literatures have largely come from the social sciences, such as the disciplines of clinical and developmental psychology and sociology (Antonovsky, 1996; Masten et al., 2023; Luthar et al., 2000; Werner & Smith, 1992), with additional major contributors from child psychiatry (Rutter, 1987). This division has likely contributed to the lack of integration of factors responsible for intergenerational resilience in the context of ACEs. For instance, in the original ACE studies and in subsequent replications using the Brief Risk Factor Surveillance System (BRFSS), approximately two-thirds of all surveyed adults reported one or more ACEs, yet a large proportion of surveyed adults did not display negative outcomes (CDC, 2021; Dube, 2020). These observations first suggest that approximately one-third of adults may have had a preponderance of positive life experiences (e.g., reflecting factors on the "short list" or GRRs) in the absence of ACEs. They also suggest that even for those with ACEs, salutatory or health-promoting factors may have accounted for why many individuals in the original ACE studies did not experience negative outcomes. Yet, in the original ACEs studies, only two empirical papers examined adults' resilience or salutatory factors in the context of ACEs (Dube et al., 2013; Hillis et al., 2010), and no study from the original ACE cohorts examined resilience in the next generation. This gap highlights key questions, namely, what factors might explain why some adults/parents with histories of ACEs avoid the negative consequences associated with them, and relatedly, why might their children avoid ACEs entirely? Efforts that identify the extent of promotive/salutatory and protective factors present in adults' childhoods may inform why some adults do not experience negative outcomes following ACEs and why in many cases, ACEs are not transmitted across generations to their children.

Part II: Opportunities to Promote Resilience Within Pathways of Intergenerational ACEs

Positive Childhood Experiences to Adulthood Adjustment

This section reviews efforts to identify promotive/salutatory and protective factors in the early lives of adults, before they became parents, as competence or resilience processes responsible for helping adults to avoid the negative consequences of ACEs and to avert the transmission of ACEs to children in the next generation. This pathway represents the first opportunity to promote resilience (Fig. 2.1, "R1") against the intergenerational transmission of ACEs. Along with ACEs, positive childhood experiences (PCEs) in adults' families of origin are an equally important predictor of long-term outcomes but have received less attention (Bethell et al., 2019; Narayan et al., 2018).

Recent studies have begun to highlight the role of adults' PCEs above and beyond the effects of ACEs. One of the two resilience-focused studies from the original ACE cohort documented that several childhood family strengths, such as perceiving family closeness, support, loyalty, and responsiveness to health needs; and feeling important and protected directly reduced the odds of adolescent pregnancy, later onset of sexual initiation, and occurrence of several other negative adult outcomes, including family conflict, uncontrollable anger, and financial strain (Hillis et al., 2010). This paper was the first of the original ACE studies to identify that early protective factors could buffer against several adulthood outcomes that in turn could become ACEs reflecting dysfunction for the next generation of children.

Since Hillis and colleagues' (2010) study, several other investigators have uncovered how PCEs may offset the effects of ACEs on adults' maladjustment, echoing the resilience literature. For instance, the Protective and Compensatory Experiences (PACEs) questionnaire was developed to reflect several positive childhood relationships and resources from the "short list" of promotive and protective factors. Findings showed that adults who reported higher numbers of these cumulative positive relationships (e.g., having a supportive caregiver, friend, and mentor; identifying with a social group and volunteering in the community) and resources (e.g., having access to a clean and safe home with a predictable routine and high-quality education; and being involved in physical activity, organized sports, and a hobby) reported more nurturing parenting attitudes, suggesting a promotive effect of higher PACEs on positive parenting. Additionally, higher levels of PACEs buffered against the effects of ACEs on harsh parenting attitudes, also illuminating the protective effect of PACEs (Morris et al., 2021). These findings indicate that PACEs may be a buffer in the sequelae between parents' ACEs and risk for negative caregiving of offspring, which could itself become an ACE (e.g., child maltreatment) in the next generation.

The Benevolent Childhood Experiences (BCEs) scale (Narayan et al., 2018) is another example of a short 10-item instrument that drew from the resilience literature and was designed to be a counterpart to the traditional 10-item ACEs scale (CDC, 2021). The BCEs scale was developed to be culturally sensitive and appropriate for individuals reared in developing countries with 10 positive experiences not contingent on socioeconomic status. BCEs items reflect positive relationships (the presence of a safe and supportive caregiver, best friend, teacher, non-parental adult, and good neighbors) and a positive and predictable quality of life (positive beliefs, enjoyment of school, opportunities to have fun, a positive self-image, and a predictable home routine). In an ethnically diverse sample, mean levels of BCEs did not differ between individuals who identified as White, Black, or Latinx, or individuals who were US versus foreign born, providing support that BCEs items may generalize across cultural groups.

In this first BCE study, higher levels of BCEs directly predicted lower levels of pregnant women's posttraumatic stress disorder (PTSD) symptoms and exposure to prenatal stressful life events, even after accounting for ACEs, suggesting direct, promotive effects of BCEs. Additionally, higher levels of BCEs also offset the effects of high ACEs on PTSD symptoms and stressful life events, suggesting that BCEs may also be protective (Narayan et al., 2018). These findings echo those of Morris et al. (2021) that higher levels of adults' PCEs may protect against the transmission of adversity before the next generation is born (via buffering against negative parenting attitudes or exposure to stress in utero). Moreover, in both of these studies, inverse associations between ACEs and PACEs or BCEs were only modest, suggesting that childhood adversity and PCEs are not entirely orthogonal, and many individuals have high levels of both ACEs and PCEs .

Although both the BCEs and PACEs instruments were developed with the resilience literature in mind, both also align well with the

Salutatory Model of Health Promotion. Studies using each instrument indicate that positive experiences often coexist with childhood adversity; the presence of one does not preclude the other. This observation echoes the Salutatory Model's assumption that health-promoting factors often operate separately from risk factors. In reality, many children have a mixture of supportive and health-promoting resources and relationships, combined with stressful or even traumatic life experiences, all of which together predict the long-term functioning of the individual or system (Antonovsky, 1996; Luthar et al., 2000; Masten et al., 2023; Rutter, 1987). In the original ACEs studies, a likely reason why many of the surveyed adults did not have any ACEs, or why many of those with ACEs did not go on to have negative health outcomes is because they also had high levels of positive and health-promoting childhood experiences, but this side of the story has been largely overlooked.

Additionally, recent research has continued to echo that higher levels of PCEs protect against adults' ACEs using large samples of state-wide BRFSS data. In a study that drew items from the well-validated Child and Youth Resilience Measure (CYRM; Liebenberg et al., 2013; Ungar et al., 2008) but adapted them to apply to adults' childhoods, higher levels of seven total positive interpersonal childhood experiences (e.g., reflecting adults' perceived support, belonging, and protection from family, friends, community, and other adults) were associated with lower levels of adults' depression and other psychological distress, which are also precursors to ACEs in the next generation (Bethell et al., 2019). These findings held after accounting for adults' current social support. Like other studies using BRFSS data (e.g., Crouch et al., 2019), these findings showed that PCEs may be particularly beneficial for individuals with four or more ACEs, a threshold associated with multiplicative long-term risk (Dube et al., 2003). Studies have also shown that higher levels of young adults' PCEs predict fewer substance use problems (e.g., alcohol and drug use, smoking) and less suicidality (e.g., thoughts, plans, or attempts), both of which may become ACEs reflecting family dysfunction in the next generation (Crandall et al., 2020, 2021). According to both the resilience and health-promoting frameworks, promotive and salutatory factors in childhood may support resilience at a young age, as positive early experiences often accumulate and pave the way to future adaptation and help individuals combat threats to disorder, disease, and viability (Antonovsky, 1996; Masten, 2007; Rutter, 1987).

Taken together, findings reflecting resilience in the first pathway ("R1," Fig. 2.1) inform understanding that higher levels of PCEs may promote better long-term adult adjustment and protect against the effects of ACEs on adults' maladjustment before pregnancy or in nonpregnant adults (Bethell et al., 2019; Crandall et al., 2020, 2021). Higher levels of PCEs have also been associated with delayed sexual initiation, lower odds of teenage pregnancy, fewer depression and PTSD symptoms, and less trauma exposure during pregnancy itself (Chung et al., 2008; Hillis et al., 2010; Narayan et al., 2018). Additionally, one recent stud indicated that higher levels of BCEs, and particularly those that began in early childhood (birth to 5 years), as opposed to later in childhood or adolescence, were associated with lower odds of risky reproductive actions (e.g., a history of a teenage pregnancy, unwanted pregnancy, or unplanned pregnancy; Merrick et al., 2020). Higher levels of PCEs positive childhood may therefore relate to several outcomes implicated in the intergenerational transmission of adversity, such as adults' lower levels of mental health problems, fewer health-risk behaviors (e.g., substance use, suicidality), and lower odds of unexpected reproductive outcomes. Fewer of these stressors during pregnancy and parenthood in turn may associate with better maternal and child health and well-being, and fewer ACEs in the next generation (Narayan et al., 2021).

A key caveat for leveraging resilience in the first pathway in Fig. 2.1 ("R1") is that adults' childhood experiences cannot be changed. It is impossible to go back in time and give adults more childhood resources or help them to have better relationships. As discussed next, however, it is possible to change the way that adults think about their childhood experiences and to encourage adults with ACEs to increasingly reflect on positive experiences that may have protective benefits. This form of reflection represents another opportunity to promote resilience (Fig. 2.1, "R2"). Adults experiencing maladjustment who are able to draw upon memories of PCEs may have children who are better protected from ACEs.

The Perinatal Period as a Window to Promote Resilience Against ACEs

This section reviews evidence that the pregnant period is an opportune time to promote resilience against intergenerational ACEs from parents' childhoods to the childhoods of their offspring (Davis & Narayan, 2020). As shown in Fig. 2.1, identifying opportunities for resilience during the prenatal period ("R2") may be a window to intervene and ameliorate the effects of parental ACEs and even prevent ACEs in children. This section includes coverage of the role of positive childhood memories as potential buffers against ACEs, as well as additional malleable protective factors during pregnancy, including pregnant individuals' perceived coping strategies and social support.

Individuals' positive childhood memories recalled during pregnancy represent a compelling port of entry to leverage the effects of positive childhood experiences across generations. Conceptually, the function of positive childhood memories with one's own caregivers is to create a template for loving care of one's offspring, which is particularly critical to counteract the transmission of intergenerational trauma (Lieberman et al., 2005). Empirical research supporting this theory has found that pregnant individuals' stronger memories of loving and supportive childhood caregivers (e.g., memories that were more rich, detailed, and vivid) stemmed from their higher reported BCEs (but not ACEs) and predicted stronger positive childhood memories into the early postpartum period. Alternatively, higher levels of reported ACEs directly predicted higher levels of traumatic memories recalled during pregnancy and the early postpartum period, underscoring the salient effects of childhood adversity on trauma reminders in the next generation (Narayan et al., 2020). This study provided initial evidence to suggest that the pregnancy period may represent a chain in the sequence of BCEs from the family of origin to positive caregiving templates in the next generation, but also a point in the chain during which intrusive trauma reminders may re-emerge.

Research also shows that pregnant women who have higher reflective functioning about previous traumatic experiences are more likely to have infants with secure attachment (Berthelot et al., 2015). Therefore, the pregnancy period is a critical time both to address and to heal from unresolved trauma stemming from ACEs and to help pregnant individuals strengthen their positive childhood memories as templates for positive parenting with their children. The notion that positive memories of childhood caregiving are existing internal resources that are malleable and may be strengthened to leverage for positive parenting across generations is well aligned with resilience and health promotion as a dynamic process (Antonovsky, 1996; Lieberman et al., 2005; Masten et al., 2023; Narayan et al., 2019).

A handful of other studies have documented that higher levels of pregnant individuals' positive coping skills and adaptability, typically measured with the Connor-Davison Resilience Scale (CDRS; Connor & Davidson, 2003), are associated with better maternal prenatal and postpartum adjustment, and buffer against the effects of maternal ACEs. For instance, for women who reported high adaptability and coping, there was no association between their ACEs and their odds of prenatal depression or anxiety symptoms, or their experience of intimate partner violence (IPV) during pregnancy (Young-Wolff et al., 2019). Similarly, pregnant women with high adaptability and coping were buffered against the effects of childhood exposure to family dysfunction on PTSD symptoms during pregnancy (Osofsky et al., 2021). Moreover, Sexton et al. (2015) found that women who had higher levels of adaptability and coping in the early postpartum period had higher levels of postpartum competence and positive family functioning, and were buffered against the effects of ACEs characterized by childhood maltreatment on postpartum depression and PTSD symptoms. Finally, other aspects of pregnant individuals' psychological resources, such as self-esteem and self-efficacy, predict lower levels of prenatal and postpartum depression symptoms following ACEs characterized by childhood maltreatment (Leigh & Milgrom, 2008; Meltzer-Brody et al., 2013). Together, these studies point to several perinatal psychological resources, including perceived coping skills, adaptability, and a positive sense of sense, as malleable intervention targets to reduce the effects of family-of-origin ACEs on perinatal psychopathology.

A recent review showed that perinatal social support for the pregnant individual is the most commonly studied promotive or protective factor in the link between family-of-origin ACEs and risk of ACEs in the next generation (Atzl et al., 2019). For instance, higher levels of perceived social support from family and romantic partners were associated with pregnant individuals' lower depression and PTSD symptoms during the prenatal and postpartum periods for individuals with childhood maltreatment (Leigh & Milgrom, 2008; Meltzer-Brody et al., 2013; Seng et al., 2013). More frequent social support during the early postpartum period was also associated with lower odds of infant neglect and protected against the effects of maternal ACEs characterized by neglect on lower maternal empathy for infants (Bartlett & Easterbrooks, 2015). Furthermore, postpartum adolescent mothers had fewer relationship difficulties with infants if they perceived a more positive relationship with their current primary caregiver, suggesting a mediating effect of caregiver support between ACEs and the maternal–infant relationship for very young parents. Moreover, the association between adolescents parents' ACEs characterized by childhood maltreatment and their perceived difficulties with their infants was not significant for those adolescents who perceived high support from romantic partners, suggesting a protective effect of partner support (Milan et al., 2004). These findings echo long-standing research on the powerful role of social support for parents with childhood maltreatment histories in breaking the cycle of abuse in the next generation (Egeland et al., 1988; Jaffee et al., 2013; Schofield et al., 2013). Findings also underscore the need for young parents with ACEs to feel supported during the perinatal period.

Notably, the above studies point to patterns of intergenerational resilience and health promotion, as well as current gaps in understanding. Most of the above studies examined outcomes involving mental health problems (e.g., depression or PTSD), which may become ACEs in the next generation if children are exposed to parental mental illness. Some studies examined outcomes involving negative parent–child relationships, such as maternal perceived difficulties with infants, low empathy for them, or actual neglect, all of which could become ACEs characterized by maltreatment of children. However, research is lacking on how other forms of ACEs, including various types of family dysfunction, are buffered across generations. A lesser-known finding from the original ACE studies was that higher levels of childhood adversity were not only associated with one's own increased risk for alcohol use but also for marriage to someone with alcohol use problems (Dube et al., 2002). The majority of intergenerational resilience research has focused on deterring maltreatment against generations. However, research is greatly needed on protective factors that shield against the intergenerational transmission of household dysfunction (e.g., parental substance use, incarceration).

Clinical Strategies to Help Recovery from and Prevention of ACEs

This section focuses on the third pathway ("R3") that involves two types of strategies to prevent ACEs in children. The first strategy involves intervening to promote resilience in parents who are already experiencing maladjustment stemming from a history of ACEs, including psychological symptoms (e.g., depression, anxiety, or PTSD) or high-risk behaviors (e.g., substance use, IPV). The second strategy involves preventing ACEs in families deemed at high-risk for child ACEs due to parental history of ACEs or other ongoing contextual adversities (e.g., poverty, homelessness, parental illness, or impending parental death). Current national efforts to prevent ACEs in children already focus on both of these strategies to help parents alleviate their psychological maladjustment and high-risk behaviors (with greater public health attention to parental depression, anxiety, substance use, and IPV than PTSD) and decrease families' contextual adversities and their negative consequences (CDC, 2021). For instance, these efforts focus on reducing families' economic strain; teaching skills and providing resources for coping with stress; using positive parenting strategies; improving access to pediatric health services and high-quality early childhood education' connecting families to mental health interventions to reduce parental anger, substance use, and mental health problems; deterring children's behavior problems and their subsequent involvement in high-risk activities (e.g., violence, substance use, unhealthy relationships, risky sexual behavior); and improving community and sector involvement in child abuse prevention. These national public health efforts share the goal of preventing ACEs in current generations of children by supporting families, strengthening relationships, and giving children the best odds of a healthy and promising future (CDC, 2019; CDC, 2021; Fortson et al., 2016). However, they lack attention to the sequelae of parents' early life adversity and PCEs to parents' psychological functioning and the parent–child relationship.

These public health efforts also often gloss over the profound effects of parental traumatic stress, not only on their own psychological functioning and mental health but also on parents' abilities to serve as one of the most important protective factors for children's resilience in the context of ACEs (Narayan et al., 2021; Schofield et al., 2013). According to decades of resilience research, a strong bond with a safe and supportive adult continues to be among the most important ingredients for children's long-term positive adjustment. Safe and stable caregivers serve several roles in children's resilience, including physically protecting children from adversity and buffering them against the emotional and psychological consequences of the adversity on child maladjustment (Freud & Burlingham, 1943; Rutter, 1987; Luthar et al., 2000; Masten et al., 2023). If parents' psychological functioning is compromised either by their history of unresolved adversity or ongoing trauma exposure or stress, then their capacity as a protective shield against children's ACEs may be comprised and must be addressed.

Several trauma-informed, relationship-based interventions exist that target the reduction of parental and child traumatic stress while also strengthening the parent–child relationship as the vehicle for family resilience. However, these types of interventions are often not included in the CDC-disseminated guidelines for ACEs prevention (CDC, 2019; CDC, 2021; Fortson et al., 2016). Most of the preventive interventions and evidence-based treatments covered in the CDC guidelines focus on either (1) addressing and reducing child mental health and behavior problems, rather than helping parents recover from traumatic stress; or (2) improving positive parenting skills in early childhood, rather than nurturing the parent–child relationship in anticipation of or following adversity (e.g., CDC, 2019; Fortson et al., 2016). A recent review (Narayan et al., 2021) covered several trauma-informed, relationship-based treatments that focus on parents' recovery from unresolved traumatic stress and the parent–child attachment bond as a source of safety, stability, and nurturance for children. Accordingly, only a few examples are covered next.

Child–Parent Psychotherapy (CPP) and Perinatal CPP

CPP is a trauma-informed, evidence-based intervention that is supported by five randomized clinical trials documenting improvements in children's mental health, behavior, biomarkers of stress, and cognitive functioning; and parents' mental health and marital satisfaction (Lieberman et al., 2015). CPP is for children aged birth to 5 years and their primary caregivers. It begins following children's experiences of interpersonal trauma (e.g., maltreatment, exposure to IPV or community violence, or loss of a parent due to abandonment, incarceration, prolonged hospitalization, or death). CPP aims to strengthen the parent–child attachment bond as the primary vehicle for parent and child well-being, while also helping both members of the dyad process traumatic experiences. Parents are able, through dyadic or individual collateral sessions, to "speak the unspeakable" about their own traumatic experiences and their resulting pathogenic beliefs and negative attributions of themselves and their children. CPP also addresses parents' difficulties with emotion regulation and coregulation of children's distress, and ruptures in parent–child bonds.

Perinatal CPP (P-CPP) is an adaptation of CPP that begins during pregnancy and continues after birth, with the goal to help parents recover from their ACEs. Perinatal CPP helps parents to strengthen their relationship with their unborn baby and their attunement to and positive attributions of them. Both CPP and P-CPP rely on culturally-sensitive reframing of pathogenic beliefs and attributions about the self and the relationship, developmental guidance, and mutuality in positive affect and coregulation of emotions. P-CPP also emphasizes prenatal self-care and relaxation, mind–body awareness, and attunement to the fetus through heightened awareness of prenatal physiological sensations (Lieberman et al., 2020). Both CPP and P-CPP help parents to leverage memories of PCEs as resources to buffer against the intergenerational sequelae of ACEs. In a CPP sample, mothers who had stronger childhood memories of loving caregivers had children with less trauma exposure in the next generation (Narayan et al., 2019). CPP treatment techniques encourage parents to use these memories as templates to recreate positive moments with children.

Minding the Baby (MTB)

MTB is an evidence-based parent–infant home-visiting intervention with documented health benefits, including families' improved immunization compliance for children, parents' lower involvement in child welfare services, and stronger parent–infant relationships (Sadler et al., 2013; Slade et al., 2019). MTB begins during pregnancy and draws from CPP and the well-known prenatal and postpartum home-visiting program, the Nurse Family Partnership (NFP; Olds, 2006). Nurse and social work teams jointly delivery MTB with a dual and interdisciplinary focus on maternal and infant physical and mental health. Similar to CPP and P-CPP, MTB includes a psychotherapy component that strengthens parents' reflective functioning, positive attributions of infants, and parent–infant attachment security.

Attachment and Biobehavioral Catch-up (ABC)

The ABC intervention is an evidence-based, home-visiting intervention that was developed for children ages 6 months to 4 years, but has been extended downward to begin as early as pregnancy. ABC is a dyadic, relationship-based intervention that, like CPP, can be implemented with young children exposed to ACEs and their foster parents, in addition to birth parents or adoptive parents. It is brief (ABC can be completed in 10 weekly sessions) and attachment-based, with a focus on helping caregivers to respond sensitively to children. Several randomized-controlled trials have found that compared to children in the control conditions, children who received ABC were more likely to have secure attachments to their primary caregivers, and to display healthier patterns of cortisol production, better cognitive and executive function, and stronger emotion regulation skills. Furthermore, compared to caregivers in the control conditions, caregivers who received ABC showed significantly higher sensitivity and lower psychological and behavioral withdrawal from infants. They also had more secure attachment representations and more differentiated neural responses to children's neutral versus emotional affect (Dozier & Bernard, 2019).

If safe, stable, and nurturing relationships are indeed one of the most salient protective factors for children's resilience in the context of ACEs, then preventive interventions to address the third opportunity for resilience (Fig. 2.1, "R3") must be relationship-based, with the goal to nurture children's relationships with primary caregivers. Ideally, these evidence-based interventions should be trauma-informed and strengths-based. They should focus on the parent–child attachment relationship, begin in early childhood or ideally, during pregnancy, and explicitly address the sequelae of parents' early life experiences, both adverse and health-promoting, on their psychological functioning and parenting capacity. CPP and P-CPP do all of these things, including bringing forth parents' PCEs and positive childhood memories as buffers against the intergenerational transmission of adversity. MTB does most of these things but does not focus as much on parents' PCEs. ABC also does most of these things but does not explicitly focus on parents' early experiences, whether adverse or positive. National public health guidelines for ACEs prevention in children should emphasize these relationship-based, trauma-informed treatments that strive to help parents recover from the effects of ACEs before children are born and prioritize the parent–child attachment relationship as the key vehicle to buffer against intergenerational adversity.

Part III: Conclusions

As the third decade of ACEs research progresses, several key recommendations can guide optimal understanding of how to prevent ACEs in children. First, prevention of ACEs in children is best understood by examining childhood experiences, both adverse and positive, in parents' families of origin, and, in reality, in earlier generations as well. Studies to date that have used this retrospective, resilience-based intergenerational lens have shown that higher levels of PCEs, often operationalized in diverse ways, are associated with greater well-being in adulthood, pregnancy, and parenthood even amidst high levels of family-of-origin ACEs (Bethell et al., 2019; Crandall et al., 2020; Morris et al., 2021; Narayan et al., 2021).

Studies are now needed to examine whether parents' positive and health-promoting childhood experiences are associated with more positive observed parenting in the next generation, as well as more health-promoting experiences for children. For instance, brief strengths-based efforts could assess parents' BCEs and other health-promoting factors and then help parents to reflect upon which of these favorable experiences and resources that may wish to bolster in the lives of their children. These practices may represent practical and intentional efforts to help children accumulate salutatory factors, harness resources, and either experience fewer negative consequences from ACEs or avoid ACEs entirely.

Another recommendation centers on the need to understand the role of diverse individuals' early life experiences, both adverse and health-promoting, in protecting against intergenerational ACEs and promoting children's resilience. Both the resilience framework and Salutatory Model were conceptualized to be cross-cultural. Both models converge on the assumption that the ability to make use of and to leverage positive experiences, resources, and coping strategies is important for healthy adaptation in all individuals. While the types of positive and health-promoting experience or resource may vary across cultures, the importance of accumulating health-promoting experiences and reducing adversities is universal (Antonovsky, 1996; Masten et al., 2023). However, more research is needed to understand how resilience processes may operate during the perinatal period for diverse caregivers, such as biological fathers and non-gestational same-sex or gender non-nonconforming individuals. While the sequelae of men's ACEs to factors associated with teen paternity have been documented (Anda et al., 2002), very little research has addressed the buffering effects of fathers' and non-gestational caregivers' favorable and health-promoting experiences in the link between parent and child ACEs.

In terms of clinical recommendations, this review underscores the importance of identifying positive and health-promoting childhood experiences in addition to, or in interaction with, childhood adversity. Because the effects of PCEs may be semi-independent of the effects of ACEs, intervention efforts should bolster families' positive experiences even when reducing the consequences of ACEs or preventing ACEs entirely is not as feasible. Practical efforts that focus on increasing families' health-promoting experiences may be an alternative, strengths-based strategy to reducing risk that instead offers hope.

Finally, the perinatal period is an opportune window to identify factors that propagate the transmission of ACEs across generations and protect against the effects of parental ACEs to promote intergenerational resilience. More inclusive research is needed to understand how resilience and health-promoting processes may operate uniquely for parents with diverse identities and cultural backgrounds. Efforts to lessen the consequences of ACEs in children or to prevent child ACEs entirely must use an intergenerational lens with an eye toward understanding the sequelae of parents' childhood experiences to their adjustment during adulthood, both before and during pregnancy. Without considering the legacy of parents' childhood experiences both for the better and worse, efforts to prevent ACEs in the next generation will fall short.

References

Anda, R. F., Chapman, D. P., Felitti, V. J., Edwards, V., Williamson, D. F., Croft, J. P., & Giles, W. H. (2002). Adverse childhood experiences and risk of paternity in teen pregnancy. *Obstetrics and Gynecology, 100*, 47–45. https://doi.org/10.1016/S0029-7844(02)02063-X

Antonovsky, A. (1996). The salutogenic model as a theory to guide health promotion. *Health Promotion International, 11*, 11–18. https://www.jstor.org/stable/45152280

Atzl, V. M., Grande, L. A., Davis, E. P., & Narayan, A. J. (2019). Perinatal promotive and protective factors for women with histories of childhood abuse and neglect. *Child Abuse & Neglect, 91*, 63–77. https://doi.org/10.1016/j.chiabu.2019.02.008

Bartlett, J. D., & Easterbrooks, M. A. (2015). The moderating effect of relationships on intergenerational risk for infant neglect by young mothers. *Child Abuse & Neglect, 45*, 21–34. https://doi.org/10.1016/j.chiabu.2015.02.018

Berthelot, N., Ensink, K., Bernazzani, O., Normandin, L., Luyten, P., & Fonagy, P. (2015). Intergenerational transmission of attachment in abused and neglected mothers: The role of trauma-specific reflective functioning. *Infant Mental Health Journal, 36*, 200–212. https://doi.org/10.1002/imhj.21499

Bethell, C., Jones, J., Gombojav, N., Linkenbach, J., & Sege, R. (2019). Positive childhood experiences and adult mental and relational health in a statewide sample: Associations across adverse childhood experiences levels. *JAMA Pediatrics, 173*, e193007. https://doi.org/10.1001/jamapediatrics.2019.3007

CDC. (2019). *Preventing adverse childhood experiences: Leveraging the best available evidence*. https://www.cdc.gov/violenceprevention/pdf/preventingACES.pdf

CDC. (2021). *Adverse childhood experiences prevention strategy*. https://www.cdc.gov/injury/pdfs/priority/ACEs-Strategic-Plan_Final_508.pdf

Chung, E. K., Mathew, L., Elo, I. T., Coyne, J. C., & Culhane, J. F. (2008). Depressive symptoms in disadvantaged women receiving prenatal care: The influence of adverse and positive childhood experiences. *Ambulatory Pediatrics, 8*, 109–116. https://doi.org/10.1016/j.ambp.2007.12.003

Cicchetti, D., Rogosch, F. A., Lynch, M., & Holt, K. D. (1993). Resilience in maltreated children: Processes leading to adaptive outcome. *Development and Psychopathology, 5*, 629–647. https://doi.org/10.1017/S0954579400006209

Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and Anxiety, 18*, 76–82. https://doi.org/10.1002/da.10113

Crandall, A., Broadbent, E., Stanfill, M., Magnusson, B. M., Novilla, M. L. B., Hanson, C. L., & Barnes, M. D. (2020). The influence of adverse and advantageous childhood experiences during adolescence on young adult health. *Child Abuse & Neglect, 108*, 104644. https://doi.org/10.1016/j.chiabu.2020.104644

Crandall, A., Magnusson, B. M., Hanson, C. L., & Leavitt, B. (2021). The effects of adverse and advantageous childhood experiences on adult health in a low-income sample. *Acta Psychologica, 220*, 103430. https://doi.org/10.1016/j.actpsy.2021.103430

Crouch, E., Radcliff, E., Strompolis, M., & Srivastav, A. (2019). Safe, stable, and nurtured: Protective factors against poor physical and mental health outcomes following exposure to adverse childhood experiences (ACEs). *Journal of Child & Adolescent Trauma, 12*, 165–173. https://doi.org/10.1007/s40653-018-0217-9

Davis, E. P., & Narayan, A. J. (2020). Pregnancy as a period of risk, adaptation, and resilience for mothers and infants. *Development and Psychopathology, 32*, 1625–1639. https://doi.org/10.1017/s0954579420001121

Dozier, M., & Bernard, K. (2019). *Coaching parents of vulnerable infants: The attachment and biobehavioral catch-up approach*. Guilford.

Dube, S. R. (2020). Twenty years and counting: The past, present, and future of ACEs research. In G. J. G. Asmundson & T. O. Afifi (Eds.), *Adverse childhood experiences: Using evidence to advance research, practice, policy, and prevention* (pp. 3–16). Academic.

Dube, S. R., Anda, R. F., Felitti, V. J., Edwards, V. J., & Croft, J. B. (2002). Adverse childhood experiences and personal alcohol abuse as an adult. *Addictive Behaviors, 27*, 713–725. https://doi.org/10.1016/S0306-4603(01)00204-0

Dube, S. R., Felitti, V. J., Dong, M., Giles, W. H., & Anda, R. F. (2003). The impact of adverse childhood experiences on health problems: Evidence from four birth cohorts dating back to 1900. *Preventive Medicine, 37*, 268–277. https://doi.org/10.1016/S0091-7435(03)00123-3

Dube, S. R., Felitti, V. J., & Rishi, S. (2013). Moving beyond childhood adversity: Associations between salutogenic factors and subjective well-being among adult survivors of trauma. In K. Rutkowski & M. Linden (Eds.), *Hurting memories and beneficial forgetting* (pp. 139–153). Elsevier, Inc.

Egeland, B., Jacobvitz, D., & Sroufe, L. A. (1988). Breaking the cycle of abuse. *Child Development, 59*, 1080–1088. https://doi.org/10.2307/1130274

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., ... Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine, 56*, 774–786. https://doi.org/10.1016/j.amepre.2019.04.001

Fortson, B. L., Klevens, J., Merrick, M. T., Gilbert, L. K., & Alexander, S. P. (2016). *Preventing child abuse and neglect: A technical package for policy, norm, and programmatic activities*. https://www.cdc.gov/violenceprevention/pdf/can-prevention-technical-package.pdf

Freud, A., & Burlingham, D. T. (1943). *War and children* (Vol. 6, p. 16). Medical War Books.

Garmezy, N. (1987). Stress, competence, and development: Continuities in the study of schizophrenic adults, children vulnerable to psychopathology, and the search for stress-resistant children. *American Journal of Orthopsychiatry, 57*, 159–174. https://doi.org/10.1111/j.1939-0025.1987.tb03526.x

Hays-Grudo, J., Morris, A. S., Beasley, L., Ciciolla, L., Shreffler, K., & Croff, J. (2021). Integrating and synthesizing adversity and resilience knowledge and action: The ICARE model. *American Psychologist, 76*, 203–215. https://doi.org/10.1037/amp0000766

Hillis, S. D., Anda, R. F., Dube, S. R., Felitti, V. J., Marchbanks, P. A., & Marks, J. S. (2004). The association between adverse childhood experiences and adolescent pregnancy, long-term psychosocial outcomes, and fetal death. *Pediatrics, 113*, 320–327. https://doi.org/10.1542/peds.113.2.320

Hillis, S. D., Anda, R. F., Dube, S. R., Felitti, V. J., Marchbanks, P. A., Macaluso, M., & Marks, J. S. (2010). The protective effect of family strengths in childhood against adolescent pregnancy and its long-term psychosocial consequences. *The Permanente Journal, 14*, 109–116. https://doi.org/10.7812/TPP/10-028

Idan, O., Eriksson, M., & Al-Yagon, M. (2017). The Salutogenic model: The role of generalized resistance resources. In M. Mittelmark, S. Sagy, M. Eriksson, G. F. Bauer, J. M. Pelikan, et al. (Eds.), *The handbook of Salutogenesis* (pp. 57–70). Springer. https://doi.org/10.1007/978-3-319-04600-6_7

Jaffee, S. R., Bowes, L., Ouellet-Morin, I., Fisher, H. L., Moffitt, T. E., Merrick, M. T., & Arseneault, L. (2013). Safe, stable, nurturing relationships break the intergenerational cycle of abuse: A prospective nationally representative cohort of children in the United Kingdom. *Journal of Adolescent Health, 53*, S4–S10. https://doi.org/10.1016/j.jadohealth.2013.04.007

Leigh, B., & Milgrom, J. (2008). Risk factors for antenatal depression, postnatal depression and parenting stress. *BMC Psychiatry, 8*, 24. https://doi.org/10.1186/1471-244X-8-24

Liebenberg, L., Ungar, M., & LeBlanc, J. C. (2013). The CYRM-12: A brief measure of resilience. *Canadian Journal of Public Health, 104*, e131–e135. https://doi.org/10.1007/BF03405676

Lieberman, A. F., Ghosh Ippen, C., & Van Horn, P. (2015). *"Don't hit my mommy!": A manual for child-parent psychotherapy with young children exposed to violence and other trauma* (2nd ed.). Zero to Three.

Lieberman, A. F., Díaz, M., Castro, G., & Oliver Bucio, G. (2020). *Make room for baby: Perinatal Child-Parent Psychotherapy to repair trauma and promote attachment*. Guilford.

Lieberman, A. F., Padrón, E., Van Horn, P., & Harris, W. W. (2005). Angels in the nursery: The intergenerational transmission of benevolent parental influences. *Infant Mental Health Journal, 26*, 504–520. https://doi.org/10.1002/imhj.20071

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*, 543–562. https://doi.org/10.1111/1467-8624.00164

Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology, 19*, 921–930. https://doi.org/10.1017/S0954579407000442

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology, 2*, 425–444. https://doi.org/10.1017/S0954579400005812

Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychologist, 53*, 205. https://doi.org/10.1037/0003-066X.53.2.205

Masten, A. S., Narayan, A. J., & Wright, M. O. (2023). Resilience processes in development: Multisystem perspectives emerging from four waves of research. In S. Goldstein, S. & R. B. Brooks (Eds.), Handbook of resilience in children, 3nd ed. (pp. 19-46). New York: Kluwer Academic/Plenum.

Meltzer-Brody, S., Bledsoe-Mansori, S. E., Johnson, N., Killian, C., Hamer, R. M., Jackson, C., et al. (2013). A prospective study of perinatal depression and trauma history in pregnant minority adolescents. *American Journal of Obstetrics and Gynecology, 208*, 211e1–211e7. https://doi.org/10.1016/j.ajog.2012.12.020 211-e1

Merrick, M. T., & Guinn, A. S. (2018). Child abuse and neglect: Breaking the intergenerational link. *American Journal of Public Health, 108*, 1117–1118. https://doi.org/10.2105/AJPH.2018.304636

Merrick, J. S., Narayan, A. J., Atzl, V. M., Harris, W. W., & Lieberman, A. F. (2020). Type versus timing of adverse and benevolent childhood experiences for pregnant women's psychological and reproductive health. *Children and Youth Services Review, 114*, 1–11. https://doi.org/10.1016/j.childyouth.2020.105056

Milan, S., Lewis, J., Ethier, K., Kershaw, T., & Ickovics, J. R. (2004). The impact of physical maltreatment history on the adolescent mother–Infant relationship: Mediating and moderating effects during the transition to early parenthood. *Journal of Abnormal Child Psychology, 32*, 249–261. https://doi.org/10.1023/b:jacp.0000026139.01671.fd

Morris, A. S., Hays-Grudo, J., Zapata, M. I., Treat, A., & Kerr, K. L. (2021). Adverse and protective childhood experiences and parenting attitudes: The role of cumulative protection in understanding resilience. *Adversity and Resilience Science, 2*, 181–192. https://doi.org/10.1007/s42844-021-00036-8

Narayan, A. J. (2015). Personal, dyadic, and contextual resilience in parents experiencing homelessness. *Clinical Psychology Review, 36*, 56–69. https://doi.org/10.1016/j.cpr.2015.01.005

Narayan, A. J., Atzl, V. M., Merrick, J. M., Harris, W. W., & Lieberman, A. F. (2020). Developmental origins of ghosts and angels in the nursery: Adverse and benevolent childhood experiences. *Adversity and Resilience Science, 1*, 121–134. https://doi.org/10.1007/s42844-020-00008-4

Narayan, A. J., Ghosh Ippen, C., Harris, W. W., & Lieberman, A. F. (2019). Protective factors that buffer against the intergenerational transmission of trauma from mothers to young children: A replication study of angels in the nursery. *Development and Psychopathology, 31*, 173–187. https://doi.org/10.1017/S0954579418001530

Narayan, A. J., Kalstabakken, A. W., Labella, M. H., Nerenberg, L. S., Monn, A. R., & Masten, A. S. (2017). Intergenerational continuity of adverse childhood experiences: Unpacking exposure to maltreatment versus family dysfunction. *American Journal of Orthopsychiatry, 87*, 3–14. https://doi.org/10.1037/ort0000133

Narayan, A. J., Lieberman, A. F., & Masten, A. S. (2021). Intergenerational transmission and prevention of adverse childhood experiences (ACEs). *Clinical Psychology Review, 85*, 101997. https://doi.org/10.1016/j.cpr.2021.101997

Narayan, A. J., Rivera, L. M., Bernstein, R. E., Harris, W. W., & Lieberman, A. F. (2018). Positive childhood experiences predict less psychopathology and stress in pregnant women with childhood adversity: A pilot study of the BCEs scale. *Child Abuse and Neglect, 78*, 19–30. https://doi.org/10.1016/j.chiabu.2017.09.022

Olds, D. L. (2006). The nurse–family partnership: An evidence-based preventive intervention. *Infant Mental Health Journal, 27*, 5–25. https://doi.org/10.1002/imhj.20077

Osofsky, J. D., Osofsky, H. J., Frazer, A. L., Fields-Olivieri, M. A., Many, M., et al. (2021). The importance of adverse childhood experiences during the perinatal period. *American Psychologist, 76*, 350–363. https://doi.org/10.1037/amp0000770

Portwood, S. G., Lawler, M. J., & Roberts, M. C. (2021). Science, practice, and policy related to adverse childhood experiences: Framing the conversation. *American Psychologist, 76*, 181. https://doi.org/10.1037/amp0000768

Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry, 57*, 316–331. https://doi.org/10.1111/j.1939-0025.1987.tb03541.x

Sadler, L. S., Slade, A., Close, N., Webb, D. L., Simpson, T., et al. (2013). Minding the baby: Enhancing reflectiveness to improve early health and relationship outcomes in an interdisciplinary home-visiting program. *Infant Mental Health Journal, 34*, 391–405. https://doi.org/10.1002/imhj.21406

Sameroff, A. J. (1999). Ecological perspectives on developmental risk. In J. D. Osofsky & H. E. Fitzgerald (Eds.), *Infant mental health in groups at high risk. WAIMH handbook of infant mental health* (Vol. 4, pp. 233–248). Wiley.

Schofield, T. J., Lee, R. D., & Merrick, M. T. (2013). Safe, stable, nurturing relationships as a moderator of intergenerational continuity of child maltreatment: A meta-analysis. *Journal of Adolescent Health, 53*(4), S32–S38. https://doi.org/10.1016/j.jadohealth.2013.05.004

Seng, J. S., Sperlich, M., Low, L. K., Ronis, D. L., Muzik, M., & Liberzon, I. (2013). Childhood abuse history, posttraumatic stress disorder, postpartum mental health, and bonding: A prospective cohort study. *Journal of Midwifery & Women's Health, 58*, 57–68. https://doi.org/10.1111/j.1542-2011.2012.00237.x

Sexton, M. B., Hamilton, L., McGinnis, E. W., Rosenblum, K. L., & Muzik, M. (2015). The roles of resilience and childhood trauma history: Main and moderating effects on postpartum maternal mental health and functioning. *Journal of Affective Disorders, 174*, 562–568. https://doi.org/10.1016/j.jad.2014.12.036

Slade, A., Holland, M. L., Ordway, M. R., Carlson, E. A., Jeon, S., et al. (2019). Minding the baby®: Enhancing parental reflective functioning and infant attachment in an attachment-based, interdisciplinary home visiting program. *Development and Psychopathology, 32*, 123–137. https://doi.org/10.1017/S0954579418001463

Ungar, M., Liebenberg, L., Boothroyd, R., Kwong, W. M., Lee, T. Y., Leblanc, J., et al. (2008). The study of youth resilience across cultures: Lessons from a pilot study of measurement development. *Research in Human Development, 5*(3), 166–180.

Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Cornell University Press.

Young-Wolff, K. C., Alabaster, A., McCaw, B., Stoller, N., Watson, C., et al. (2019). Adverse childhood experiences and mental and behavioral health conditions during pregnancy: The role of resilience. *Journal of Women's Health, 28*, 452–461. https://doi.org/10.1089/jwh.2018.7108

Part II

Defining and Measuring Adverse Childhood Experiences (ACEs)

3

Adverse Childhood Experiences (ACEs): An Overview of Definitions, Measures, and Methods

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Introduction

Improving public health was the purpose of the original study on adverse childhood experiences (ACEs) (Felitti et al., 1998). Across different definitions of adversities, independent samples, and researchers in multiple countries, subsequent research has shown that the accumulation of childhood adversities is associated with morbidity and mortality at the population level (Hughes et al., 2017).

Children can be exposed to adversities for a variety of reasons and can benefit from a variety of interventions. Some of these adversities stem from idiosyncratic causes (e.g., parents' personality, random accidents) and are not in the domain of public health. These children still need support, but helping them one at a time after they have been harmed is not going to reduce the leading causes of morbidity and mortality in the United States, the concern that initiated ACEs research. What justifies viewing some adversities as a public health problem is that they stem from power differentials (e.g., based on race/ethnicity; gender; socioeconomic, immigration, or disability status) and harm a large proportion of the population, with a disproportionate effect on the less powerful. Thus, they result in a public health burden for everyone and can be ameliorated by public health interventions altering those power dynamics.

Childhood adversities need to be addressed using a public health approach, that is, by going to the root of the problems and preventing adversities at the population level to improve *public* health (not individuals one at a time). The way ACEs are defined and the purposes for which they are assessed will determine whether this objective is achieved. In this chapter, we examine ACEs research, focusing on definitions and methods, in relation to this objective.

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Historical Context of ACEs

Concern with risk factors for morbidity and mortality goes back to ancient Greeks' beliefs that life experiences could "corrupt" humors (bodily fluids) and that "airs, waters, and places" affect health (Nedel & Bastos, 2020). These ideas were echoed as contemporary views of risk in Western medicine took shape in the 1700s (Taylor & Rieger, 1985). Epidemiologists in the United Kingdom observed in the 1830s and 1840s that social conditions, such as lack of access to adequate food, influenced mortality risk (Hamlin, 1995). Citing Engels and Virchow, Raphael (2011b) wrote that "it has been known since the mid-1850s that the primary factors that determine whether one lives a long healthy life or a short sick one are not genes or lifestyle choices but rather the living conditions that are experienced" (pp. 220–221). In the twentieth century, researchers in the United States and Europe (Paffenbarger & Wing, 1973; Rutter, 1963) continued to examine living conditions (e.g., social class, employment status) and individual-level factors (e.g., psychiatric symptoms, personality traits, stress, diet, substance use, and exercise) that pose a risk for disease. By the 1990s, studies had begun to incorporate both living conditions and individual-level factors, including childhood experiences, into cumulative risk measures for mental and physical disorders (Fergusson et al., 1996; Masten et al., 1990; Moeller et al., 1993). However, biomedical models emerging in the last half of the twentieth century tended to treat individual risk factors separately and neglect their interrelatedness and the "cause of causes" (Nedel & Bastos, 2020).

The study that introduced the term ACEs (Felitti et al., 1998) emerged during this period. This study's innovation "was to leverage a simple count of psychosocial risk factors from birth to 18 years of age to predict adult physical and mental disorders of significant public health concern. The stated goal … was to highlight childhood roots of 10 leading causes of morbidity and mortality in the U.S. The definition of ACEs was based on challenges identified among patients at a weight-loss clinic … having difficulty sustaining weight loss. These ACEs were then measured in a …sample of mostly middle-income, White, relatively well-educated members of a health maintenance organization (HMO) in … California." (Karatekin et al., 2022).

The original seven ACEs (Felitti et al., 1998) were sexual, physical, and psychological abuse; domestic violence against the mother; and substance abuse, mental illness, and imprisonment of a household member. Several years later, the same researchers recognized emotional and physical neglect, and parental divorce as ACEs, too, forming ten distinct ACEs across three categories of abuse, neglect, and household dysfunction (Dube et al., 2003). No justification was provided for why these factors were chosen, as opposed to other disease determinants established in the preceding two centuries. These choices shaped the path of this research in the next two decades. The current state of ACEs research is well represented in a special issue of the *American Psychologist* (Portwood et al., 2021).

Defining and Measuring Abstract Concepts

What are "childhood adversities"? How do we decide whether an experience is "adverse" or not? In this section, we review terminology and issues involved in measuring any abstract concept such as "adversity." We then examine whether ACE measures meet these criteria.

To measure an abstract concept (construct), it is necessary to define it and to determine whether the measure assesses it adequately (construct validity). Achieving construct validity is the culmination of several steps. Does the measure provide consistent results (reliability)? For example, do people respond consistently to the same questions over time (test–retest reliability)? Are the items on the measure covering all aspects of the construct (content validity)? Are items assessing a certain aspect of the construct correlated more highly with each other than with items tapping into other aspects (factorial validity; e.g., do items on household dysfunction correlate more highly with each other than with items on maltreatment)? Does the construct have clear boundaries, so that it can be shown that the measure is *not* measuring what it is *not* supposed to measure (discriminant validity)? Is the measure correlated with relevant measures it should be correlated with concurrently (concurrent validity; correlations between ACEs and concurrent health problems), and does it predict relevant measures in the future (predictive validity; e.g., correlation between ACEs and future health problems)? Does the measure accurately identify everyone who has the construct (sensitivity) and avoid inaccurately identifying those who do not have it (specificity)? Is the measure assessing the same construct across groups (measurement invariance)? The answers to these questions enable researchers to evaluate whether their measures are measuring what they are intended to measure.

It is also necessary to justify *why* the construct is being measured and whether the measure is useful for the purpose for which it was developed (utility). Utility could be divided into clinical versus public health utility (whether the use of the construct improves individual or public health). Another categorization is in terms of prevention level. One could measure ACEs to prevent societal conditions that give rise to ACEs and inequities in their distribution (e.g., changing laws/policies; primordial prevention), to prevent immediate causes of ACEs (e.g., parenting programs to prevent maltreatment; primary prevention), to prevent health consequences after exposure to ACEs (e.g., smoking cessation programs; secondary prevention), or to prevent deterioration after health consequences of ACEs have occurred (e.g., suicide prevention in depressed patients; tertiary prevention). "Primordial prevention" is not used frequently in the ACEs literature. This term, proposed by a staff member of the WHO in a 1978 article on cardiovascular disease, refers to preventing the spread of risk factors (e.g., smoking, inactivity) at the societal level. "The spread of risk factors is a social-behavioral phenomenon deriving from economical, social, cultural, political – briefly, historical – happenings" (Strasser, 1978, p. 228). Interventions focused on improving structural determinants of health and health inequities would be considered primordial prevention. Prevention efforts closer to the roots of the problems (primordial level) are considered more "upstream," and those closer to the ultimate consequences (tertiary level) are considered more "downstream" (McMahon, 2021).

Defining and Measuring ACEs

In this and subsequent sections, we rely on our scoping review of ACEs articles published between 1999 and 2019 (Karatekin et al., 2022). The purpose of scoping reviews is to review definitions and methods in a research area, not to summarize findings. Our goal was to quantify how ACEs have been defined and to uncover implicit narratives about ACEs from the researchers' methodology and recommendations. The review was based on 1361 articles that used the terms "adverse" or "adversity" to refer to a construct under study or a measure in Methods. We limited the review to studies in which ACEs were defined as more than one type of adversity (e.g., not just maltreatment). We did not limit eligibility to high-quality studies; however, we excluded gray literature (e.g., unpublished reports, conference proceedings). References for the summary below are available upon request.

Method of Assessment

The method by which ACEs are assessed affects the nature and accuracy of ACEs that are identified. ACEs are often assessed through self- or parent-report. Some studies use other informants (e.g., nurses and teachers), as well as data-mining of administrative records. More information on ACE assessment can be found in Barnes et al. (2020) and Bethell et al. (2017).

Reliability

Although concerns have been raised about relying on adults' memory of childhood adversities, associations between cumulative ACEs and health problems hold up whether ACEs are measured prospectively or retrospectively, or by self- or sibling report. Individuals are consistent in reporting the same ACEs over weeks to months, but less so over years. The effect of current psychological symptoms on reporting of ACEs is unclear. Objective events (e.g., parental divorce) are reported more consistently than subjective experiences (e.g., emotional neglect). The reliability of administrative records depends on the quality of those records and the nature of the information extracted from them.

Concurrent and Predictive Validity

There is strong evidence that the accumulation of early adversities predicts concurrent and future health-risk behaviors, mental and physical disorders, and all-cause mortality.

Factorial Validity

ACEs co-occur; however, different studies find different clusters of ACEs among people and different clusters of people with various ACE profiles, depending on which people and which ACEs are included in the analyses.

Measurement Invariance

ACEs are correlated in similar ways with each other within men and women and within age groups among adults.

Construct, Discriminant, and Content Validity; Sensitivity and Specificity

These concepts are interdependent, and ACEs research falls short in all of these areas. Regarding construct validity, it is still unclear what "adversity" means, and whether ACEs should be viewed as a unitary construct or as a list of exposures. Lists of ACEs, which include everything from parental incarceration to the death of one's pet, are too varied to converge on a clear construct (Karatekin et al., 2022). Most studies used some of the original ACEs in their definitions, although only half (47.2%) used all seven. There is still discussion about basic questions like whether poverty is a cause of ACEs or an ACE. Two-thirds (66.3%) of the articles were affiliated with other studies. Thus, the heterogeneity of definitions of ACEs may be partly due to the repurposing of various measures. In addition, some use "ACEs" to refer to the items introduced in the original ACEs study (Felitti et al., 1998), whereas others use it to refer to a broader set of factors.

It is difficult to assess discriminant validity of the construct if the construct is not clear. This was evident in the first stages of our scoping review: we found it very difficult to specify inclusionary criteria because there were too many terms in the literature overlapping with "adversity." *Stress*, for example, is a broad term that refers to the experience of worry or anxiety; stressors can range from a difficult exam to incest. *"Toxic" stress* also refers to a subjective experience whose toxicity stems from both the continuous nature of the stress *and* the lack of adult support to cope with it (Shonkoff et al., 2012). Because ACE checklists usually do not include duration or chronicity criteria or any probing about adult support, they cannot be said to measure "toxic stress." Conversely, many likely causes of "toxic stress" are omitted from ACE checklists (e.g., exposure to community violence is included in only 17.3% of definitions). *Trauma* is another overlapping term; DSM-V (American Psychiatric Association, 2013, p. 271) defines a traumatic event as one that is associated with "actual or threatened death, serious injury, or sexual violence." This definition does not apply to many ACEs (e.g., household financial difficulties, parental incarceration). Conversely, not all traumatic events are included in ACEs checklists; for example, only 7.1% of the articles in our review included illness, accident, or hospitalization of the child. To complicate matters more, there is controversy about the definition of trauma (Boals, 2018). A report by the Substance Abuse and Mental Health Services Administration (SAMHSA), for example, states "individual trauma results from an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being" (Substance Abuse and Mental Health Services Administration, 2014, p. 7). This definition broadens the definition far beyond that of the DSM-V; nevertheless, most ACEs checklists would still miss a lot of traumatic events, even by this definition. "*Victimization*" can refer either to events or experiences (which can range from feeling bullied to being robbed). There is overlap between victimization and typical ACEs, but the terms are not identical (e.g., having a mentally ill sibling would not be viewed as being "victimized" but is considered an ACE). "*Negative events*" and "*misfortune*" could describe anything from being placed in foster care to being struck by lightning. *Adversity* (e.g., "a state or instance of serious or continued difficulty or misfortune") (Merriam-Webster, n.d.) is a broad and vague term that could encompass any of the previous terms. As noted in our scoping review (Karatekin et al., 2022), ACEs checklists include items that might be stressful, toxic, difficult, unfortunate, victimizing, or traumatic, depending on the experience of the child; on the other hand, many checklists omit common stressful, toxic, difficult, unfortunate, victimizing, or traumatic experiences or events (e.g., exposure to natural disasters or discrimination). These bolded terms should not be used interchangeably. Thus, the vagueness of the term "adversity," lack of consensus on its meaning, and overlap among related terms, greatly reduces the discriminant validity of the construct of adversity.

There have been attempts to expand the list of ACEs, but this does not improve the content validity of a construct if the construct is unclear. Furthermore, we found heterogeneity in definitions even within the same category. For example, the original ACEs study (Felitti et al., 1998) defined exposure to mental illness as a household member being depressed, mentally ill, or having attempted suicide. In some subsequent articles, however, "household member" was limited to mothers, and mental illness equated with depression only. Similarly, there were many variants of the ACEs question "did a household member go to prison," including incarceration, imprisonment, going to jail, legal involvement, or antisocial behavior of any household member or just the parents.

Likewise, we cannot evaluate sensitivity and specificity of ACE scores for downstream interventions for people exposed to "adversity" without first achieving construct validity. If there is no agreed-upon definition of "adversity," how can an ACE score catch everyone exposed to "adversity," and avoid catching those not exposed to "adversity"?

Lack of construct validity is not just an academic quibble but reflects an imprecise understanding of what is measured and, more importantly, what causes it and how to prevent it. Thus, researchers' choices about how to define a construct have implications for its utility.

Utility

Clinical utility of ACEs seems to be more assumed than tested. Few articles in our scoping review focused on any intervention related to ACEs (2.9%) or any aspect of clinical screening (2.1%). We were unable to find any studies that empirically demonstrated the clinical benefits of ACE screening (i.e., where screeners were systematically used in treatment planning and led to better outcomes for a randomly screened group compared to a non-screened group). Two reviews of ACE screeners summarized their feasibility and acceptability but reported a lack of data on clinical outcomes (Ford et al., 2019; Rariden et al., 2021). Furthermore, ACEs do not predict individual risk well (Meehan et al., 2021). A large-scale, prospective longitudinal study showed that ACE scores predict health problems at the group but not at individual level, leading the authors to warn against "the deterministic use of ACE scores in disease prediction and clinical decision-making" (Baldwin et al., 2021, p. 391). Anda et al. (2020) also warned against using ACE scores for screening or clinical decision-making.

Public health utility is more difficult to assess and quantify. ACEs research will have utility for public health to the extent it can tie ACEs to causes modifiable by upstream solutions, facilitate their reduction at the population level, and reduce inequities in their distribution. As we note next, to date, there has been little research aimed at tying ACEs to modifiable upstream solutions.

Summary

What is measured on ACEs checklists is measured consistently enough and is similar across genders and age groups in adults. ACEs are correlated with each other in meaningful ways. Across multiple measures, there are concurrent and predictive associations between accumulation of ACEs and health problems. Thus, regardless of how adversities are defined, it is bad for one's health to have a lot of them. However, variability in factorial validity results reduces the utility of ACE measures for targeting interrelated sets of ACEs or subgroups with certain ACE profiles. Importantly, construct validity has not been achieved. It is not clear what "adversity" means; thus, the clinical and public health utility of these checklists have been limited. Although ACEs checklists are good at predicting health problems at the group level, they have not been shown to be good at predicting problems at the individual level.

Other Methodological Insights from ACEs Research from 1999 to 2019

This section describes other insights from our scoping review that shed light on the research context that has shaped definitions and measures of ACEs in the first 20 years of this field and how influential the original ACEs study (Felitti et al., 1998) has been. The number of articles on ACEs remained flat at about 20 articles/year for a decade after 1998, but showed an exponential increase after 2009, reaching approximately 400 articles in 2019.

The original ACEs study was published in the *American Journal of Preventive Medicine*. Over the next two decades, this journal published 1.6% of ACEs articles. The rest were disseminated in 539 other journals; however, only *Child Abuse and Neglect* published more than 2% of the articles (8.3%). This dispersion may have impeded building a cumulative science of ACEs.

As with the original ACEs study, most (60.6%) of the articles were based on US samples, with the next largest contribution coming from the United Kingdom (5.4%). The remaining third were based on samples from 61 other countries. As only about 4% of the global population lives in the United States (United States Census Bureau, 2022), this represents a disproportionate influence of the concerns and biases of US-based researchers on ACEs research, as in other fields in the behavioral sciences (Henrich et al., 2010).

Funding sources drive research by prioritizing certain goals and methods. The original ACEs study was funded by the CDC and the Association of Teachers of Preventive Medicine. A third (30.6%) of the articles did not declare a funding source. For the rest, the most frequent source was the U.S. Department of Health and Human Services. Most of this funding came from agencies focused on biomedical and clinical research (e.g., National Institute of Health) and downstream services (e.g., Health Resources and Services Administration). CDC, a more upstream-oriented agency, funded only 6% of the articles reporting this information. Thus, the first two decades of research on ACEs were not driven by upstream-focused sources of funding.

The original ACEs study documented the prevalence of ACEs and examined their association with ten leading sources of morbidity and mortality. Likewise, the stated goal of a majority (89.5%) of the articles in the following two decades was to describe the prevalence of ACEs and/or to examine their association with other (mainly downstream) variables. Research goals often include predictors and outcomes (e.g., are ACEs, as predictors, associated with health outcomes?). They may also include mediators as explanatory mechanisms. For example, researchers may hypothesize that ACEs (as predictors) lead to smoking (mediator), which, in turn, leads to health problems (outcome). How ACEs are treated in research goals reveals researchers' concerns and assumptions about causality. ACEs were treated as predictors in 82.5% of the articles and as mediators in 1.5%. Only about 10% of the articles examined specifically how *upstream* determinants (as predictors) may lead to ACEs (as mediators or outcomes).

The 1998 article reported differences in the distribution of ACEs as a function of race/ethnicity, gender, and education level. These sociodemographic variables were then used as covariates in the main analyses examining the dose–response relationship between ACEs and health outcomes. The "Discussion" section had no recommendations about disparities. Over the next 20 years, these (race/ethnicity, gender, education) and other upstream determinants of health did not appear in the research goals of 55.7% of the 1281 articles.

No protective factors were included in the design of the original ACEs study to determine what might mitigate the impact of ACEs. There were also no protective factors in the design of 88.9% of the articles in the next two decades. In the remaining 11.1%, most of which were published in the last few years, the protective factors were overwhelmingly at the level of the individual (48.6% of articles that contained a protective factor; e.g., resilience), psychosocial aspects of the family (40.8%; e.g., parental stress), and/or immediate community (59.2%; e.g., social support, collective efficacy). There was much less focus on socioeconomic characteristics of the family as protective (4.2%, e.g., income). Only one study examined whether a truly upstream factor (welfare policies of national governments) was protective (Van Der Linden et al., 2020).

We also coded researchers' recommendations for translating findings to action, as definitions of ACEs influence decisions about interventions. Felitti et al. (1998) made no recommendations for primordial prevention ("Primary prevention of adverse childhood experiences has proven difficult and will ultimately require societal changes that improve the quality of family and household environments during childhood", p. 255). They recommended primary prevention (e.g., home visiting), secondary prevention (e.g., interdisciplinary coordination in health care; physician education), and tertiary prevention (e.g., discussing ACEs with patients). In the next 20 years, for every two articles making a recommendation for preventing effects of ACEs *after* they occurred, there was only one recommending primary or primordial prevention and one recommending nothing. There was no shift toward upstream recommendations, as the evidence for the harmful downstream effects of ACEs became stronger.

Summary of ACEs Research from 1999 to 2019

The promising, innovative aspect of the 1998 ACEs study was linking the accumulation of certain childhood experiences to major public health concerns. After an adequate number of high-quality replications, results could have most effectively been put to use to implement primordial interventions, given that these are the most effective way of addressing the high rates of morbidity and mortality prompting that original study.

However, this promise has not yet been fulfilled. Several weaknesses in the original article set the stage for this letdown. First, the term "ACEs" was never justified clearly, leaving it open for researchers to interpret this broad and vague term in a multitude of ways. At least one article is published every day now on ACEs without a consensus on what "adversity" means.

The article limited the terms of the debate from the start by noting the difficulty of primordial interventions and turning attention to primary, secondary, and tertiary interventions. The dominant narrative that emerged from subsequent ACEs research, rooted in the United States, is one where most ACEs are defined as problems within the household, characterizing parents as the "villains" and children as the "victims." There are few "heroes" in this narrative; it is mostly a story of decline that starts with maltreatment and household dysfunction and ends with health problems. The "moral" of the story is for individuals to use better coping skills, for parents to be better parents, and for professionals to provide more services. This type of discourse is not unique to ACEs research. We urge readers to learn more about discourses used in social determinants of health (SDOH; defined below) (Raphael, 2011a) and child neglect (Mason, 2019) and their implications for different levels of prevention and social justice.

Thus, rather than being viewed as a somewhat arbitrary list of mediators of higher level determinants of health and health inequities, ACEs have been turned into causal factors at the individual level and got disconnected from their upstream causes. This trend is concerning given the absence of empirical evidence for their power to predict problems at the individual level. This "methodological individualism" (Goldberg, 2012) or "privatization of risk" (Rockhill, 2001), that is, holding individuals responsible for their problems, is not effective for addressing the roots of these risk factors and reducing leading causes of morbidity and mortality at the population level. These trends in ACEs research are akin to what has been termed "lifestyle drift," that is, "the tendency for policy initiatives on tackling health inequalities to start off with a broad recognition of the need to take action on the wider SDOH (upstream), but which, in the course of implementation, drift downstream to focus largely on individual lifestyle factors. Coupled with this is a drift away from recognition of the social gradient towards plans for action that target the most disadvantaged" (Hunter et al., 2009, p. 3).

What Is to Be Done?

For the line of ACEs research that started in 1998 to have maximum public health impact, we suggest that researchers define these risk factors as (1) public health, not clinical, tools, (2) mediators, not root causes, of health and health inequities at the population level, and (3) facilitators of upstream, not downstream, solutions to prevent adversities. These goals could be achieved with even one well-chosen adversity or fail to be achieved with a list of 50 adversities.

Define ACEs as a Public Health Tool

Although the ACEs checklist originated as a public health tool, it has come to be used more and more as a clinical tool. What is the difference between the two?

The purpose of a clinical tool (e.g., cholesterol level, number of depression symptoms) is to assess individuals and to provide them with appropriate services. Clinical tools, typically used by health-care providers, assist with detecting disease (or risk of developing disease), treatment planning, and monitoring at the individual level. A good clinical tool should have a single outcome measure, clear cutoffs that yield good sensitivity and specificity that predict an individual's risk for an important endpoint (e.g., cholesterol screening may have good sensitivity and specificity but is not helpful if cholesterol is not meaningfully predictive of a health outcome that matters to the individual), and clinical guidelines for intervention (Barnes et al., 2020). Providers generally tailor treatments to individuals' needs; in this context, details at the individual level matter (e.g., severity, duration, subjective experiences, and the specific experiences and their combinations). The goal of a clinical tool is to improve individual health, and it has utility to the extent that it improves outcomes for that individual.

The ACE checklist was not designed to be a clinical tool and does not meet these criteria, as emphasized by one of its original authors (Anda et al., 2020). Although ACEs checklists provide convenient scores, there is no consensus on a clinical cutoff. Felitti et al. (1998) did not propose any specific interventions tied to ACE scores. Their clinical utility (the extent to which an ACEs score meaningfully predicts a given health problem at the individual level, or that using such a tool improves individual outcomes) has not yet been demonstrated.

Public health cannot be meaningfully improved one individual at a time. The purpose of a public health tool is to assess the prevalence of problems in a population to improve *public* health. Public health researchers use tools for surveillance. For example, they may track the distribution of problems over time, across geographic areas or subgroups, or variations in policy. In this context, details at the individual level are not as relevant. In fact, focusing on subjective experiences draws attention away from the underlying societal conditions. The goal of public health tools is to use the aggregate data to engage in upstream interventions to improve the health of the population as a whole, and the tool has utility to the extent that it can serve as a broad measure of changes in the burden of public health outcomes and risk factors for those outcomes.

Several large studies of representative samples in multiple countries have examined prevalence of ACEs in the general population and in subgroups (defined by socioeconomic status, gender, race/ethnicity, sexual orientation, immigration status, birth cohort, geographic location), illustrating the use of ACEs checklists for surveillance. Knowledge gained from this research can help improve public health if it is incorporated into public health tools to identify public health needs *and* if the resulting data are used to develop, advocate for, implement, and sustain upstream solutions at the population level.

So, what should health-care workers do to care for patients exposed to early adversities? The tools depend on the patient's symptoms and needs. If trauma is a concern, for example, providers should use valid and reliable trauma measures that can guide evidence-based interventions. As recommended by Felitti et al. (1998), providers should also be educated about developmental origins of health and disease and be open to discussing early adversities with patients and providing tailored interventions and resources when necessary.

Define ACEs to Be Treated as Mediators or Outcomes

ACEs are treated in a decontextualized manner in research, with insufficient focus on societal conditions that give rise to them. An insidious result of the disproportionate focus on prevalence and consequences of ACEs, or on differences in their distribution across groups, is the normalization of these problems, making them seem inevitable rather than as the result of modifiable upstream factors, such as laws and policy decisions (Plamondon et al., 2020).

Thus, we encourage more research treating childhood risk factors as mediators rather than as decontextualized predictors or as a means of documenting group differences without solutions (e.g., Reynolds, 2021). This could be accomplished by incorporating these risk factors into broader, action-oriented SDOH frameworks (Montez et al., 2021; Navarro, 2009; Solar & Irwin, 2010). The field of SDOH, which emerged in the 1970s, emphasized the impact of societal conditions on health. The World Health Organization (WHO) defines SDOH as "the non-medical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems" (World Health Organization, n.d.). Starting in the 1980s and 1990s, the WHO put together influential reports and conferences on SDOH (Lucyk & McLaren, 2017). Although the initial ACEs study was published as the SDOH field was solidifying, ACEs research remained disconnected from this broader field. We suggest that ACEs research merge with the SDOH field, which is closer to the historical roots of thinking about risk factors. SDOH frameworks start with upstream determinants of health (e.g., political systems, commercial and corporate interests, laws, policies, cultural values), which influence the distribution of resources based on factors such as social class, race, ethnicity, and gender. These hierarchies, in turn, influence intermediary determinants of health (e.g., living and working conditions, health-risk behaviors, psychosocial factors such as stress). These intermediary determinants then lead to various health outcomes.

Within such frameworks, ACEs would be at an intermediary level (mediators). Determinants at this level are related to each other in their causes and effects. Thus, instead of developing a siloed science of ACEs, a more powerful strategy would be to conceptualize them as intermediary risk factors within broader SDOH frameworks. The original seven ACEs predict health problems, but so do other intermediary determinants, some of which are already included in some ACE checklists (e.g., housing instability, exposure to community violence).

Few studies treat ACEs as mediators between upstream determinants and outcomes or examine how these determinants affect the impact of ACEs. Only one of the 1361 articles in our review, a Scottish study (Blair et al., 2019), examined ACE prevalence as a function of community resources (e.g., housing). A second study of 13 European countries examined whether the type of welfare regime affected the association between ACEs and frailty in old age (Van Der Linden et al., 2020). No articles in our review examined corporate or commercial or legal determinants (Mialon, 2020; Montez et al., 2021) of ACEs.

Define ACEs to Facilitate Upstream Interventions

It could be argued that upstream and downstream efforts can go on simultaneously, but our review has shown a disproportionate focus on the downstream side. This imbalance has also been observed in maltreatment research (Klevens et al., 2015) as well as on other SDOH (Lucyk & McLaren, 2017; Plamondon et al., 2020). Yet, “privatizing risk” will not improve public health.

The original ACEs pyramid depicts how ACEs (at the bottom of the pyramid) may lead to social, cognitive, and emotional impairments, which then lead to health-risk behaviors, which lead to disease, disability, and social problems, which then result in death (at the top of the pyramid) has gained popularity since the publication of the original ACEs study (Felitti et al., 1998, p. 256). However, there is another pyramid that ACEs researchers should heed: the health impact pyramid (Frieden, 2010). This is a depiction of the health impact of different interventions, from counseling to socioeconomic policies. In general, the less agency and motivation needed on the part of an individual for an intervention, the greater the public health effect of that intervention (Masters et al., 2017; McGill et al., 2015). For example, screening smokers and counseling them to quit smoking is less effective at the population level than socioeconomic interventions such as cigarette taxes and smoking bans.

It is also crucial to acknowledge that determinants of health (determinants of health of individuals, e.g., stress) are not the same as determinants of health inequities (determinants of differences in health across groups in society, e.g., systemic discrimination). A disproportionate focus on household ACEs as determinants of health problems draws attention away from factors that cause unequal distribution of ACEs in different groups (e.g., redlining), leading to health inequities. “The blurring of this distinction can feed the policy assumption that health inequalities can be diminished by policies that focus only on the social determinants of health” (Solar & Irwin, 2010, p. 47). In other words, screening for ACEs and providing resources to low-income families is not going to solve income inequality but will perpetuate the broader conditions that put these families at risk and in need of services.

For this reason, downstream, individual-action-based approaches are not only less impactful for public health but can *exacerbate* health inequities, because they require more resources on the part of the recipients and impose on them a disproportionate burden (Lorenc et al., 2013). Well-intentioned, high-agency interventions for health problems (e.g., educating individuals about healthy diets) can *worsen* inequities at the population level (Ford et al., 2021). From a pragmatic perspective, downstream interventions are also more vulnerable to political pressures and funding cuts than primordial interventions such as the passage of laws.

A typical research study on ACEs starts with a variety of ACEs with a multitude of causes. Yet, a parent's genetic mental illness, for example, has different causes than that parent's incarceration, although both are termed "adversities." Thus, ACEs checklists are like medical checklists that include items such as "exposure to household infections," "broken bones," and "living in a polluted neighborhood," summarized in a single score of physical problems. These items might well be correlated with each other and predict future medical problems. However, it is not clear what is measured on this checklist and, importantly, what to do about it besides alleviating the patient's symptoms. It is not surprising, therefore, that the typical study on ACEs ends with a recommendation for how to alleviate the suffering of individuals already exposed to ACEs, with sometimes a few broad sentences about the general need for upstream interventions.

It is possible to skillfully use findings about consequences of ACEs in studies to argue for primordial prevention (Halfon et al., 2017; Metzler et al., 2017). However, this approach is extremely rare in the ACEs field. Accumulated findings can also be effectively used to advocate for upstream interventions. An excellent example of this approach is the comprehensive report on reducing child poverty by an interdisciplinary set of authors (National Academies of Sciences, Engineering, and Medicine, 2019). Research on the negative impacts of ACEs is used as part of the evidence base to make the case for policies to reduce child poverty. Similarly, the Centers for Disease Control (2021) uses ACEs research to advocate for state earned income tax credits and Marmot and colleagues (2020) use ACEs research to advocate for anti-poverty programs.

A more powerful approach for risk factor researchers might be to start with a vision of the kind of society they would like to see or with basic human rights, consider the kinds of upstream actions necessary to achieve this vision, and subordinate the definitions of adversities and their methodology to this objective (Scott-Samuel & Smith, 2015). This hierarchy between upstream solutions and downstream adversities needs to be reflected in research designs, in what is actually measured and analyzed. It is not realistic or useful to have a single ACEs checklist to fit all goals, especially since it is not clear what "ACEs" are; the definition and justification of risk factors need to be tailored to specific goals to maximize public health utility.

For example, researchers can start with the assertion that affordable, high-quality housing is a human right. They can then consider upstream actions (e.g., changes to housing policies or election laws that determine who makes the policies) necessary to achieve this right. The next step would be to collect evidence to determine what kinds of policies (e.g., changes to zoning policies) are effective, to advocate for changes, and to evaluate the effects of policies. This is where ACEs research can be used to determine, for example, which housing policies are most effective in preventing which ACEs. Researchers could identify a set of coherent, theoretically sound adversities associated with lack of housing, tying the definition as much as possible to the modifiable cause. The research design would incorporate, for example, different types of zoning policies as predictors and adversities as mediators of downstream health effects or as outcomes. Treating ACEs as predictors, as the problem upon which to focus, seems to lead too often to privatizing risk, which might exacerbate inequities. In contrast, framing housing policies and other upstream determinants in terms of human rights should draw attention to structural conditions that can reduce ACEs and inequities in their distribution at the population level.

This endeavor requires interdisciplinary and intersectoral collaboration across public health, psychology, economics, policy studies, political science, law, politics, methodology, and other areas (Collyer & Smith, 2020). It also requires journals and funding sources that promote upstream solutions to public health problems. Furthermore, government agencies need to collect and make available high-quality administrative data on childhood and family risk factors that can be used to examine effects of policies and laws on children and families (Naumova, 2021).

An example of an intervention study based on a positive vision for the whole population (as opposed to how to fix the deficiencies of a subgroup), with an ACE as an outcome, is by Shafer et al. (2022). These researchers demonstrated that the Child Tax Credit, part of the American Rescue Plan of 2021, led to a large reduction in food insufficiency in households with children. An important lesson from the SDOH field is that targeted interventions, such as means-tested programs for low-income families, are less impactful than universal or proportionately universal interventions (i.e., aimed at the whole population, but providing more resources to those in greater need) (Francis-Oliviero et al., 2020; Whitehead, 2007). The Child Tax Credit is one such proportionately universal intervention that can help reduce ACEs.

Conclusion

Twenty years of ACEs research has shown that the accumulation of childhood adversities has lifelong consequences for mental and physical health. However, there is no consensus on what ACEs are, and this field has not led to upstream, scaled-up solutions that address the causes of ACEs and inequities in their distribution at the population level. Crowley et al. (2022) report that ACEs research led to the introduction of 425 bills and the resulting passage of 106 laws mentioning ACEs between 1999 and 2019 in the United States, with most of this activity occurring in the last decade and in Minnesota and Washington. The researchers did not code these bills and laws with respect to their emphasis on upstream versus downstream prevention; however, if ACEs research is disproportionately focused on downstream interventions and privatizing risk, this disproportionate focus may be also starting to be codified into law.

Thus, it is time to take stock to maximize the field's public health utility and to ensure that legislation is focused on primordial prevention and public health. Rather than thinking about what to include on ACEs checklists, we need to think about *why* we need to define ACEs in the first place and how to utilize the knowledge gained from this field to improve public health. Is it necessary, for example, to place ACEs outside of the broader context of children's rights? Is it necessary to have an ACEs field outside of the broader SDOH field? If the goal is to improve public health, is it necessary to define risk factors in individual terms, and to frame our research questions in terms of the effects of these individual risk factors or how to prevent them or to address their consequences? Why not define risk in terms of the societal conditions that put children at risk for morbidity and mortality (e.g., income inequality, lack of affordable housing, lack of police accountability, underfunded schools)? For example, Felitti et al. (1998) showed that a quarter of the patients in their sample had been exposed to household substance abuse as children. Why not shift the focus from parents who abuse substances to the societal conditions that expose at least one out of every four children to substance abuse in the home? Why not frame our questions in terms of how to create just, equitable societies for all and use individual-level risk factors as outcomes to evaluate whether justice has been achieved?

Ultimately, addressing ACEs with a public health approach is about creating a more just society where everyone can thrive. This is not easy or perhaps achievable. It is also not a new problem (Taylor & Rieger, 1985). Even when public health authorities mandate action on SDOH, implementation may be hampered by epistemological barriers (Brassolotto et al., 2014). It is difficult to access data to document the effects of upstream determinants. There are powerful political and financial forces that inhibit the ability to obtain research funding for studies addressing societal conditions that go against the interests of these forces (Fliss et al., 2021). These are complex problems. However, we urge researchers not to use complexity as an excuse for not addressing upstream prevention efforts at all and for relying instead on downstream interventions (Savona et al., 2021). If we want to try to improve public health, we need to define risk in a way that points at the roots of the problems, not just the consequences.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)*. American Psychiatric Association.

Anda, R. F., Porter, L. E., & Brown, D. W. (2020). Inside the adverse childhood experience score: Strengths, limitations, and misapplications. *American Journal of Preventive Medicine, 59*(2), 293–295. https://doi.org/10.1016/j.amepre.2020.01.009

Baldwin, J. R., Caspi, A., Meehan, A. J., Ambler, A., Arseneault, L., Fisher, H. L., Harrington, H., Matthews, T., Odgers, C. L., Poulton, R., Ramrakha, S., Moffitt, T. E., & Danese, A. (2021). Population vs individual prediction of poor health from results of Adverse Childhood Experiences screening. *JAMA Pediatrics, 175*(4), 385–393. https://doi.org/10.1001/jamapediatrics.2020.5602

Barnes, A. J., Anthony, B. J., Karatekin, C., Lingras, K. A., Mercado, R., & Acheson, L. A. (2020). Identifying adverse childhood experiences in pediatrics to prevent chronic health conditions. *Pediatric Research, 87*, 362–370. https://doi.org/10.1038/s41390-019-0613-3

Bethell, C. D., Hudziak, J., Gombojav, N., Powers, K., Wade, R., & Braveman, P. (2017). Methods to assess adverse childhood experiences of children and families: Toward approaches to promote child well-being in policy and practice. *Academic Pediatrics, 17*(7), S51–S69.

Blair, A., Marryat, L., & Frank, J. (2019). How community resources mitigate the association between household poverty and the incidence of adverse childhood experiences. *International Journal of Public Health, 64*(7), 1059–1068. https://doi.org/10.1007/s00038-019-01258-5

Boals, A. (2018). Trauma in the eye of the beholder: Objective and subjective definitions of trauma. *Journal of Psychotherapy Integration, 28*(1), 77–89. https://doi.org/10.1037/int0000050

Brassolotto, J., Raphael, D., & Baldeo, N. (2014). Epistemological barriers to addressing the social determinants of health among public health professionals in Ontario, Canada: A qualitative inquiry. *Critical Public Health, 24*(3), 321–336. https://doi.org/10.1080/09581596.2013.820256

Center for Disease Control and Prevention. (2021). *Can state earned income tax credits help prevent adverse childhood experiences?* https://www.cdc.gov/violenceprevention/pdf/acestudy/EarnedIncomeTaxCreditsandACEs_508.pdf

Collyer, T. A., & Smith, K. E. (2020). An atlas of health inequalities and health disparities research: "How is this all getting done in silos, and why?". *Social Science & Medicine, 264*, 113330. https://doi.org/10.1016/j.socscimed.2020.113330

Crowley, D. M., Connell, C. M., Noll, J., Green, L., Scott, T., & Giray, C. (2022). Legislating to prevent adverse childhood experiences: Growth and opportunities for evidence-based policymaking and prevention. *Prevention Science, 23*(2), 181–191. https://doi.org/10.1007/s11121-021-01292-x

Dube, S. R., Felitti, V. J., Dong, M., Chapman, D. P., Giles, W. H., & Anda, R. F. (2003). Childhood abuse, neglect, and household dysfunction and the risk of illicit drug use: The Adverse Childhood Experiences Study. *Pediatrics, 111*(3), 564–572. https://doi.org/10.1542/peds.111.3.564

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Fergusson, D. M., Lynskey, M. T., & Horwood, L. J. (1996). Factors associated with continuity and changes in disruptive behavior patterns between childhood and adolescence. *Journal of Abnormal Child Psychology, 24*(5), 533–553.

Fliss, M. D., Gartner, D. R., McClure, E. S., Ward, J. B., & Rennie, S. (2021). Public health, private names: Ethical considerations of branding schools of public health in the United States. *Critical Public Health, 31*(4), 500–506. https://doi.org/10.1080/09581596.2020.1736270

Ford, K., Hughes, K., Hardcastle, K., Di Lemma, L. C. G., Davies, A. R., Edwards, S., & Bellis, M. A. (2019). The evidence base for routine enquiry into adverse childhood experiences: A scoping review. *Child Abuse & Neglect, 91*, 131–146. https://doi.org/10.1016/j.chiabu.2019.03.007

Ford, J., McGowan, V., Davey, F., Birch, J., Khun, I., Lahiri, A., Gkiouleka, A., Arora, A., Sowden, S., & Bambra, C. (2021). *Levelling up health: A practical, evidence-based framework*. Public Health England. https://www.phpc.cam.ac.uk/pcu/files/2021/12/Levelling-Up-Health.pdf.

Francis-Oliviero, F., Cambon, L., Wittwer, J., Marmot, M., & Alla, F. (2020). Theoretical and practical challenges of proportionate universalism: A review. *Revista Panamericana de Salud Pública, 44*, 1–11. https://doi.org/10.26633/RPSP.2020.110

Frieden, T. R. (2010). A framework for public health action: The health impact pyramid. *American Journal of Public Health, 100*(4), 590–595. https://doi.org/10.2105/AJPH.2009.185652

Goldberg, D. S. (2012). Social justice, health inequalities and methodological individualism in US health promotion. *Public Health Ethics, 5*(2), 104–115. https://doi.org/10.1093/phe/phs013

Halfon, N., Larson, K., Son, J., Lu, M., & Bethell, C. (2017). Income inequality and the differential effect of adverse childhood experiences in US children. *Academic Pediatrics, 17*(7), S70–S78. https://doi.org/10.1016/j.acap.2016.11.007

Hamlin, C. (1995). Could you starve to death in England in 1839? The Chadwick-Farr controversy and the loss of the "social" in public health. *American Journal of Public Health, 85*(6), 856–866. https://doi.org/10.2105/AJPH.85.6.856

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences, 33*(2–3), 61–83. https://doi.org/10.1017/S0140525X0999152X

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health, 2*(8), e356–e366. https://doi.org/10.1016/S2468-2667(17)30118-4

Hunter, D. J., Popay, J., Tannahill, J., Whitehead, M., & Elson, T. (2009). Learning lessons from the past: Shaping a different future. *Marmot Review Working Committee, 3*, 1–11.

Karatekin, C., Mason, S. M., Riegelman, A., Bakker, C., Hunt, S., Gresham, B., Corcoran, F., & Barnes, A. (2022). Adverse childhood experiences: A scoping review of measures and methods. *Children and Youth Services Review, 136*, 106425. https://doi.org/10.1016/j.childyouth.2022.106425

Klevens, J., Barnett, S. B. L., Florence, C., & Moore, D. (2015). Exploring policies for the reduction of child physical abuse and neglect. *Child Abuse & Neglect, 40*, 1–11. https://doi.org/10.1016/j.chiabu.2014.07.013

Lorenc, T., Petticrew, M., Welch, V., & Tugwell, P. (2013). What types of interventions generate inequalities? Evidence from systematic reviews. *Journal of Epidemiology and Community Health, 67*(2), 190–193.

Lucyk, K., & McLaren, L. (2017). Taking stock of the social determinants of health: A scoping review. *PLoS One, 12*(5), e0177306. https://doi.org/10.1371/journal.pone.0177306

Marmot, M. (2020). Health equity in England: The Marmot review 10 years on. *BMJ, 368*, m693. https://doi.org/10.1136/bmj.m693

Mason, J. (2019). The construction of child neglect in English-speaking countries: Children, risk and poor families. *Children and Youth Services Review, 97*, 112–119. https://doi.org/10.1016/j.childyouth.2017.06.011

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology, 2*(04), 425–444. https://doi.org/10.1017/S0954579400005812

Masters, R., Anwar, E., Collins, B., Cookson, R., & Capewell, S. (2017). Return on investment of public health interventions: A systematic review. *Journal of Epidemiology and Community Health, 71*(8), 827–834. https://doi.org/10.1136/jech-2016-208141

McGill, R., Anwar, E., Orton, L., Bromley, H., Lloyd-Williams, F., O'Flaherty, M., Taylor-Robinson, D., Guzman-Castillo, M., Gillespie, D., Moreira, P., Allen, K., Hyseni, L., Calder, N., Petticrew, M., White, M., Whitehead, M., & Capewell, S. (2015). Are interventions to promote healthy eating equally effective for all? Systematic review of socioeconomic inequalities in impact. *BMC Public Health, 15*(1), 1–15. https://doi.org/10.1186/s12889-015-1781-7

McMahon, N. E. (2021). Framing action to reduce health inequalities: What is argued for through use of the 'upstream–downstream' metaphor? *Journal of Public Health, 44*, fdab157. https://doi.org/10.1093/pubmed/fdab157

Meehan, A. J., Baldwin, J. R., Lewis, S. J., MacLeod, J. G., & Danese, A. (2021). Poor individual risk classification from adverse childhood experiences screening. *American Journal of Preventive Medicine, S0749379721004566*, 427. https://doi.org/10.1016/j.amepre.2021.08.008

Merriam-Webster. (n.d.). Adversity. In *Merriam-Webster.com dictionary*. Retrieved May 12, 2022, from https://www.merriam-webster.com/dictionary/adversity

Metzler, M., Merrick, M. T., Klevens, J., Ports, K. A., & Ford, D. C. (2017). Adverse childhood experiences and life opportunities: Shifting the narrative. *Children and Youth Services Review, 72*, 141–149. https://doi.org/10.1016/j.childyouth.2016.10.021

Mialon, M. (2020). An overview of the commercial determinants of health. *Globalization and Health, 16*(1), 74. https://doi.org/10.1186/s12992-020-00607-x

Moeller, T. P., Bachmann, G. A., & Moeller, J. R. (1993). The combined effects of physical, sexual, and emotional abuse during childhood: Long-term health consequences for women. *Child Abuse & Neglect, 17*(5), 623–640.

Montez, J. K., Hayward, M. D., & Zajacova, A. (2021). Trends in U.S. population health: The central role of policies, politics, and profits. *Journal of Health and Social Behavior, 62*(3), 286–301. https://doi.org/10.1177/00221465211015411

National Academies of Sciences, Engineering, and Medicine. (2019). *A roadmap to reducing child poverty*. National Academies Press. https://www.nap.edu/catalog/25246.

Naumova, E. N. (2021). Public health inequalities, structural missingness, and digital revolution: Time to question assumptions. *Journal of Public Health Policy, 42*(4), 531–535. https://doi.org/10.1057/s41271-021-00312-y

Navarro, V. (2009). What we mean by social determinants of health. *Global Health Promotion, 16*(1), 5–16. https://doi.org/10.1177/1757975908100746

Nedel, F. B., & Bastos, J. L. (2020). Whither social determinants of health? *Revista de Saúde Pública, 54*, 15. https://doi.org/10.11606/s1518-8787.2020054001618

Paffenbarger, J., & Wing, A. L. (1973). Chronic disease in former college students. XII. Early precursors of adult-onset diabetes mellitus. *American Journal of Epidemiology, 97*(5), 314–323.

Plamondon, K. M., Bottorff, J. L., Caxaj, C. S., & Graham, I. D. (2020). The integration of evidence from the Commission on Social Determinants of Health in the field of health equity: A scoping review. *Critical Public Health, 30*(4), 415–428. https://doi.org/10.1080/09581596.2018.1551613

Portwood, S. G., Lawler, M. J., & Roberts, M. C. (2021). Science, practice, and policy related to adverse childhood experiences: Framing the conversation. *American Psychologist, 76*(2), 181–187. https://doi.org/10.1037/amp0000809

Raphael, D. (2011a). A discourse analysis of the social determinants of health. *Critical Public Health, 21*(2), 221–236. https://doi.org/10.1080/09581596.2010.485606

Raphael, D. (2011b). Mainstream media and the social determinants of health in Canada: Is it time to call it a day? *Health Promotion International, 26*(2), 220–229. https://doi.org/10.1093/heapro/dar008

Rariden, C., SmithBattle, L., Yoo, J. H., Cibulka, N., & Loman, D. (2021). Screening for adverse childhood experiences: Literature review and practice implications. *The Journal for Nurse Practitioners, 17*(1), 98–104. https://doi.org/10.1016/j.nurpra.2020.08.002

Reynolds, M. M. (2021). Health power resources theory: A relational approach to the study of health inequalities. *Journal of Health and Social Behavior, 62*(4), 493–511. https://doi.org/10.1177/00221465211025963

Rockhill, B. (2001). The privatization of risk. *American Journal of Public Health, 91*(3), 365–368. https://doi.org/10.2105/AJPH.91.3.365

Rutter, M. L. (1963). Psychosocial factors in the short-term prognosis of physical disease: I. Peptic ulcer. *Journal of Psychosomatic Research, 7*(1), 45–60.

Savona, N., Thompson, C., Smith, D., & Cummins, S. (2021). 'Complexity' as a rhetorical smokescreen for UK public health inaction on diet. *Critical Public Health, 31*(5), 510–520. https://doi.org/10.1080/09581596.2020.1755421

Scott-Samuel, A., & Smith, K. E. (2015). Fantasy paradigms of health inequalities: Utopian thinking? *Social Theory & Health, 13*(3–4), 418–436. https://doi.org/10.1057/sth.2015.12

Shafer, P. R., Gutiérrez, K. M., Ettinger de Cuba, S., Bovell-Ammon, A., & Raifman, J. (2022). Association of the implementation of Child Tax Credit advance payments with food insufficiency in US households. *JAMA Network Open, 5*(1), e2143296. https://doi.org/10.1001/jamanetworkopen.2021.43296

Shonkoff, J. P., Garner, A. S., Siegel, B. S., Dobbins, M. I., B. S., Earls, M. F., Garner, A. S., McGuinn, L., Pascoe, J., & Wood, D. L. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics, 129*(1), e232–e246. https://doi.org/10.1542/peds.2011-2663

Solar, O., & Irwin, A. (2010). *A conceptual framework for action on the social determinants of health* (Social Determinants of Health Discussion Paper 2: Policy and Practice). World Health Organization. https://www.who.int/publications/i/item/9789241500852

Strasser, P. T. (1978). Reflections on cardiovascular diseases. *Interdisciplinary Science Reviews, 3*(3), 225–230.

Substance Abuse and Mental Health Services Administration. (2014). *SAMHSA's concept of trauma and guidance for a trauma-informed approach* (HHS Publication No. (SMA) 14-4884). Substance Abuse and Mental Health Services Administration (SAMHSA). https://store.samhsa.gov/system/files/sma14-4884.pdf

Taylor, R., & Rieger, A. (1985). Medicine as social science: Rudolf Virchow on the typhus epidemic in Upper Silesia. *International Journal of Health Services, 15*(4), 547–559. https://doi.org/10.2190/XX9V-ACD4-KUXD-C0E5

United States Census Bureau. (2022, May 13). *US and world population clock*. https://www.census.gov/popclock/

Van Der Linden, B. W. A., Sieber, S., Cheval, B., Orsholits, D., Guessous, I., Gabriel, R., Von Arx, M., Kelly-Irving, M., Aartsen, M., Blane, D., Boisgontier, M. P., Courvoisier, D., Oris, M., Kliegel, M., & Cullati, S. (2020). Life-course circumstances and frailty in old age within different European welfare regimes: A longitudinal study with SHARE. *The Journals of Gerontology: Series B, 75*(6), 1326–1335. https://doi.org/10.1093/geronb/gbz140

Whitehead, M. (2007). A typology of actions to tackle social inequalities in health. *Journal of Epidemiology & Community Health, 61*(6), 473–478. https://doi.org/10.1136/jech.2005.037242

World Health Organization. (n.d.). *Social determinants of health*. https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1

4

Adverse Childhood Experiences (ACEs) Screening and Assessment in Health and Human Service Settings

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Assessing Adverse Childhood Experiences (ACEs) in Health and Human Service Settings

The link between early childhood adversity and negative physical and mental health outcomes has been established for decades. While Felitti's seminal study in 1998 first evaluated ACEs in relation to medical outcomes, researchers and clinicians alike had previously noted the impact of negative life experiences, such as child maltreatment or family disruptions, on youth development and adult outcomes. Over time, accumulated data revealed how common early adversity actually is. For example, the prevalence of childhood sexual victimization has been identified globally as 12.7% (Stoltenborgh et al., 2015), and youth exposure to family disruption factors occur at rates of around 25% (Dong et al., 2004; Felitti et al., 1998). Further, a dose response exists between ACEs score (i.e., the number of prior adverse events endorsed) and risk for negative mental and physical health outcomes, a finding that has been replicated across time, samples, and in participants of varying developmental phases, with emerging evidence for synergistic effects as well (e.g., Briggs et al., 2021; Cprek et al., 2020). ACEs screening can provide critical information needed to identify resources to address the consequences of the ACEs exposures (e.g., Child Protective Services in the case of child maltreatment) as well as how this history may influence a person's ability to engage with current health and human services resources and recommendations (e.g., a female with sexual assault history from a male perpetrator may respond more positively to a female medical provider).

Once a cross-cutting explanatory impact on child development has been identified, it is logical and ethical to incorporate screening and assessment of this factor into regular practice. For example, when links were identified between smoking tobacco and lung cancer, evaluation of patient smoking became a standard of care for cancer treatment. In 2022, screening for tobacco use is a preventative approach in pediatrics, primary care, emergency medicine, and mental health settings. Despite sufficient evidence that ACEs are linked to adverse outcomes, health and human service settings have demonstrated relatively slow uptake of systematized ACEs screening and assessment (Bora et al., 2021). Given recognized associations between ACEs and a range of health outcomes, service provision dedicated to health care and human welfare should seek to evaluate and address the potential influence of ACEs to advance comprehensive and effective service delivery. Improved

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implementation of ACEs screening and assessment requires thorough understanding of contextual features that matter for effective assessment and identification of barriers to effective assessment that may exist within specific settings. This chapter will describe the conduct of ACEs screening and assessment within health and human service settings, discuss barriers and implementation factors for consideration within these settings, and provide recommendations to enhance effectiveness of screening and assessment to promote positive intervention outcomes and well-being. For the purposes of this chapter, the terminology of health and human service settings will be inclusive of social assistance programs such as foster care and community mental health programs, as well as health-care settings such as emergency care and substance use treatment.

The Why, What, Who, When, Where, and How of ACEs Screening and Assessment

Why Do We Need ACEs Screening and Assessment?

As noted above and in previous chapters, one of the first large-scale studies to methodically categorize ACEs and ask about them in a health-care setting was conducted between 1995 and 1997 in a collaboration between the health maintenance organization Kaiser Permanente and the Centers for Disease Control and Prevention (CDC). Dr. Vincent Felitti noted the high rates of childhood adversity within obese patient populations and associations with treatment adherence. This was one of the earliest acknowledgments of the importance of assessing for ACEs in a health-care setting due to their potential influence in adverse health outcomes and reduced treatment adherence. Since Felitti's seminal publication (Felitti et al., 1998), exposure to childhood adversity has become a well-documented risk factor for a range of negative outcomes. Evidence continues to advance through multidisciplinary research on how ACEs can prompt individuals to be more susceptible to disease through differences in physiological development and health behaviors (see Chap. 1 for more details). As an example, a 2017 meta-analytic review of over 250,000 adult participants identified the most strongly associated outcomes linked to ACEs as problematic drug use, interpersonal violence, sexual risk taking, mental health disorders, and alcohol misuse, and more moderately associated outcomes as smoking, heart disease, and respiratory disease (Hughes et al., 2017). ACEs are an important part of one's medical history as they provide context for current health conditions and are predictive of health outcomes (Glowa et al., 2016; Kalmakis et al., 2018) and health-care utilization (Diaz et al., 2022; Okeson et al., 2022). ACEs have also been associated with developmental outcomes, such as social, developmental, or behavioral delays (Cprek et al., 2020).

Beyond the direct link to health outcomes, it is widely understood that screening of ACEs is necessary to inform effective and equitable health care (see Chaps. 11, 12, 13, 14, and 15). For example, ethnic and racially minoritized populations who experience discrimination have increased risk for ACEs (Liu et al., 2019; Merrick et al., 2018). The screening process itself can be therapeutic for individuals when they are able to open up about their experiences and feel understood by someone else (Felitti et al., 2010). Moreover, research has documented how youth and families are willing to report experiences to providers and find ACEs assessment to be an appropriate part of care that can improve family–provider relationships (Rariden et al., 2021). Routine, universal screening of ACEs within service delivery settings can thus help professionals provide comprehensive and effective care while improving treatment of youth social, behavioral, and health conditions, as well as family–provider relationships (Bodendorfer et al., 2020).

While evidence-based responses to extreme ACEs scores need continued development, acquiring an ACEs score is not the end goal of screening. Rather, the ACEs screening process allows providers a way to open the door for further conversation with youth and families about past adverse experiences and assessment of impacts, which, in turn, leads the way to accessing the most appropriate interventions available as well as understanding confounding issues relevant for medical and behavioral care (Watson, 2019). Following the public health framework, ACEs screening can also serve as a secondary intervention by indicating individuals who could benefit from parenting programs or mental health services as well as identifying those who may need additional supports to attend medical visits or address other barriers to treatment adherence. ACEs screening in health and human service settings can thus serve to promote resources for resilience and decrease risk of negative health outcomes.

Screening and follow-up assessment of ACEs serves as a necessary gateway to identification of resources needed for successful implementation of health care and social services. A youth experiencing adversity during engagement with health and human services may require immediate intervention to reduce future risks (e.g., involvement of Child Protective Services in the case of ongoing child maltreatment), and health and human service personnel may be uniquely situated to identify and address that need through screening. Similarly, a person's history of ACEs exposure may impact their ability to access or engage with health and human services (e.g., youth with an incarcerated parent fearing systems involvement). Assessment of factors associated with ACEs can position workers in health and human service settings to recognize these potential risks to enhance service provision.

The links established between ACEs exposures and medical, behavioral, and social outcomes highlight the foundational nature of assessment of ACEs for effective care across medical and social service settings. The various ACEs categories associate differentially with outcomes, however. Thus, recognition and understanding of subtypes of ACEs may be important for further assessment and intervention in distinctive ways across service settings.

What are the Components of ACEs Screening and Assessment?

Felitti and colleagues extended their work to better understand which adverse childhood experiences could potentially impact other developmental outcomes by pulling from the nascent base of existing literature on ACEs to identify two main groups of adverse experiences: abuse and household challenges. Abuse was further subdivided into physical, sexual, and emotional abuse, and household challenges (or household dysfunction) was separated into presence of a mentally ill or suicidal household member, incarcerated household member, substance use in the household, and mother being treated violently (Felitti et al., 1998). In 2001, a second study expanded the scope of ACEs categorization to include neglect, encompassing both physical and emotional neglect, and added parental separation or divorce to the household challenges group (Dube et al., 2002). The categorization strategy outlined in the later wave of the Kaiser Permanente and CDC study is still one of the most used frameworks in contemporary research and practice, with the exception of the "mother treated violently" subcategory often modified to include exposure to domestic violence in the home more generally. Table 4.1 provides examples of ACEs screeners used across settings with the type of ACE category assessed (see Chap. 3 for additional information). A closer examination of the various categories of ACEs and direct applications within health and human services is described below.

Abuse Research has consistently shown abuse in childhood as predictive of a myriad of adverse outcomes (Norman et al., 2012; MacIntosh & Ménard, 2021). Beyond the direct impact of abuse on physical health (e.g., injuries from physical abuse or malnourishment due to neglect), research has demonstrated links to a range of outcomes following prolonged exposure to stressful environments contextualized by fear of injury/harm hypothesized to be driven by physiological changes that occur due to toxic stress (Shonkoff

Table 4.1 Example ACEs screeners and implementation factors

Measure	Primary citation	Settings used	Informant	Age ranges	Implementation factors	ACE types assessed
Adverse Childhood Experiences Questionnaire	Felitti et al. (1998)	Healthcare (primary care and pediatric settings); Human Services (home visits by caseworkers); Research	Adult retrospective self-report	19+	*Administrators:* Primary care provider, pediatrician, medical assistant, caseworker/social worker *Administration method:* Paper; by telephone; has been adapted as semi-structured interview *Other relevant:* 10 items; available in Spanish	*Abuse:* Yes *Neglect:* Yes *Household dysfunction:* Yes *Other:* N/A
Revised ACE	Finkelhor et al. (2015)	Healthcare (primary care and pediatric settings); Research	Caregiver on behalf of child	10–17 years old	*Administrators:* Medical assistant, pediatrician *Administration method:* Paper; by telephone *Other relevant:* 14 items	*Abuse:* Yes *Neglect:* Yes *Household dysfunction:* Yes *Other:* Neighborhood level dysfunction, peer victimization, socioeconomic status
Center for Youth Wellness ACE-Q	Burke-Harris and Renschler (2015)	Healthcare (pediatric and family practice settings)	CYW ACE-Q Child completed by parent/caregiver CYW ACE-Q Teen completed by parent/caregiver CYW ACE-Q Teen SR completed by youth	CYW ACE-Q Child: 0–12 years CYW ACE-Q Teen: 13–19 years CYW ACE-G Teen SR: 13–19 years	*Administrators:* Primary care provider or medical assistant *Administration method:* Paper *Other relevant:* Procedures recommend trauma-informed care and mandated reporting training for providers; administered at first appointment with provider and at least yearly thereafter; 20 items in 2 sections; available in Spanish	*Abuse:* Yes *Neglect:* Yes *Household dysfunction:* Yes *Other:* Discrimination, neighborhood level dysfunction, peer victimization, previous foster care placement

Pediatric ACEs and Related Life Event Screener (PEARLS)	Koita et al. (2018)	Healthcare (primary care)	Different versions for child parent report and adolescent self-report and parent report	0–19 years	*Administrators:* Primary care provider *Administration method:* Questionnaire *Other relevant:* Available in 17 languages; 17 items; 2 sections (ACES; Other Adversities)	*Abuse:* Yes *Neglect:* Yes *Household dysfunction:* Yes *Other:* Neighborhood violence, parent death, food insecurity, discrimination, etc.
The Yale-Vermont Adversity in Childhood Scale (Y-VACS)	Hudziak and Kaufman (2014)	Healthcare; Research	A three-part suite of instruments using child self-report, parent report, and clinician ratings	0–20 years	*Administrators*: Clinicians *Administration method*: Utilizes a multi-informant approach of parent and child reports as well as clinician ratings based on medical and other records *Other relevant*: 20 questions; 2 sections (Natural Disasters, Community, and Health-Related Experiences; Family-Related Experiences)	*Abuse:* Yes *Neglect:* Yes *Household dysfunction:* Yes *Other:* Neighborhood violence, other interpersonal or environmental trauma

& Garner, 2012). Given the impact of abuse on child development and its association with other ACE categories, abuse should be a core component of ACEs screening, and this can be seen through measures described in Table 4.1. Universal ACEs screening can serve as a standardized and nonintrusive way to gather information and identify which individuals may require more targeted assessment. Some fields have developed standards of practice for abuse screening, with associated models for management of positive screens. For example, the SEEK (Safe Environment for Every Kid) model has been implemented and tested in a range of pediatric (university and community based; serving rural and urban populations; Eismann et al., 2019) and social service settings (e.g., child advocacy centers; Letson et al., 2022), with positive results related to reduction of child maltreatment and cost-effectiveness (Lane et al., 2021). This model includes training for providers around identification of and response to associated risk factors for child abuse, implementation of routine screening tools, and consultation with social workers to address needs and issues. Despite availability of responsive models and professional guidelines designed to promote screening, routine screening of child abuse continues to evade most health and human service providers (Kerker et al., 2016).

Across all settings, screening for abuse should be incorporated into standard routines of practice and follow-up assessment should be comprehensive enough to determine if mandated abuse reporting or referral to a physical or psychological health-care provider is necessary. Global ACEs screening is an efficient and effective way to determine if further abuse assessment is needed. However, beyond these foundational expectations, different settings may enact different procedures in response to positive screening. For example, in medical settings such as emergency departments, providers may devote less time to delving into narrative details on sexual abuse incidences and increase focus on outcomes related to physical well-being (e.g., exposure to sexually transmitted infections, genital and general body injuries). Alternatively, mental health providers may devote more time to understanding impacts of sexual abuse on psychological and emotional well-being. Intensive review of the experience, scope, and impact of sexual abuse with a child may be impractical, unnecessary, and possibly ill-advised in non-mental health-care settings due to the sensitive nature of the topic and its association with mental health symptoms.

Neglect Neglect, such as physical and sexual abuse, has a high level of co-occurrence with other types of ACEs and can amplify negative effects when paired with other early life adversities (Briggs et al., 2021). Moreover, neglect can indicate environmental barriers to access to other services (e.g., transportation or financial limitations), impacting a family's ability to engage with supports. Thus, neglect is another critical component of ACEs screening for health and human service settings, also noted in Table 4.1. The two subtypes of neglect (physical and emotional) have been considered differently depending on the setting. Within medical settings, evaluation of neglect has been tied to indicators of physical and emotional well-being for pediatric patients as well as increased risk for other forms of child maltreatment. Neglect is complicated to assess given that, by nature, it assumes the absence of provision of needed emotional, relational, or physical resource. Despite this, screening tools have been implemented in health and human service settings with success. For example, the Well-Child Care Visit, Evaluation, Community Resources, Advocacy, Referral, Education (WE-CARE) screen has been utilized in pediatric settings, with positive outcomes identified around provider comfort in screening for neglect and increased social work referrals for families identifying with screening scores indicating risk for neglect (Zielinski et al., 2017).

Awareness of the clinical presentations of physical neglect (e.g., weight loss, child being dressed inappropriately for the weather, poor hygiene) may support a health-care provider in recognizing the potential for ACEs in a child and proceeding to further screening. Physical neglect is associated with a myriad of adverse developmental outcomes that would be of particular interest in medically oriented settings; however, clinical judgement must be used in all settings to determine the appropriate response depending on circumstances surrounding physical neglect. The nutritional and material hardships associated with physical neglect can be related to familial poverty, parenting characteristics, or combination of both (Slack et al., 2004). If a provider deems poverty to be the principal cause, referral to case management or social work services may be more appropriate than engagement with Child Protective Services. Further, in-depth evaluation of emotional neglect may be ill-advised in most settings due to time or training limitations. If emotional neglect is identified through screening, referral to Child Protective Services and/or therapy is likely the most appropriate response.

Household Dysfunction Household dysfunction encompasses a wide range of interpersonal and structural stressors in a child's life, and indicators of household dysfunction are strongly linked to increased risk for exposure to other categories of ACEs (e.g., family conflict and parental substance use as risk factors for child abuse; Stith et al., 2009). Household dysfunction may be an area where health and human service workers experience limited resource in their ability to intervene beyond screening and referral. Despite this, models such as the WE-CARE screen described above enables more efficient referral to supportive services, such as social work, where preventative services may be more readily employed to reduce family stress impacts around poverty, substance use, and incarceration. Social service systems such as foster care may represent settings where knowledge of a child's exposure to this category of experiences could be vital. Foster care is a system designed to prevent continued child maltreatment through removal of youth from abusive or neglectful biological caregivers to placement within a safer environment such as kinship care (placement with a relative), foster home care (placement with a foster family), or residential care (placement within a group home or larger facility with paid staff). Upon entry to foster care, assessment of a child's background with regards to ACEs, including family structure and adversity, is crucial in understanding a child's potential for integration with and stability in foster care placements as ACEs score has been linked to placement stability (Liming et al., 2021). Youth in foster care report prevalence rates of household dysfunction that are similar to prevalence rates of abuse; therefore, system-involved youth may need intervention support to address trauma related to maltreatment experiences as well as family adversities. Furthermore, if placement with family in kinship care is considered for a child in foster care, providers must be cognizant of the dynamics in both the immediate nuclear family and extended family to ensure the safety and well-being of the child. Thus, evaluation of household dysfunction could inform the type of foster care placement for a child as well as resources needed for that child's safety and success within foster care.

Within psychological health-care settings, understanding a child's experience of household dysfunction may support or enhance the involvement of parents or guardians in the treatment process. This involvement could be as minimal as transportation to appointments or provision of technology to engage with telehealth services, or it could be a more formal involvement prescribed in treatment protocols (e.g., Parent-Child Interaction Therapy; McNeil & Hembree-Kigin, 2011). Parent/guardian engagement with therapy may consist of attitudinal (e.g., motivation and expectations for treatment) and behavioral (e.g., attendance, active participation, and help-seeking behavior) components, each with unique potential impacts on treatment efficacy in children (Staudt, 2007; Haine-Schlagel & Walsh, 2015). Attitudinal and behavioral components of parental engagement with therapy may be impacted by household dysfunction, and information obtained through ACEs screening could be leveraged to improve treatment planning and treatment efficacy if features of dysfunction are addressed early on in the process.

Other Adverse Experience Categories Some studies have promoted additional categories of adverse childhood experiences. Teicher and Parigger suggest emotional abuse may be further subdivided into verbal and nonverbal emotional abuse (2015). Verbal emotional abuse encompasses swearing at, insulting, or humiliating the child, while nonverbal emotional abuse encompasses behaviors such as being made to shoulder adult responsibilities or feeling as if their parent was excessively difficult to please. Other studies have proposed including themes such as bullying and rejection by peers (Hertz et al., 2015; Finkelhor et al., 2013) community and neighborhood level dysfunction and community violence (Finkelhor et al., 2013, 2015; Lee et al., 2020), and exposures to natural disaster (Choi et al., 2020) as unique ACEs categories. Children may also experience negative life events such as war, sociopolitical instability, serious illness, and racial and other historical forms of harm, which have been linked to negative outcomes as well. It is likely not feasible or necessary for a provider to assess all of these categories in every individual, yet providers should have some awareness of these potentially traumatic and harmful experiences and their capacity to serve as latent factors in adverse health-related outcomes. Health and human service settings rarely universally screen for all of these specific events, but location (e.g., areas that are tornado prone, with refugee populations, or with high community violence) may inform whether or not certain items should be assessed regularly in standard practice. The amount of data required may also vary; depending on the goal, providers may limit screening to number of ACEs categories experienced or may opt for screening of specific types of abuse and details of the experiences (Schulman & Maul, 2019).

To address issues related to question burden, some have recommended use of open-ended questions to capture any potentially traumatic events not addressed in a formal screening tool. In higher-risk groups, such as youth in the foster system, the American Academy of Pediatrics has suggested incorporating open-ended questions into routine care, including “Do you know of any really scary or upsetting things that happened to you/your child either before or after he/she came to live with you?” and “Since the last time I saw you/your child, has anything really scary or upsetting happened to you/your child or anyone in the family?” (Barnes et al., 2020). Further, use of an ACEs conversation rather than an independently completed screening tool may serve as a way to circumvent limitations of formal ACEs screening (Bodendorfer et al., 2020).

Who Should Report on ACEs Exposure?

In addition to what types of ACEs are assessed, interventionists within health and human service settings should consider the reporting source as well. ACEs screening began through use of retrospective self-report in adults; yet, screening can be done across the lifespan, with greater preventative impact if initiated at the earliest stage possible. Some have suggested that screening for maternal ACEs exposure should begin at prenatal visits, as an example (Sherfinski et al., 2021; van Roessel et al., 2021). Screening for ACEs in children is complicated by which reporter is utilized (i.e., caregiver or child). Screening of ACEs in children is somewhat less common, however, with 19.4% of providers asking children directly for their own ACEs and 16.7% of providers asking caregivers for children’s ACEs (Bora et al., 2021). Younger children may not be able to understand and report upon ACEs or may be uncomfortable reporting in the presence of a caregiver (Bright et al., 2015), while caregivers may not be the most accurate reporters, particularly if they are implicated by any responses. Research has suggested that, due to low concordance between parent, child, and caseworker report of ACEs, multi-informant approaches may be best (Lombardi et al., 2022).

Screening type may also vary depending on the age and developmental status of the reporter and whether reports are self-reports or on behalf of another (Schulman & Maul, 2019). It is not recommended to directly screen youth below the age of 8 (Bethell et al., 2017), and most clinicians reported only asking parents, not children, about household dysfunction items (except for divorce; Bright et al., 2015). Parents have expressed discomfort reporting for children on items related to sexual abuse, separation from caregivers, and community violence (Koita et al., 2018). Previous research suggests that adversities may also have critical developmental periods. Specifically, family-related factors (e.g., family separation, economic stressors, parent mental health) appear to be more influential for younger children, and community and peer-related factors (e.g., community violence, assault with injury, interpersonal loss) appear to be more influential for older children (Turner et al., 2020). A related developmental consideration concerns at what ages youth, versus their parent or guardian, can provide reliable and valid self-reports about their adverse experiences. Older children may forget or misremember adversities from their younger years and, unintentionally, may report more proximal adversities (Bethell et al., 2017). Further, youth may have difficulty reporting adversity they are experiencing in the present, especially if that report may result in their removal from their biological home or retainment within foster care (Felitti et al., 1998). There are also difficulties inherent in translating questions that ask about abuse/neglect and substance use for younger populations.

Often parents complete ACEs screeners as proxy for young child report. Parents who provide reports of their children's experiences may underreport certain ACEs either because they do not know of the exposure or they may be unwilling to report exposures that involve a parent. Their answers could be potentially self-incriminating and thus unreliable, particularly if they perceive they will have negative consequences, such as a referral to child welfare or negative outcomes related to current child welfare involvement (McKelvey et al., 2017). Some researchers have attempted to replicate the original ACEs studies as closely as possible with parent reporters (Bucci et al., 2015; Marie-Mitchell & O'Connor, 2013). Others have asked proxy questions (e.g., asking parents if they had ever "spanked" their child as opposed to if they "physically abused" their child) to maintain a positive relationship with the parent for the purpose of future parenting intervention (McKelvey et al., 2016). Determination of the best reporter for ACEs screening should be informed by the purpose of the screening, the age/developmental status of the youth being screened, and the youth and family relationship with the person conducting the screening.

When Should ACEs be Assessed?

As noted above, ACEs screening originated as adult retrospective reporting on childhood experiences. Given what is known about the exponential negative impact of dosing of ACEs, early and repeated assessment of ACEs exposures may reduce recurrence of ACEs across developmental phases. Thus, screening of ACEs at baseline service entry (i.e., intake for human services) can serve to define the etiology and prognoses of problems, both behavioral and physical. Repeated evaluation of ACEs across service delivery can also ensure ongoing safety and improvement of environmental factors. Within outpatient therapeutic settings, negative life events are often discussed broadly, but routine monitoring of ACEs exposure for youth and baseline evaluation of ACEs exposure for adults would assist in diagnostic formulation and evaluation of treatment progression.

Youth involved with human service systems tend to have more severe histories of ACEs and are at increased risk of maladjustment in adulthood (e.g., Turney & Wildeman, 2017). Within some human service settings, the goal of the intervention is to reduce ACEs exposure – namely youth are placed in foster care as an intervention for lack of safety in the biological home setting. Within foster care services, routine monitoring of ACEs exposure for youth in foster care should be a minimum requirement. Youth in foster care with greater ACEs exposures are also at increased odds of experiencing placement instability; therefore, it is important to address ACEs history at entry into care and throughout care (Liming et al., 2021). Some states, such as Kansas, explicitly screen all youth who enter the foster system for ACEs (Liming et al., 2021). Unfortunately, there exist no universal guidelines (defined and measurable standards for when and how assessment should occur) for assessing ACEs among youth involved in the child welfare system nor for monitoring future exposures during their time in the system.

ACEs can influence developmental trajectories as well, and, as such, ACEs scores may have different impacts depending on the developmental timing of occurrence (e.g., Hambrick et al., 2019). Relatedly, exposure to one type of adversity increases risk for ACEs exposures within other categories. Thus, a positive ACEs screen at 5 years of age may have greater impact and association with outcomes as compared to a positive ACEs screen at 18 years of age. For these reasons it has been suggested that thresholds are set differentially across ages, with a lower threshold for positive screen for younger children (Barnett et al., 2021).

Where and How Should ACEs Screening Occur?

Research suggests that ACEs screening is most likely to occur in medical or mental health-care settings and most commonly involves adult retrospective report (Bora et al., 2021). However, ACEs screening may be better suited for behavioral health settings, given the potential for more intensive therapeutic support and intervention. ACEs screening in behavioral health settings may be more appropriate once rapport is established, and families may be more likely to disclose prior ACEs within an established therapeutic relationship (Schulman & Maul, 2019). Conversely, some have said that in the absence of rigorous psychometric evaluation, ACEs screening should not be universally adopted in place of a comprehensive evaluation of current psychosocial factors and may not have independent clinical benefit (Racine et al., 2020). ACEs screening, particularly for children, may best be done amid general history-taking and health-promotion discussions as part of standard care (Bethell et al., 2017). Many have spoken to the value of conversation around these questions to gather information about context (e.g., Barnes et al., 2020; Bethell et al., 2017). Providers and families have described these conversations as supportive and amenable, and this approach to ACEs assessment can serve as a complement or replacement for formal screening by increasing awareness of related issues and providing psychoeducation and resources (Bodendorfer et al., 2020). Alternatively, emergency departments appear to utilize short, formal ACEs measures more often than other settings (e.g., Koball et al., 2021). This approach is likely impacted by the time-limited nature of the provider–patient relationship and lack of established rapport to facilitate informal discussion within emergency settings.

In terms of physical context for screening, youth and families report feeling most comfortable completing ACEs screeners in private rooms (as compared to waiting rooms; Rariden et al., 2021; Schneider et al., 2021) and during visits without an abundance of other paperwork (Kia-Keating et al., 2019). Most parents did not express a preference for modality of screening, but those who did indicated face-to-face screening and assessment would facilitate more trust and comfort (Conn et al., 2018). A number of ACEs measures exist, with some described in Table 4.1. Depending on the setting and population served, factors that may influence measure selection can include clinical utility, identification of potential barriers to services, age range of respondent, or the time it takes to complete the measure.

Other suggestions related to ACEs screening implementation from youth and families include provision of an explanation for the purpose of the questioning and emphasis on the individual's right to not disclose (Conn et al., 2018). In a military setting, individuals further emphasized the importance of confidentiality assurances (Robinson et al., 2008). At the practice level, factors identified to improve implementation of ACEs screening include electronic medical record integration of ACEs measures, clinician training in the importance of and how to do ACEs screening and follow-up assessment, and integration of behavioral health services to promote access to follow-up resources (Barnes et al., 2020).

Challenges and Barriers to Effective Assessment

Despite widespread agreement regarding the importance of screening for ACEs, clinician use of validated ACEs screening tools may be as low as 2% (Bora et al., 2021). Indeed, many caregivers report never discussing their child's ACEs with primary care providers (Okeson et al., 2022), highlighting the need for this screening to occur across health and human service settings. Studies suggest, though providers understand the importance of childhood stress on youth outcomes, they rarely conduct comprehensive ACEs assessment (Kerker et al., 2016). Informal or incomplete assessment of ACEs is much more common, but still only reported in up to 50% of providers (e.g., Bright et al., 2015; Kerker et al., 2016). This may be a product of the differential uses of child versus adult ACEs reports; youth report of ACEs facilitates prevention of future ACEs (thus improving quality of life and adult outcomes), while adult report of ACEs facilitates more targeted care and prevention of ACEs-related mental and physical health problems.

Systematic integration of ACEs screening into standard practice could improve ACEs identification, yet disagreement remains within health and human service settings as to whether ACEs screening should be integrated as routine practice. Some have expressed concern that universal ACEs screening may result in more referrals and increased burden to other systems (e.g., child protective systems, behavioral health care; Barnett et al., 2021) or that screening in the absence of identified support services may be unethical (Finkelhor, 2018). Others reference barriers to universal screening such as limited knowledge about ACEs and the efficacy of screening, lack of training for providers, potential harm to youth, and the exclusion of additional adverse experiences beyond the 10 original ACEs (Barnes et al., 2020; Byatt et al., 2020; Maunder et al., 2020). Additionally, researchers have questioned the psychometric properties of the original ACEs questionnaire, failure to address synergistic effects of ACEs with just a cumulative score and cutoff (Briggs et al., 2021), and the sufficiency of evidence-based interventions for high ACEs scores (Finkelhor, 2018). It has also been noted that ACEs screening can be time-consuming and may even increase stigma related to trauma (Finkelhor, 2018). Unfortunately, research to support adopting universal, routine ACEs screening is still in its infancy, which has also been used as an argument against widespread implementation.

Fortunately, most identified barriers to ACEs screening can be mitigated through training to increase provider confidence in their ability to sensitively screen and education on available resources and support in response to disclosures (Rariden et al., 2021). Increased provider comfort around screening may also further reduce discomfort for the individual being screened (Mersky et al., 2019). Successful ACEs screening implementation may include educational resources for individuals who report ACEs, readily available referral sources for positive screens, and provider training in the provision of trauma-informed care. Research to date suggests that most people express willingness to discuss these topics with providers (e.g., Ford et al., 2019; Rariden et al., 2021). Moreover, in some cases, ACEs screening resulted in increased trust in providers (Flanagan et al., 2018). Medical providers have also reported that implementation of ACEs measurement is both a feasible and acceptable part of care (Gillespie & Folger, 2017). Taken together, these barriers to ACEs screening can be addressed in ways that mitigate discomfort to support improvement of health and human service delivery.

One methodological concern around the standardization of ACEs screening is whether to include experiences beyond the 10 recognized in the original ACEs measure, such as community violence, poverty, and more (Finkelhor et al., 2015). The type of ACEs evaluated should likely be informed by the population being served. For example, for special youth populations, such as youth in foster care, it may not be sufficient to simply assess for a sum score of ACEs, which fails to account for the complexity of and possible synergy across the exposures (Briggs et al., 2021). All youth in foster care have had some level of previous ACEs, which prompted their placement into care, their exposures to adversity such as child maltreatment tend to be chronic and complex in nature, and they may be at increased risk for further unique adverse experiences within foster care (e.g., placement instability; educational disruption). Thus, further assessment of other features of the exposures (i.e., severity, frequency, chronicity) may be important for identification of needs and design of prevention and intervention services.

Current Status of Assessment Efforts within Health and Human Service Settings

Though barriers limit implementation of ACEs screening within health-care settings, successful implementation examples exist within the medical field (Kia-Keating et al., 2019). Gillespie and Folger (2017) employed ACEs screening within a pediatric setting and found that parents were receptive to conversations about past adversity and clinic visits were improved. Recognition of ACEs detrimental health effects on children and adults led California to become the first state to adopt ACEs screening for all children on Medi-Cal (state health insurance for low-income individuals; Loveday et al., 2022). As of 2021, through the ACEs Aware initiative, the state of California has allocated over $45 million in funding for ACEs screening with over 50,000 youth and adults having been screened thus far. They are among the first in the nation to implement ACEs assessment within primary care settings. Expansion of child ACEs screening may also be facilitated through existing well-child surveillance mechanisms. Some examples include HealthySteps (a nonprofit committed to promoting a strong start for babies and infants), which has ACEs-specific guidance for providers having conversations with caregivers about ACEs (Barnett et al., 2021; Briggs et al., 2016) and Bright Futures (an American Academy of Pediatrics program), which provides guidelines for discussion in situations of positive screens, overlapping with ACEs categories (Barnes et al., 2020). Both HealthySteps and Bright Futures also include guidance on discussing caregiver adverse experiences in recognition of the importance of parent mental and physical health for child well-being. In sum, successful implementation of ACEs screening across settings is possible when resources are available and clinicians receive the appropriate education and training needed (Rariden et al., 2021). Within these settings, the most frequently used screener for adults is the original 10-item ACEs survey from Felitti and colleagues' (1998; Barnett et al., 2021) and an extended pediatric version by the Center for Youth Wellness (Barnett et al., 2021; Purewal et al., 2016; see Table 4.1).

Research has also identified youth engaged in human service settings as a population with increased risk for ACEs, and higher numbers of ACEs can result in interference with youth engagement in and response to social services. For example, ongoing family conflict and child maltreatment in the home may prevent a youth from participating fully in a weekly therapeutic process. Extreme poverty and features of household dysfunction may impair a family's ability to find and engage with supportive services in the community. Identification of ACEs as well as how ACEs may interfere with service engagement is an important first step to effective service provision. The Family First Prevention Services Act represents a promising national approach that requires trauma-informed prevention programming with an aim to reduce foster care placements and the subsequent need for residential facilities. Within this prevention framework, ACEs screening has clear relevance; yet among states with approved plans as of 2021, only some have plans to monitor specific ACEs among youth involved in the child welfare system such as maltreatment and parental mental health and substance use. Further, inconsistency exists between what ACEs are assessed state by state. Currently, the most widely used measure within the child welfare system is the Child and Adolescent Needs and Strengths – Trauma Comprehensive

(CANS-Trauma; Kisiel et al., 2018). The CANS-Trauma assesses a range of adversities, not all of which are considered in the original ACEs measure. For example, the CANS-Trauma leaves out experiences such as parent mental health and substance use but includes other experiences such as community violence, natural disaster, terrorism, and more. The CANS-Trauma tool has been used to improve assessment, individualized services, and treatment planning across human service settings (Kisiel et al., 2018). The CANS-Trauma has been well validated in the existing literature as an approach for informing service planning and offers a method for routine ACEs assessment within human service settings where child adversity exposure may be a primary target for intervention.

Recommendations for ACEs Screening in Health and Human Service Settings

Factors to enhance implementation of ACEs screening should be considered in response to identified barriers that exist. Provider training and knowledge, reporter age, time availability, practice culture, follow-up resources for positive screens, and lack of standardization for best practices in ACEs screening contribute the effectiveness of ACEs screening. For example, if providers ask questions in an insensitive way or fail to provide needed resources to address ongoing ACE exposures, the screening process could do harm. Recommendations to promote effective ACEs screening in health and human services settings include: use of a developmentally tailored approach to screening, triangulation of data sources (or reporters) to assist in comprehensive identification of ACEs, structured follow-up on relevant ACEs features depending on the service setting, monitoring of ACEs exposures across time, trauma-informed methods for assessment, and interdisciplinary approaches to response to positive screens.

Developmental Tailoring of Assessment Methods and Questions

Effects of ACEs exposure during critical developmental periods, developmental differences in the occurrence of specific ACEs, and/or the proximal impact of ACEs across ages are critical features important for consideration during ACEs assessment. Providers engaging in ACEs screening within health and human service settings should attend to these issues when choosing their screening method and interpretating results. As noted above, young children will need proxy reporters, such as parents, to indicate their exposure to adversity, but parents may experience reporting biases that influence their responses. If youth are assessed directly (recommended when possible) questions need to be tailored to the child’s developmental level for understanding. For example, from the CDC ACEs screener, a young child may need explanation of words such as “alcoholic” or “depressed.” Further, early exposure to adversity can impact developmental trajectories (Hambrick et al., 2019). If the goal of ACEs screening is to intervene to prevent future ACE exposures and mitigate the impact of ACE exposure, any ACEs in early childhood should be addressed as soon as possible. Thus, if using cutoff scores for ACEs screening, one may need to adjust cutoffs downward for younger children, as noted above (Barnett et al., 2021).

Triangulation of Data Sources for ACEs Evaluation

Effective ACEs screening is dependent upon who can offer the best report (e.g., parent of a young child) as well as how information can be most effectively obtained (e.g., self-reported questionnaire versus clinician interview). Because of the diversity of populations served and intervention aims across health and human service settings, there is no gold standard tool to assess adverse life events. Thus, triangulation of data sources and methods will support obtainment of accurate estimates of a person's ACEs exposure (Barnett et al., 2021; Lombardi et al., 2022). Parent report of a child's ACEs exposure can provide relevant information on adversities that occurred in early childhood, whereas youth self-report of ACEs exposure may provide additional information beyond what parents know or feel comfortable disclosing. If medical records are available, record review might reveal information disclosed to other providers or information available from prior medical history (parental incarceration or physical injuries). Comparisons of youth self-report versus case file review within youth in foster care have revealed that differences in report of child maltreatment across reporter are common (Hambrick et al., 2014). For comprehensive assessment of ACEs exposure, use of multiple data sources will provide the most reliable and complete information.

Universal Screening and Repeated Monitoring of ACEs Exposures

Despite a strong foundation for the importance of ACEs screening and follow-up within health and human service settings, at best, clinical services may screen for ACEs at intake, while at worst, many service settings do no standard or repeated evaluation of ACEs. As noted above, some types of ACEs have greater likelihood of occurrence at different phases of youth development. Thus, a singular capture of ACEs early in childhood would likely miss the recurrence of ACEs or dosing of additional ACEs across time. Furthermore, exposure to one type of ACEs category may increase risk for exposure to additional ACEs (Dong et al., 2004; Finkelhor et al., 2009). Health and human service systems could incorporate ACEs screening into semi-regular (e.g., yearly) visits to assess and monitor adversity exposure, and regular evaluation of ACEs could reveal dosing patterns and changes in risk levels over time. Social service settings, such as foster care, may seek to assess ACEs on a more frequent basis as relevant for the population served.

Guidelines and Training for Effective ACEs Screening and Assessment

In our review of available ACEs screening tools, almost all have a prespecified set of ACEs categories as were described above. Unfortunately, most ACEs measures do not account for severity and duration of the events, repeated/chronic exposure to adversities, or interpersonal components (e.g., parent as perpetrator of maltreatment). Identification of ACEs exposure is best when organizations utilize empirically supported screening tools and then follow up on relevant ACEs features as appropriate for the particular health and human service setting. Further, any ACEs screener can be supplemented with an open-ended question such as, "Is there any other negative life experience that you feel is important for me to know/important for your services here?"

Generally, specific training in trauma-informed care (TIC) may be needed to prevent re-traumatization, and excessive inquiry into ACEs may not always be advised (Finkelhor, 2018; Oral et al., 2016). However, evidence-based protocols for intervention in posttraumatic stress disorder (PTSD) and other clinical impairment following trauma exposure that involve in-depth processing of the experience do exist, including trauma-focused cognitive behavioral therapy (TF-CBT; Cohen et al., 2012). TF-CBT protocols include guided development of a trauma narrative and in vivo mastery of trauma reminders among other therapeutic techniques over the course of many weeks. It may be most appropriate to wait for the development of therapeutic rapport to delve into details related to severity or chronicity of ACEs events later on in treatment. Within pediatric settings, appointments often only last 15–20 min, and a rushed evaluation of severity of events or perpetrators of abuse may cause emotional harm or impact accuracy of reporting. Thus, service settings should develop standards of practice around positive ACEs screens and follow-up evaluation based on clinician competencies and available referral sources. Further, providers within health and human service settings who engage in ACEs screening should rely on empirically supported screening tools and an organizational policy for referral to indicated follow-up specialty services (e.g., child protective services and/or mental health services with clinicians trained in empirically supported trauma treatments).

Best practices for methods of ACEs screening are nascent, but several studies have identified promising approaches. When agencies incorporate ACEs screening into standard practice, attention needs to be given to the training of service providers who will be interpreting and responding to the screen. As noted earlier in the chapter, providers engaging in ACEs screening have noted a lack of training around how to conduct ACEs screening and how to respond to positive screens. Other barriers identified included concerns about time management and risk of harm through the screening and assessment process. Interestingly, previous research has shown that positive screens in ACEs evaluations have minimal impact on clinical workflow and providers can manage risk of harm of assessment through simple interpersonal techniques (e.g., framing the purpose of the screening and assessment) and universal screening (to reduce stigma related to the inquiry; Mishra et al., 2021). Implementation of ACEs screening in practice can be improved through education of providers on how to screen, preidentified referral resources for positive screens, and setting specific feasibility planning to minimize impact on workflows.

Interdisciplinary Approach to ACEs Assessment and Response

Lastly, the ACEs literature has benefitted from a strong interdisciplinary approach to identifying links between ACEs and outcomes, relevant for physical, behavioral, and social health. Because of this, ACEs screening has been identified as a key feature for standard practice across settings. Given the range of ACEs categories (e.g., abuse, household dysfunction), some with direct implications for physical and behavioral diagnoses, an interdisciplinary approach to ACEs evaluation and intervention for positive screens would likely produce the best long-term outcomes. For example, evidence on the intergenerational transmission of risk for ACEs exposures reveals that primary prevention of youth risk for ACEs likely involves behavioral and health interventions at the parent level (e.g., referral for parental substance use, mental health, or legal services; Narayan et al., 2021). The SEEK model described earlier in the chapter provides a framework for linkage to community resources and social work support in the case of positive screens (Eismann et al., 2019). Management of risk related to child abuse and neglect will likely require community level intervention as well as social service interventions to address stressors such as poverty, community violence, and access to effective supports.

Access to appropriate resources following a positive ACEs screen appeared consistently in research on barriers to implementation of ACEs screening in practice, yet systematic guidelines for how to respond to positive screens are difficult to establish given the varied nature of available supports across locations. In parallel with implementing routine ACEs screening in health and human service settings, preidentified referral sources as well as decision pathways to mandated reporting can support clinician comfort with engaging in ACEs screening universally (Barnes et al., 2020). Access to interdisciplinary supports that can alleviate family stress on the whole is most effective in reduction of risk for recurrent ACEs exposures.

In summary, early adversity has impact on physical and mental health outcomes relevant for practice within health and human service settings. While notable barriers exist to effective implementation of universal screening and monitoring of ACEs, the cost of not asking about ACEs likely far outweighs the cost of addressing these barriers. Specifically, establishment of standards for routine screening of ACEs across the lifespan, triangulation of data sources for reporting, utilization of developmentally tailored and setting-specific ACEs screeners, structured pathways for follow up on positive screens, and interdisciplinary approaches to management of positive screens will enhance ACEs screening uptake and response in health and human service settings.

References

Barnes, A. J., Anthony, B. J., Karatekin, C., Lingras, K. A., Mercado, R., & Thompson, L. A. (2020). Identifying adverse childhood experiences in pediatrics to prevent chronic health conditions. *Pediatric Research, 87*(2), 362–370.

Barnett, M. L., Sheldrick, R. C., Liu, S. R., Kia-Keating, M., & Negriff, S. (2021). Implications of adverse childhood experiences screening on behavioral health services: A scoping review and systems modeling analysis. *American Psychologist, 76*(2), 364.

Bethell, C. D., Carle, A., Hudziak, J., Gombojav, N., Powers, K., Wade, R., & Braveman, P. (2017). Methods to assess adverse childhood experiences of children and families: Toward approaches to promote child well-being in policy and practice. *Academic Pediatrics, 17*(7), S51–S69.

Bodendorfer, V., Koball, A. M., Rasmussen, C., Klevan, J., Ramirez, L., & Olson-Dorff, D. (2020). Implementation of the adverse childhood experiences conversation in primary care. *Family Practice, 37*(3), 355–359.

Bora, N., Jones, T. R., Salada, K., & Brummel, M. (2021). Inter-clinician variability in primary care providers' adverse childhood experience knowledge, training, screening practices, and perceived intervention barriers: An exploratory cross-sectional study. *Journal of Child & Adolescent Trauma, 15*(2), 285–296.

Briggs, E. C., Amaya-Jackson, L., Putnam, K. T., & Putnam, F. W. (2021). All adverse childhood experiences are not equal: The contribution of synergy to adverse childhood experience scores. *American Psychologist, 76*(2), 243.

Briggs, R. D., Hershberg, R. S., & Germán, M. (2016). Healthy steps at Montefiore: Our journey from start up to scale. In R. D. Briggs (Ed.), *Integrated early childhood behavioral health in primary care* (pp. 105–116). Springer.

Bright, M. A., Thompson, L., Esernio-Jenssen, D., Alford, S., & Shenkman, E. (2015). Primary care pediatricians' perceived prevalence and surveillance of adverse childhood experiences in low-income children. *Journal of Health Care for the Poor and Underserved, 26*(3), 686–700.

Bucci, M., Wang, L. G., Koita, K., Purewal, S., Marques, S. S., & Harris, N. B. (2015). Center for youth wellness ACE-questionnaire user guide. San Francisco, CA: Center for Youth Wellness.

Burke Harris, N., & Renschler, T. (2015). ACE-Q user guide for health professionals. Center for Youth Wellness. https://centerforyouthwellness.org/wpcontent/uploads/2018/06/CYW-ACE-Q-USer-Guide-copy.pdf.

Byatt, N., Masters, G. A., Bergman, A. L., & Moore Simas, T. A. (2020). Screening for mental health and substance use disorders in obstetric settings. *Current Psychiatry Reports, 22*(11), 1–13.

Choi, K. R., Stewart, T., Fein, E., McCreary, M., Kenan, K. N., Davies, J. D., Naureckas, S., & Zima, B. T. (2020). The impact of attachment-disrupting adverse childhood experiences on child behavioral health. *The Journal of Pediatrics, 221*, 224–229.

Cohen, J. A., Mannarino, A. P., Kliethermes, M., & Murray, L. A. (2012). Trauma-focused CBT for youth with complex trauma. *Child Abuse & Neglect, 36*(6), 528–541.

Conn, A.-M., Szilagyi, M. A., Jee, S. H., Manly, J. T., Briggs, R., & Szilagyi, P. G. (2018). Parental perspectives of screening for adverse childhood experiences in pediatric primary care. *Families, Systems & Health, 36*(1), 62.

Cprek, S. E., Williamson, L. H., McDaniel, H., Brase, R., & Williams, C. M. (2020). Adverse childhood experiences (ACEs) and risk of childhood delays in children ages 1–5. *Child and Adolescent Social Work Journal, 37*(1), 15–24.

Diaz, R., Walker, R. J., Lu, K., Weston, B. W., Young, N., Fumo, N., & Hilgeman, B. (2022). The relationship between adverse childhood experiences, the frequency and acuity of emergency department utilization and primary care engagement. *Child Abuse & Neglect, 124*, 105479.

Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., Loo, C. M., & Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect, 28*(7), 771–784.

Dube, S. R., Anda, R. F., Felitti, V. J., Edwards, V. J., & Williamson, D. F. (2002). Exposure to abuse, neglect, and household dysfunction among adults who witnessed intimate partner violence as children: Implications for health and social services. *Violence and Victims, 17*(1), 3–17.

Eismann, E. A., Theuerling, J., Maguire, S., Hente, E. A., & Shapiro, R. A. (2019). Integration of the Safe Environment for Every Kid (SEEK) model across primary care settings. *Clinical Pediatrics, 58*(2), 166–176.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine, 14*(4), 245–258.

Felitti, V. J., Jakstis, K., Pepper, V., & Ray, A. (2010). Obesity: Problem, solution, or both? *The Permanente Journal, 14*(1), 24.

Finkelhor, D. (2018). Screening for adverse childhood experiences (ACEs): Cautions and suggestions. *Child Abuse & Neglect, 85*, 174–179.

Finkelhor, D., Shattuck, A., Turner, H., & Hamby, S. (2013). Improving the adverse childhood experiences study scale. *JAMA Pediatrics, 167*(1), 70–75.

Finkelhor, D., Turner, H., Ormrod, R., & Hamby, S. L. (2009). Violence, abuse, and crime exposure in a national sample of children and youth. *Pediatrics, 124*(5), 1411–1423.

Finkelhor, D., Turner, H. A., Shattuck, A., & Hamby, S. L. (2015). Prevalence of childhood exposure to violence, crime, and abuse: Results from the national survey of children's exposure to violence. *JAMA Pediatrics, 169*(8), 746–754.

Flanagan, T., Alabaster, A., McCaw, B., Stoller, N., Watson, C., & Young-Wolff, K. C. (2018). Feasibility and acceptability of screening for adverse childhood experiences in prenatal care. *Journal of Women's Health, 27*(7), 903–911.

Ford, K., Hughes, K., Hardcastle, K., Di Lemma, L. C., Davies, A. R., Edwards, S., & Bellis, M. A. (2019). The evidence base for routine enquiry into adverse childhood experiences: A scoping review. *Child Abuse & Neglect, 91*, 131–146.

Gillespie, R. J., & Folger, A. T. (2017). Feasibility of assessing parental ACEs in pediatric primary care: Implications for practice-based implementation. *Journal of Child & Adolescent Trauma*, *10*(3), 249–256.

Glowa, P. T., Olson, A. L., & Johnson, D. J. (2016). Screening for adverse childhood experiences in a family medicine setting: A feasibility study. *The Journal of the American Board of Family Medicine, 29*(3), 303–307.

Haine-Schlagel, R., & Walsh, N. E. (2015). A review of parent participation engagement in child and family mental health treatment. *Clinical Child and Family Psychology Review, 18*(2), 133–150.

Hambrick, E. P., Brawner, T. W., Perry, B. D., Brandt, K., Hofmeister, C., & Collins, J. O. (2019). Beyond the ACE score: Examining relationships between timing of developmental adversity, relational health and developmental outcomes in children. *Archives of Psychiatric Nursing, 33*(3), 238–247.

Hambrick, E. P., Tunno, A. M., Gabrielli, J., Jackson, Y., & Belz, C. (2014). Using multiple informants to assess child maltreatment: Concordance between case file and youth self-report. *Journal of Aggression, Maltreatment & Trauma, 23*(7), 751–771.

Hertz, M. F., Everett Jones, S., Barrios, L., David-Ferdon, C., & Holt, M. (2015). Association between bullying victimization and health risk behaviors among high school students in the United States. *Journal of School Health, 85*(12), 833–842.

Hudziak, J. J., & Kaufman, J. (2014). Yale-vermont adversity in childhood scale (Y-VACS): Adult, child, parent, & clinician questionnaires.

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., ... & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. The Lancet Public Health, 2(8), e356–e366.

Kalmakis, K. A., Shafer, M. B., Chandler, G. E., Aponte, E. V., & Roberts, S. J. (2018). Screening for childhood adversity among adult primary care patients. *Journal of the American Association of Nurse Practitioners, 30*(4), 193–200.

Kerker, B. D., Storfer-Isser, A., Szilagyi, M., Stein, R. E., Garner, A. S., O'Connor, K. G., & Horwitz, S. M. (2016). Do pediatricians ask about adverse childhood experiences in pediatric primary care? *Academic Pediatrics, 16*(2), 154–160.

Kia-Keating, M., Barnett, M. L., Liu, S. R., Sims, G. M., & Ruth, A. B. (2019). Trauma-responsive care in a pediatric setting: Feasibility and acceptability of screening for adverse childhood experiences. *American Journal of Community Psychology, 64*(3–4), 286–297.

Kisiel, C., Torgersen, E., Weil, L. E., & Fehrenbach, T. (2018). Use of a structured approach to assessment within child welfare: Applications of the child and adolescent needs and strengths-trauma comprehensive (CANS-Trauma). In V. C. Strand & G. Sprang (Eds.), *Trauma responsive child welfare systems* (pp. 105–126). Springer.

Koball, A. M., Domoff, S. E., Klevan, J., Olson-Dorff, D., Borgert, A., & Rasmussen, C. (2021). The impact of adverse childhood experiences on healthcare utilization in children. *Child Abuse & Neglect, 111*, 104797.

Koita, K., Long, D., Hessler, D., Benson, M., Daley, K., Bucci, M., Thakur, N., & Burke Harris, N. (2018). Development and implementation of a pediatric adverse childhood experiences (ACEs) and other determinants of health questionnaire in the pediatric medical home: A pilot study. *PLoS One, 13*(12), e0208088.

Lane, W. G., Dubowitz, H., Frick, K. D., Semiatin, J., & Magder, L. (2021). Cost effectiveness of SEEK: A primary care-based child maltreatment prevention model. *Child Abuse & Neglect, 111*, 104809.

Lee, H., Kim, Y., & Terry, J. (2020). Adverse childhood experiences (ACEs) on mental disorders in young adulthood: Latent classes and community violence exposure. *Preventive Medicine, 134*, 106039.

Letson, M. M., Brink, F. W., Daniels, A., Thompson, S., Wolf, K. G., & Michaels, N. L. (2022). Implementation of SEEK in a children's advocacy center: A process improvement initiative. *Pediatric Quality & Safety, 7*(4), e573.

Liming, K. W., Akin, B., & Brook, J. (2021). Adverse childhood experiences and foster care placement stability. *Pediatrics, 148*(6), e2021052700.

Liu, S. R., Kia-Keating, M., Nylund-Gibson, K., & Barnett, M. L. (2019). Co-occurring youth profiles of adverse childhood experiences and protective factors: Associations with health, resilience, and racial disparities. *American Journal of Community Psychology, 65*(1–2), 173–186.

Lombardi, B. M., Thyberg, C. T., & Bledsoe, S. E. (2022). Concordance of children's adverse childhood experiences amongst child, caregiver, and caseworker. *Journal of Aggression, Maltreatment & Trauma, 31*(2), 204–218.

Loveday, S., Hall, T., Constable, L., Paton, K., Sanci, L., Goldfeld, S., & Hiscock, H. (2022). Screening for adverse childhood experiences in children: A systematic review. *Pediatrics, 149*(2), e2021051884.

MacIntosh, H. B., & Ménard, A. D. (2021). Where are we now? A consolidation of the research on long-term impact of child sexual abuse. *Journal of Child Sexual Abuse, 30*(3), 253–257.

Marie-Mitchell, A., & O'Connor, T. G. (2013). Adverse childhood experiences: translating knowledge into identification of children at risk for poor outcomes. *Academic Pediatrics*, 13(1), 14–19.

Maunder, R. G., Hunter, J. J., Tannenbaum, D. W., Le, T. L., & Lay, C. (2020). Physicians' knowledge and practices regarding screening adult patients for adverse childhood experiences: A survey. *BMC Health Services Research, 20*(1), 1–5.

McKelvey, L. M., Whiteside-Mansell, L., Conners-Burrow, N. A., Swindle, T., & Fitzgerald, S. (2016). Assessing adverse experiences from infancy through early childhood in home visiting programs. *Child Abuse & Neglect, 51*, 295–302.

McKelvey, L. M., Conners Edge, N. A., Fitzgerald, S., Kraleti, S., & Whiteside-Mansell, L. (2017). Adverse childhood experiences: Screening and health in children from birth to age 5. *Families, Systems & Health, 35*(4), 420.

McNeil, C., & Hembree-Kigin, T. (2011). *Parent-child interaction therapy* (2nd ed.). Springer.

Merrick, M. T., Ford, D. C., Ports, K. A., & Guinn, A. S. (2018). Prevalence of adverse childhood experiences from the 2011–2014 behavioral risk factor surveillance system in 23 states. *Journal of the American Medical Association Pediatrics, 172*(11), 1038–1044.

Mersky, J. P., Lee, C.-T. P., & Gilbert, R. M. (2019). Client and provider discomfort with an adverse childhood experiences survey. *American Journal of Preventive Medicine, 57*(2), e51–e58.

Mishra, K., Atkins, D. E., Gutierrez, B., Wu, J., Cousineau, M. R., & Hempel, S. (2021). Screening for adverse childhood experiences in preventive medicine settings: A scoping review. *Journal of Public Health*, 1–10.

Narayan, A. J., Lieberman, A. F., & Masten, A. S. (2021). Intergenerational transmission and prevention of adverse childhood experiences (ACEs). *Clinical Psychology Review, 85*(2021), 1–11.

Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse, and neglect: A systematic review and meta-analysis. *PLoS Medicine, 9*(11), e1001349.

Okeson, K., Reid, C., Mashayekh, S., Sonu, S., Moran, T. P., & Agarwal, M. (2022). Adverse childhood experiences and healthcare utilization of children in pediatric emergency departments. *The Journal of Pediatrics, 240*, 206–212.

Oral, R., Ramirez, M., Coohey, C., Nakada, S., Walz, A., Kuntz, A., Benoit, J., & Peek-Asa, C. (2016). Adverse childhood experiences and trauma informed care: The future of health care. *Pediatric Research, 79*(1), 227–233.

Purewal, S. K., Marques, S. S., Koita, K., & Bucci, M. (2016). Assessing the integration of the Center for Youth Wellness Adverse Childhood Experiences Questionnaire (CYW ACE-Q) in a pediatric primary care setting. *Journal of Adolescent Health, 58*(2), S47.

Racine, N., Killam, T., & Madigan, S. (2020). Trauma-informed care as a universal precaution: Beyond the adverse childhood experiences questionnaire. *JAMA Pediatrics, 174*(1), 5–6.

Rariden, C., SmithBattle, L., Yoo, J. H., Cibulka, N., & Loman, D. (2021). Screening for adverse childhood experiences: Literature review and practice implications. *The Journal for Nurse Practitioners, 17*(1), 98–104.

Robinson, R., Davis, J. D., Krueger, M., Gore, K., Freed, M. C., Kuesters, P., Dube, S., & Engel, C. C. (2008). Acceptability of adverse childhood experiences questions for health surveillance in US Armed Forces. *Military Medicine, 173*(9), 853–859.

Schneider, M., Mehari, K., & Langhinrichsen-Rohling, J. (2021). What caregivers want: Preferences for behavioral health screening implementation procedures in pediatric primary care. *Journal of Clinical Psychology in Medical Settings, 28*(3), 562–574.

Schulman, M., & Maul, A. (2019). Screening for adverse childhood experiences and trauma. *Trauma-Informed Care Implementation Resource Center*. Retrieved Dec 1, 2020.

Sherfinski, H. T., Condit, P. E., Al-Kharusy, S. S. W., & Moreno, M. A. (2021). Adverse childhood experiences: Perceptions, practices, and possibilities. *Wisconsin Medical Journal, 120*(3), 209–217.

Shonkoff, J. P., & Garner, A. S. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics, 129*, 232–246.

Slack, K. S., Holl, J. L., McDaniel, M., Yoo, J., & Bolger, K. (2004). Understanding the risks of child neglect: An exploration of poverty and parenting characteristics. *Child Maltreatment, 9*(4), 395–408.

Staudt, M. (2007). Treatment engagement with caregivers of at-risk children: Gaps in research and conceptualization. *Journal of Child and Family Studies, 16*(2), 183–196.

Stith, S. M., Liu, T., Davies, L. C., Boykin, E. L., Alder, M. C., Harris, J. M., et al. (2009). Risk factors in child maltreatment: A meta-analytic review of the literature. *Aggression and Violent Behavior, 14*(1), 13–29.

Stoltenborgh, M., Bakermans-Kranenburg, M. J., Alink, L. R., & van IJzendoorn, M. H. (2015). The prevalence of child maltreatment across the globe: Review of a series of meta-analyses. *Child Abuse Review, 24*(1), 37–50.

Teicher, M. H., & Parigger, A. (2015). The 'Maltreatment and Abuse Chronology of Exposure'(MACE) scale for the retrospective assessment of abuse and neglect during development. *PLoS One, 10*(2), e0117423.

Turner, H. A., Finkelhor, D., Mitchell, K. J., Jones, L. M., & Henly, M. (2020). Strengthening the predictive power of screening for adverse childhood experiences

(ACEs) in younger and older children. *Child Abuse & Neglect, 107*, 104522.

Turney, K., & Wildeman, C. (2017). Adverse childhood experiences among children placed in and adopted from foster care: Evidence from a nationally representative survey. *Child Abuse & Neglect, 64*, 117–129.

van Roessel, L., Racine, N., Dobson, K., Killam, T., & Madigan, S. (2021). Does screening for maternal ACEs in prenatal care predict pregnancy health risk above and beyond demographic and routine mental health screening? *Child Abuse & Neglect, 121*, 105256.

Watson, P. (2019). Moving upstream: the case for ACEs screening. *Paediatrics & Child Health*, 24(4), 274–275.

Zielinski, S., Paradis, H. A., Herendeen, P., & Barbel, P. (2017). The identification of psychosocial risk factors associated with child neglect using the WE-CARE screening tool in a high-risk population. *Journal of Pediatric Health Care, 31*(4), 470–475.

Assessing Adverse Childhood Events (ACEs) in Schools

5

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Background and Foundations

Felitti et al.'s (1998) seminal work in the adverse childhood experiences (ACEs) study over two decades ago elevated public awareness of the long-term effects of ten primary traumatic childhood experiences and toxic stress on children. Since then, understanding of what constitutes an adverse event in childhood and how those events can result in trauma has expanded and become more nuanced to include other types of childhood trauma (e.g., racial, environmental, community/school violence, natural disasters, and others) (Hartas, 2019). Most recently, schools are seeing the traumatic effects of the COVID-19 pandemic on children in terms of exposure to illness, economic hardship, school closures, social disruption, and fear about the future (Agarwal & Sunitha, 2020; Holmes et al., 2020; Lambrese, 2020; Nicola et al., 2020). These effects will likely be far-reaching for many, especially children and schools, necessitating innovative approaches to assessing the original ten ACEs and an expanded awareness of additional types of childhood traumas and preventing long-term health consequences of trauma (Galea et al., 2020).

Altered cognitive development and diminished academic learning are two of the more insidious and long-lasting ways ACEs and other childhood traumas manifest. For school communities with low teacher morale, high rates of adverse or traumatic events, families struggling with poverty, substance misuse, violence, mental health conditions, or the effects of racism or COVID-19, the issue of creating schools that assess their own trauma competence (to address both the original ACEs and additional types of childhood trauma) and act concretely to meet the psychological needs of students is of critical importance. In concert with trauma-responsive school mental health frameworks and initiatives, trauma-informed instruments are imperative to assess strengths, needs, and progress in in-person and virtual school environments and inform school-based interventions to support students affected by ACEs and other types of childhood trauma.

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This chapter reviews existing school mental health practices, trauma-responsive school culture assessments, and their importance in assessing and responding to ACEs and childhood trauma within school communities. While ACEs are the childhood traumas first identified in the foundational literature on childhood trauma, in this chapter, we have expanded this discussion to include the additional types of trauma commonly experienced by children and discussed in the literature (Felitti, 2019; Hartas, 2019). We will review the S-CCATE (School Compassionate Culture Analytical Tool for Educators) school culture assessment, one method of addressing ACEs and other trauma within schools, which provided feedback to participants in the Childhood-Trauma Learning Collaborative to enhance educators' trauma responsiveness throughout New England.

Development of the Science: ACEs and School Mental Health

Concern over the inequities related to trauma, highlighted in recent years, has led to an accelerated interest in developing and implementing learning modalities and environments beyond the knowledge and academic skills that were the traditional terrain of schools (Berkowitz et al., 2017; Longhi et al., 2019). Many schools are implementing programs to teach social-emotional skills (SES), mental health literacy, bullying prevention, and other so-called "nonacademic indicators." These indicators are outlined in the Every Student Succeeds Act (ESSA), the 2015 US federal law replacing No Child Left Behind that forms the basis for Pre-Kindergarten through 12th-grade educational policy ("Every Student Succeeds Act," 2015). As a result, many schools and school leaders implementing social-emotional learning (SEL) programs are looking for resources to provide professional development and implement assessments, cultures, systems, and programs that address the mental health needs of students, particularly those students and school communities that are suffering the effects of adverse or traumatic events and require supportive adults, safety, and a sense of belonging to cultivate an environment of learning (DePaoli et al., 2017; Grant et al., 2017; Plumb et al., 2016). School-based responses to childhood trauma largely do not delineate the effects of the original ten ACEs from other types of childhood trauma, perhaps due to their more generalized and population-based approaches and broadly defined state and local policies.

As society's understanding of childhood trauma's sequelae has deepened, researchers have also begun to identify innovative mechanisms to mitigate these risks and support the healing and recovery of children's trauma. While ACEs or other traumatic events can profoundly impact children's psychological development and educational experiences, resiliency, learning, and achievement for children who experience traumatic events or ongoing traumas can be improved through the implementation of trauma-skilled, child-centered assessments and interventions that enhance self-regulation and executive functions—for adults and youth (Brody et al., 2002; Fraser et al., 1999; Sapienza & Masten, 2011; Yu & Cantor, 2014; Zolkoski & Bullock, 2012).

There is strong empirical and experiential evidence base supporting schools as ideal settings to provide support to children 18 and under to ameliorate the effects of broadly defined trauma and amplify protective factors—factors that help shield students from both the short-term and long-term damage of stress and trauma (Brody et al., 2002; Fraser et al., 1999; Liu et al., 2020; Lösel & Farrington, 2012; Zelazo & Lyons, 2012; Zolkoski & Bullock, 2012). One of the most important of these factors is the availability of nurturing, educated, and attentive adults—including administrators, teachers, school mental health staff, and others—who understand how ACEs or other traumas influence children's psychological well-being and behavior and are willing to make school-wide changes to identify risks and support children's mental health. In classrooms and schools that are attuned to their roles in meeting the social-emotional needs of students, children impacted by trauma can be bolstered by a sense of security and trust that enables them to heal, grow, and learn through calming, nurturing, and consistent environments (Ford & Courtois, 2013).

Current Examples of the Science: School Culture to Support Children with ACEs and Trauma

With growing recognition of ACEs and the effects of trauma, educators are challenged to compassionately understand and respond to numerous children who struggle academically in their classrooms, including children impacted by ACEs or other types of trauma (Duncan & Murnane, 2014; Longhi et al., 2019). Schools are seeking to assess and enhance school *culture* (the sense of shared values and beliefs within schools) and climate (how people within the school feel about it) to address some of these challenges, identify students at risk, reduce negativity and other factors that impede learning, and facilitate SES and positive interactions and relationships (Duckworth & Yeager, 2015; Greenberg et al., 2017; Jones & Doolittle, 2017; Thomason et al., 2015).

Assessing School Climate and Culture

Many existing measures of school culture or climate provide some parameters for improving student–teacher interactions to guide processes to enhance the culture and students' self-esteem. However, most assessments of SEL practices and school climate or culture do not address the neurobiological damage of ACEs or other traumas and the complex environmental changes needed to support resilience (Thomas et al., 2019; Yu & Cantor, 2014). Measuring these aspects of a student's school experience provides a complete picture of pathways supporting or diminishing student success within and beyond the classroom. These assessments can help set the parameters for interpersonal values and norms for acceptable behavior and shared approaches among students, teachers/staff, and leaders (Thapa et al., 2013).

Instruments measuring school climate can be valuable to stakeholders interested in the social and emotional learning domains. LaParo and Pianta (La Paro & Pianta, 2012; LaParo et al., 2003) developed the Classroom Assessment Scoring System (CLASS) to measure the quality of student–teacher interactions in the classroom of the most robust measures of classroom quality over repeated observations. The CLASS measures three domains: Emotional Support, Classroom Organization, and Instructional Support, and was eventually modified to include acknowledgment of the pathway between instructional support and regard for students (Sandilos et al., 2017).

Another measure of school climate, the Comprehensive School Climate Inventory (CSCI; Guo et al., 2011), is a 13-item nationally recognized school climate survey that provides an in-depth profile of a school community's strengths and needs by assessing the perspectives of both students and staff. The CSCI measures the essential traits within Safety, Teaching & Learning, Interpersonal Relationships, Institutional Environment, Leadership & Professional Relationships, and Social Media. Of 72 social-emotional learning measures and school climate surveys analyzed, the CSCI was one of ten measures that met the Social Development Research Group's criteria for being reliable and valid and is currently the only school climate measure recommended by that group (Haggerty et al., 2011). Newer assessments, such as the Panorama Teacher and Staff Survey and others, are being developed to further assess aspects of school culture and climate in concert with assessments from other stakeholder perspectives, particularly in the wake of the COVID-19 pandemic (Gehlbach & Moulton, 2023).

School-Based Mental Health Screening

An essential component of evidence-based multi-tiered approaches to school behavioral health, including Multi-Tiered System of Support (MTSS), is universal screening, defined as the systematic and evidence-based evaluation of most students to assess the risk of developing a mental health disorder.

Unlike diagnostic tools that confirm the presence of a specific condition, screening assesses the *risk* of developing a particular disorder using recognized signs and symptoms. Commonly used screenings include those for risk of suicide, anxiety, symptoms of disordered eating, or other mental health concerns. When implemented with fidelity, universal screening effectively identifies students who have experienced or are at risk of experiencing mental health or behavioral concerns, complements school-based mental health and special education services, and can create a pathway for students to receive the help they need (Champine et al., 2019; Conradi et al., 2011; von der Embse et al., 2019).

National professional and advocacy organizations—such as CASEL, the National Association of School Psychologists, the National Center for School Mental Health, the Institute of Medicine, the American Academy of Pediatrics, A Framework for Safe and Successful Schools, and others—support universal mental health screening to identify and reduce youth mental health crises, particularly those related to suicidal ideation and behaviors or other types of conditions that might affect students' behavior. These organizations have drafted policy recommendations to encourage screening measures at early childhood, elementary, and secondary education levels and have offered specific guidelines on trauma-responsive assessments and implementation guidance.

However, screening for ACEs and childhood trauma remains ancillary within schools to screening for other types of mental health conditions and symptoms as screening practices race to keep up with a growing evidence base and public awareness (Lambrese, 2020). Assessing for childhood trauma, specifically within a school context, is a rapidly evolving direction of ACEs science, particularly in the wake of COVID-19. Screening for ACEs and trauma in schools is less common than other types of school-based mental health screenings, and current screening rates in US schools that assess for trauma are not yet known, partially due to the multitude of local and rapidly evolving nature of school district policies. Still, there remain (Champine et al., 2019; Conradi et al., 2011; Rolon-Arroyo et al., 2020; von der Embse et al., 2019; Wherry et al., 2016).

Universal screening is essential to increase the likelihood of identifying at-risk students, particularly those who have experienced childhood trauma, for developing mental health disorders, whether they have previously been identified for problematic behaviors. While screening for childhood trauma remains less common than other types of screening within schools, implementing trauma-conscious screening and assessment practices should be a foundational priority of schools adopting *any* screening. Universal screening, or any population-based screening in school settings, has significant challenges that complicate the implementation of screening and appropriate follow-up and care of children identified at risk. Therefore, it is essential for school leadership and school-based mental health providers to consider the requirements, risks, and rewards of screening interventions in schools thoughtfully.

One factor that makes universal screening, particularly for ACEs or childhood trauma, more complicated is the dearth of qualified and licensed mental health professionals available and able to work with students with positive screening results. This challenge is particularly profound in areas with a shortage of mental health providers, those in rural or impoverished areas, and those families with limited financial resources or who are unfamiliar with how to navigate complex systems of care; barriers to effective clinical interventions that have worsened as a result of the COVID-19 pandemic (Abramson, 2022; Agarwal & Sunitha, 2020).

Additionally, screenings (of all types) have historically contributed to the marginalization and stigmatization of non-majority cultural groups and those with minoritized identities. Typical human behavior aspects, such as sexuality or trauma responses, have also been pathologized in the past, with "official" screening tools used as evidence of "deviance," further legitimizing an "us" and "them" attitude. This divisiveness has contributed to an understandable mistrust of the medical and scientific communities by many communities of color and communities with other minoritized identities, in part because social policies on "screening" people for diseases have been used to perpetuate racism, discrimination, and inequity (Hollar, 2001; Lewis et al., 2015; Metzl & Hansen, 2014; Sabshin et al., 1970; Williams, 2012; Williams et al., 2010). When developing a universal screening program, considering the history of screening and how staff, students, and their families have multi-generationally experienced screening practices is essential (Bryson et al., 2017; Lang et al., 2016; Reeves, 2015).

Another necessary precondition to universal screening is to understand the impact of potential diagnosis or labeling when students are screened for a particular risk or symptoms such as depression or self-harm. While schools are sometimes the right places for screening and assessment, they are rarely the right places for diagnoses—with the notable exception of rural communities without access to other mental health professionals for hundreds of miles. Screening is best used to determine whether a student needs further assessment, establish a plan of action with mental health and medical professionals, and gather population-level data about the potential prevalence of specific mental health disorders. Without trauma-conscious screening practices, students risk receiving a diagnostic label in a way that is inaccurate, unhelpful, and potentially damaging, sometimes for the rest of their school career.

Often, challenging student behavior, such as being disruptive in class, disengaging from schoolwork, or having problems in relationships with other students, can lead adults toward a diagnostic pathway; however, children with unprocessed trauma commonly exhibit these behaviors at school. When school staff is not trained in compassionate responses to trauma-related behaviors, how they conduct a class or manage school culture can re-traumatize students and increase the "problem" behavior.

Prevention Efforts

By implementing prevention methods such as universal mental health screening, social-emotional learning strategies, and behavior curricula such as Positive Behavioral Intervention & Supports (PBIS), schools can identify students at risk of developing more severe and disabling mental health conditions. When thinking in the context of a Multi-Tiered System of Support (MTSS), prevention efforts fall under the Tier-1 umbrella. Tier-1 supports are "Available to all students through a general education program; and work to improve academic and social-emotional outcomes for all students" (Kagee et al., 2013; McCrae et al., 2019). Implementing general school-based prevention efforts such as universal mental health screening and SEL can profoundly impact many important realms of whole-child education. Researchers from CASEL have conducted two large meta-analyses (213 studies in 2011; 83 studies in 2017) to examine the impact of social-emotional learning programs on student outcomes (Durlak et al., 2011) in academics, skills, social behavior, emotional distress, attitudes, and conduct problems. Students at schools which implemented SEL programs improved in each of these target areas. Notable findings regarding the benefit of preventing youth mental health conditions are a 24% increase in social behavior, a 24% decrease in self-reported emotional distress, and a 22% decrease in conduct problems (Durlak et al., 2011).

These data and others (Fristad, 2006; Fristad & Shaver, 2001; Leffler et al., 2010) suggest psychoeducation can decrease symptoms, promote coping skills, improve stress management, and expand social support, which bodes well for the integration of prevention efforts in schools to mitigate the volume of student mental health issues.

Application of the Science: The School Compassionate Culture Analytical Tool for Educators (S-CCATE) and the Childhood-Trauma Learning Collaborative

To evaluate trauma-skilled and compassionate approaches to school culture, we developed the School Compassionate Culture Analytical Tool for Educators (S-CCATE) to support professional development and implement innovative, research-based interventions to facilitate students' social-emotional skills and aid with self-regulation and teacher implementation of trauma-skilled practices. The S-CCATE, which takes around 15 min to complete, provides an initial needs assessment and a progress monitoring tool to be used two to three times during the academic year to give feedback on whether or not specific SEL interventions have been effective in changing school culture to support students' mental well-being. Using an online and secure platform to aid in data collection and protect anonymity, teachers, administrators, school psychologists, social workers, teacher aides, and other staff answer questions about themselves, their students, and their school leadership based on their perceptions.

After staff completion of the S-CCATE, schools and districts receive aggregated reports on their staff's assessment of their school culture and perceptions of student well-being, with data comparing local results to the district and national samples. Their results include a summary statement of strengths and needs and research-based options for addressing needs, including recommendations for professional development and guidance for how school teams could identify and select interventions to improve specific factors. These data and recommendation reports are designed to help educators identify their school's cultural strengths, plan professional development and interventions to support staff learning about trauma and mental health, show progress in becoming a trauma-skilled school, and improve school culture/climate and social-emotional learning.

Developing the S-CCATE

The S-CCATE was developed over 6 years and is based on the SEL, ACEs, and childhood trauma research base, as well as input from principals, neuroscientists, yoga/mindfulness practitioners, and teachers (see Mason et al., 2018 for a complete description of the validation process, which is beyond the scope of this chapter). This input was gathered from over 90 professionals between 2013 and 2016 in a series of national focus groups and interviews. During the early development phase, investigators considered a broad research base related to the impact of ACEs and other childhood trauma, student–teacher relationships, protective factors, the neurobiology of stress and trauma, and ways to enhance self-esteem, co-regulation of emotions, and school climate/culture. This was followed by pilot research in three schools in Pennsylvania and Massachusetts that resulted in an initial online survey with 181 questions.

During the final stage of S-CCATE development, a team of five experts in social-emotional learning reviewed the pilot results. They were asked to consider school climate/culture and the importance of specific aspects of school leadership, resiliency, student confidence and courage, and welcoming and equitable school communities, as well as whether certain items' clarity obtained discreet information as worded and about the relative importance of items for schools given their expert knowledge of current research in the areas of alleviating trauma, understanding emotions and trauma, neuroscience and cognitive development, the impact of school culture, teacher–pupil interactions, student knowledge, and skills. Following established protocols for construct and social validation, their opinions regarding whether to include, delete, or modify specific items were used to develop a pool of 71 items for the initial validation study (Boateng et al., 2018; Cook & Beckman, 2006; Streiner & Norman, 2008).

The initial S-CCATE assessment was designed for school staff to answer questions about their perceptions regarding the degree of proficiency of themselves, students, and school leaders using a 4-point Likert scale (Level 1: "Needs Improvement," Level 2: "Emerging," Level 3: "Proficient," and Level 4: "Exemplary"). Administrators, special educators, and specialists were represented in approximately equal proportions, and the sample was weighted by the proportion of the respondents (Chi-squared = 677.7, df = 4, p = 0.000). The item pool was reduced to 40 items through this process, with 56.3% total variance explained. The Factor structure includes five factors defined as follows:

I. *Leadership & Compassionate School Community:* The principal's leadership ability and the aspects of the school environment and policies contributing to compassionate school culture.
II. *Conscious Awareness of Emotions & Stress:* Using neuroscience and neuroplasticity to explain how ACEs, trauma, stress, and vulnerability interact and how mindfulness can support positive outcomes in populations who have experienced trauma.
III. *Courage & Resiliency:* Demonstrating appropriate risk-taking, gratitude, and constructive feedback, particularly regarding resilience after ACEs or other traumas.
IV. *Confidence & Positivity:* Applying teachers' awareness of student stress and abuse to understand how to adjust instruction to provide more support to students.
V. *Understanding of Equity:* Promoting student awareness of discrimination, poverty, injustice, and justice.

Assessment items were designed to analyze multiple components of a school community to assess compassionate school culture. Educators responded to S-CCATE by evaluating their knowledge and behaviors, their perceptions of student knowledge and behaviors, and the degree of implementing compassionate practices on a school-wide level. A sample item from each factor is presented in Table 5.1. Cronbach's alpha for the final 40 items was 0.948.

The initial validation study provided evidence of S-CCATE's conceptual soundness, as verified by both groups of educators/experts and through the statistical analysis of results with 814 respondents. We are in the process of obtaining further evidence of S-CCATE's validity, with plans to conduct a confirmatory factor analysis to examine hypotheses regarding the relationship between the five factors and the indicators within each factor (Brown, 2015).

The S-CCATE in Practice: The Childhood-Trauma Learning Collaborative

During the first 3 years of the Substance Abuse and Mental Health Services Administration (SAMHSA)-funded New England Mental Health Technology Transfer Center's Childhood-Trauma Learning Collaborative (C-TLC), S-CCATE was used to evaluate progress toward alleviating the impact of trauma and furthering a compassionate school approach to students' mental health and well-being with schools in six New England states (Connecticut, Maine, Massachusetts, New

Table 5.1 S-CCATE factors and sample items

Factors	Sample item
Leadership & Compassionate School Community	"Teachers and administrators further participation and a sense of belonging (e.g. connectedness to the larger school community) for all students."
Conscious Awareness of Emotions & Stress	"Students learn about how to protect themselves when in vulnerable situations related to childhood trauma and stress."
Courage & Resiliency	"Students practice assertive behaviors, advocating for their individual interests and needs."
Confidence & Positivity	"My classroom environment is structured to reduce impacts of childhood stress and trauma."
Understanding of Inequity	"Students are aware of racial prejudice and racist actions in their community and elsewhere."

Hampshire, Rhode Island, and Vermont). The C-TLC's goal is to strengthen school-based mental health supports that address the needs of children who have experienced/are at risk of experiencing significant trauma via community-based educational and children's mental health collaborations, and provide evidence-based free training and technical assistance.

With S-CCATE, we obtained data on school needs in New England and provided customized professional development and intervention recommendations for each school. As a result of a region-wide needs assessment, 24 school leaders (including superintendents, principals, school psychologists and counselors, social workers, and teachers) in the six New England states were selected from a competitive application process to become the inaugural class of C-TLC Fellows. Their role was to serve as champions to build local capacity and support the dissemination of trauma-informed, child-centered interventions that improve resilience, compassion, learning, and achievement for children who have experienced ACEs and trauma and the entire student body for Tier I universal programs. To guide their activities, they received technical assistance and participated in C-TLC's webinars, in-person events, online discussions, and other educational activities focused on ACEs, childhood trauma, school climate/culture, and resilience. C-TLC Fellows committed to recruiting at least five schools to complete the S-CCATE assessment and then use the S-CCATE results to develop trauma-competent Action Plans to address their communities' mental health and compassionate culture needs.

Informing the C-TLC through the S-CCATE

From 2019 to 2021, the C-TLC conducted an initial round of S-CCATE assessments throughout New England states, with the support of the Project's Fellows, described below. Each school whose staff completed the S-CCATE assessment received a report on their school's culture scores on the five S-CCATE factors (as described above) compared to the New England group and national norms. The reports contained graphics and recommendations for professional development opportunities, programs, and interventions to address their growth areas. S-CCATE Action Guides were also provided, developed by C-TLC research staff and consulting educators and psychologists, that identified areas in which school climate/culture could be improved as well as specific professional development opportunities.

These S-CCATE assessment results also served as foundational information from which the Fellows created an Action Plan to address ACEs and trauma within their schools or districts. Based on these results, some Fellows focused on identifying (and sometimes providing) trauma-informed training and education to staff. In contrast, others concentrated on strengthening tiered support under their mental health services teams. Other Fellows implemented Conscious Discipline techniques, student reward systems, SEL and self-regulation skills-building to the entire student population, and culturally responsive and trauma-skilled training to staff to improve student outcomes and reduce school social work referrals.

S-CCATE Results in New England

Between April 2019 and March 2020, 761 educators in 70 schools completed S-CCATE as part of the C-TLC. The "General Education" response made up the largest group for this dataset, with just under half of the respondents. Participants described their current position as "Special Education" over 18% of the time. Those respondents whose current position did not fit one of the choices on the S-CCATE (no response and "other" combined) made up over 19% of the dataset. Administrators made up 8% of the dataset. Instructional aides and specialists made up 7% and 2% of the dataset, respectively.

The overall results for the current sample are presented in Table 5.2. Factor 2: Conscious Awareness of Emotions & Stress had the lowest average score for the sample size, with a score of 1.8 on a 1–4 scale. Factor 4: Confidence & Positivity had the most significant score among the schools in the sample data, with a score of over 2.9 on the same scale.

Table 5.2 Overall S-CCATE scores for New England sample

Factors	*N*	M	SD
S-CCATE total	761	2.37	0.42
Factor 1: Leadership & Compassionate School Communities	761	2.54	0.56
Factor 2[a]: Conscious Awareness of Emotions & Stress	759	1.80	0.49
Factor 3: Courage & Resiliency	761	2.14	0.50
Factor 4: Confidence & Positivity	761	2.93	0.46
Factor 5[b]: Understanding of Inequity	758	2.08	0.57

Note. [a]*Two results excluded for missing responses*
[b]*Three results were excluded for missing responses*

When completing the S-CCATE, respondents were asked, *“Are you currently implementing a mindfulness, yoga, or meditation program?”* Over 150 (20%) school staff in the sample data answered “Yes.” Over 600 respondents reported no mindfulness, yoga, or meditation program at their current school or declined to answer the question. The average S-CCATE score for schools without such a program was lower on all factors.

School employees who answered “Yes” to the question *“Is your school/district’ trauma-informed?”* made up more than a third of the respondents. This group also rated their schools the highest on all S-CCATE measures. Almost half of the respondents in this sample of the S-CCATE tool data were either unsure of their school’s status as “trauma-informed” or declined to answer the question. Those responding “No” to this question scored their school higher overall. In summary, S-CCATE and Factor scores indicated a higher degree of perceived proficiency on the S-CCATE factors and, in essence, a greater understanding of implementation and communication of protocol in support of compassionate school leadership, awareness of emotions and stress, courage, and resiliency, confidence and positivity, and understanding of equity. Schools and districts that are most proficient will demonstrate the implementation of these compassionate school practices in classrooms and interactions with parents and community members. Students in these schools and districts also show knowledge of their emotions, compassion toward others, confidence, positivity, resiliency, and an understanding of equity and justice. S-CCATE scores for respondents at schools with mindfulness, yoga, or meditation programs were substantially higher than in other schools. On average, school districts with mindfulness, yoga, or meditation program scored between 0.05 and 0.22 higher on the S-CCATE measures. Similar results were found for respondents who indicated their schools were “trauma-informed.” Schools identified as “trauma-informed” scored 0.15 to 0.28 higher on the S-CCATE factors.

While this is a large dataset with over 700 responses, there are substantial limitations in this initial data. Of the 70 school districts in the dataset, 61 had fewer than 20 responses to the current version of the S-CCATE. However, there were nine school districts with more than 20 responses, with four districts with 44–126 responses. Demographic data for the nine districts with the most responses show representation across rural, suburban, and urban school districts. An average of 63.6% of the students in these districts were White, 20% were Hispanic/Latinx, 11.3% were Black, 2.8% were Asian, 2.1% were multiracial, and 0.3% were other. Approximately 16% of the students had Individual Educational Programs, 8.7% were English Language Learners, and 48.3% received free and reduced lunch.

Table 5.3 presents data for the two school districts with the largest number of respondents. Those districts serve 2100–4500 students, with approximately 22–48% of the students receiving free or reduced lunch and 11–14% of the student population reported as Black, Hispanic/Latinx, or multiracial. Note that data for these two districts is consistent with overall data: Factors 2 and 5 are consistently rated at the lowest levels.

Table 5.3 Results from the two school districts with the largest number of respondents

	District 1			District 2		
Factors	*N*	M	SD	*N*	M	SD
S-CCATE total	120	2.46	0.39	126	2.26	0.47
Factor 1: Leadership & Compassionate School Communities	120	2.66	0.52	126	2.31	0.65
Factor 2: Conscious Awareness of Emotions & Stress	120	1.89	0.49	126	1.81	0.53
Factor 3: Courage & Resiliency	120	2.22	0.44	126	2.03	0.49
Factor 4: Confidence & Positivity	120	2.98	0.45	126	2.83	0.45
Factor 5: Understanding of Inequity	119	2.17	0.58	125	1.84	0.55

These data are supplemented by a survey of Fellows conducted in 2019 (MHTTC, 2020). These leaders who participated in regular C-TLC trainings and co-learning sessions increased their knowledge regarding trauma and brain development (95%); implementing yoga, meditation, and mindfulness (95%); early intervention (89%); compassionate discipline, student self-regulation, needs and concerns of families, and mental health concerns (84%).

Fellows actively implemented innovative programs (95% reporting some to considerable involvement; 63% reporting substantial involvement). They were most actively engaged in in-person meetings, implementing Heart Centered Learning—the conceptual model for delivering compassionate school practices that were introduced in the C-TLC—in districts, and sharing this information with local educators (67–78% reported considerable involvement in these activities, with 89–100% reporting some to substantial participation). Fellows also said high levels of networking with mental health providers/officials (89% reported considerable involvement) and participation in conferences and meetings related to C-TLC topics and activities (79% said some to significant participation).

After the C-TLC concludes, results of the S-CCATE assessments will be aggregated, analyzed, and made public to inform future research and interventions targeted at supporting school environments to be responsive to ACEs and trauma experienced by students and in the larger school community. The following steps for the S-CCATE will be to expand validation, validate in more diverse communities, and conduct a confirmatory validation study according to hypotheses derived from the initial use of S-CCATE. We are also interested in following the change in scores over time, mainly as professional development and intervention recommendations from S-CCATE are implemented in schools. The C-TLC is currently in its fourth year of funding, with highly successful outcomes, including publishing an online, publicly available course on its research base, goals, and methods. Within the C-TLC, we investigate how S-CCATE informs practice and the impact of selected activities on S-CCATE scores across schools and districts. Evaluation activities for the C-TLC include continued use of the S-CCATE within a wider variety of schools and, over time, determining how school culture changes with various factors.[1]

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[1] The C-TLC is part of a larger Mental Health Technology Transfer initiative led by Yale University's School of Medicine, Department of Psychiatry, funded by the Substance Abuse Mental Health Services Administration to address mental health concerns in the New England region.

Discussion

With research providing over 20 years of evidence of the long-term psychological, medical, and social impacts of ACEs and traumatic experiences in childhood, the importance of supporting protective factors of resiliency to reduce the effects of these experiences, identifying opportunities to intervene early in the trauma cycle, and helping to prevent future trauma has grown. Schools are an ideal environment to help reduce the effects of trauma and build resilience after a traumatic event has occurred, but also in the hopes of identifying and preventing trauma in the future. Attention to the effects of childhood trauma within schools also benefits school staff, who, themselves, may have experienced trauma in childhood. As teachers strive to support students who have experienced ACEs and manage some of the manifestations of that trauma in themselves and their students, they sometimes struggle to cope and might benefit from SEL, compassion, mindfulness practices, and skill-building (Bouillet et al., 2014; Jennings et al., 2012; Le Cornu, 2013; Stillman et al., 2018).

The use of S-CCATE within the C-TLC is one example of how an assessment of school climate/culture can not only illuminate the needs but also provide targeted suggestions for professional development and resources available to schools to identify trauma responsiveness, ACEs, inform potential strategies to promote resilience and compassion, and provide surveillance of SEL initiatives. School culture assessments can powerfully change school communities to increase trauma responsiveness and promote well-being when used with other student-level screenings and assessments. Assessing school cultures with the S-CCATE within the C-TLC represents a unique response to address ACEs in a virtual setting, guiding school leaders using reliable data to transform schools into trauma-skilled and resilient communities. However, the validation of the S-CCATE is still in the initial stages of development, and the COVID-19 pandemic interrupted the sustained usage of S-CCATE as a part of the C-TLC program. S-CCATE utility may vary across regions of the United States and according to other features such as size of the district/school, percentage of students living in poverty, and student racial and ethnic demographics. These variables need to be examined more closely to understand the impact of such factors on school culture as measured by S-CCATE.

While this initiative was focused on the New England region's school communities, the tools, techniques, and philosophies are easily generalizable to other areas, given their flexibility and participatory nature. The C-TLC project and S-CCATE have implications for large-scale implementations of trauma-responsive school mental health supports by building local and school-specific capacity to address ACEs and sustaining low-cost trauma education with Pre-Kindergarten to Grade 12 educators and other stakeholders. The science and evidence-based S-CCATE assessment process and the virtual nature of the learning collaborative allowed the C-TLC to reach many educators in rural, suburban, and urban settings to offer targeted and universal technical assistance, education, and quality improvement. Most importantly, pairing an assessment like S-CCATE with a learning collaborative or other collaborative activity provides opportunities to concretize the action steps, and strategize around challenges, necessary to facilitate real change within school communities.

While the long-term mental health effects of the COVID-19 pandemic on children are not yet known, the MTSS model and other similar frameworks provide existing structures for school mental health programming that can provide assessments, supports, and collaborations to support children and families facing trauma. Linking these existing frameworks to assessments of school culture and universal mental health screening for students is essential in providing comprehensive trauma-informed mental health support within schools. These frameworks and cultural assessments can provide guideposts for enhancing and evaluating the capacity of schools to respond to ACEs and other childhood trauma effectively while providing school communities with vital data to improve the health and well-being of students.

References

Abramson, A. (2022). Children's mental health is in crisis. *Monitor on Psychology, 2022*(53), 1. Retrieved March, 2022, from https://www.apa.org/monitor/2022/01/special-childrens-mental-health

Agarwal, V., & Sunitha, B. K. (2020). COVID-19: Current pandemic and its societal impact. *International Journal of Advanced Science and Technology, 29*(5 Special Issue), 432–439.

Berkowitz, R., Moore, H., Astor, R. A., & Benbenishty, R. (2017). A research synthesis of the associations between socioeconomic background, inequality, school climate, and academic achievement. *Review of Educational Research, 87*(2), 425–469. https://doi.org/10.3102/0034654316669821

Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health, 6*, 149. https://doi.org/10.3389/fpubh.2018.00149

Bouillet, D., Pavin Ivanec, T., & Miljević-Riđički, R. (2014). Preschool teachers' resilience and their readiness for building children's resilience. *Health Education, 114*(6), 435–450. https://doi.org/10.1108/HE-11-2013-0062

Brody, G. H., Dorsey, S., Forehand, R., & Armistead, L. (2002). Unique and protective contributions of parenting and classroom processes to the adjustment of African American children living in single-parent families. *Child Development, 73*(1), 274–286. https://doi.org/10.1111/1467-8624.00405

Brown, T. A. (2015). *Confirmatory factor analysis for applied research*. Guilford Press.

Bryson, S. A., Gauvin, E., Jamieson, A., Rathgeber, M., Faulkner-Gibson, L., Bell, S., & Burke, S. (2017). What are effective strategies for implementing trauma-informed care in youth inpatient psychiatric and residential treatment settings? A realistic systematic review [Review]. *International Journal of Mental Health Systems, 11*(1), 36. https://doi.org/10.1186/s13033-017-0137-3

Champine, R. B., Lang, J. M., Nelson, A. M., Hanson, R. F., & Tebes, J. K. (2019). Systems measures of a trauma-informed approach: A systematic review. *American Journal of Community Psychology, 64*(3–4), 418–437. https://doi.org/10.1002/ajcp.12388

Conradi, L., Wherry, J., & Kisiel, C. (2011). Linking child welfare and mental health using trauma-informed screening and assessment practices. *Child Welfare, 90*(6), 129–147.

Cook, D. A., & Beckman, T. J. (2006). Current concepts in validity and reliability for psychometric instruments: Theory and application. *American Journal of Medicine, 119*(2), 166.e167–166.e116. https://doi.org/10.1016/j.amjmed.2005.10.036

DePaoli, J. L., Atwell, M. N., & Bridgeland, J. (2017). *Ready to Lead: A national principal survey on how social and emotional learning can prepare children and transform schools*. https://files.eric.ed.gov/fulltext/ED579088.pdf

Duckworth, A. L., & Yeager, D. S. (2015). Measurement matters: Assessing personal qualities other than cognitive ability for educational purposes. *Educational Researcher, 44*(4), 237–251. https://doi.org/10.3102/0013189X15584327

Duncan, G. J., & Murnane, R. J. (2014). *Restoring opportunity: The crisis of inequality and the challenge for American education*. Harvard Education Press and the Russell Sage Foundation.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405–432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Every Student Succeeds Act. (2015). *United States Congress*. http://congress.gov/114/plaws/publ95/PLAW-114publ95.pdf

Felitti, V. J. (2019). Origins of the ACE study. *American Journal of Preventive Medicine, 56*(6), 787–789. https://doi.org/10.1016/j.amepre.2019.02.011

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine, 14*(4), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Ford, J. D., & Courtois, C. A. (2013). *Treating complex traumatic stress disorders in children and adolescents: Scientific foundations and therapeutic models*. Guilford Press.

Fraser, M. W., Richman, J. M., & Galinsky, M. J. (1999). Risk, protection, and resilience: Toward a conceptual framework for social work practice. *Social Work Research, 23*(3), 131–143. https://doi.org/10.1093/swr/23.3.131

Fristad, M. A. (2006). Psychoeducational treatment for school-aged children with bipolar disorder. *Development and Psychopathology, 18*(4), 1289–1306. https://doi.org/10.1017/S0954579406060627

Fristad, M. A., & Shaver, A. E. (2001). Psychosocial interventions for suicidal children and adolescents. *Depression and Anxiety, 14*(3), 192–197. https://doi.org/10.1002/da.1066

Galea, S., Merchant, R. M., & Lurie, N. (2020). The mental health consequences of COVID-19 and physical distancing: The need for prevention and early intervention. *JAMA Internal Medicine, 180*(6), 817–818. https://doi.org/10.1001/jamainternmed.2020.1562

Gehlbach, H., & Moulton, S. (2023). Panorama Teacher and Staff Survey. Panorama Education. Retrieved April, 2023 from panoramaed.com

Grant, S., Hamilton, L. S., Wrabel, S. L., Gomez, C. J., Whitaker, A., Leschitz, J. T., & Harris, M. G. (2017). *Social and emotional learning interventions under* *the Every Student Succeeds Act: Evidence review. Research Report.* (RR-2133-WF). https://eric.ed.gov/?id=ED581645

Greenberg, M. T., Domitrovich, C. E., Weissberg, R. P., & Durlak, J. A. (2017). Social and emotional learning as a public health approach to education. *The Future of Children, 27*(1), 13–32. https://doi.org/10.1353/foc.2017.0001

Guo, P., Choe, J., & Higgins-D'Alessandro, A. (2011). *Report of construct validity and internal consistency findings for the Comprehensive School Climate Inventory*. Fordham University. Retrieved February 2022 from https://www.schoolclimate.org/climate/documents/Fordham_Univ_CSCI_development_review_2011.pdf

Haggerty, K. E., Elgin, J., & Woolley, A. (2011). *Social-emotional learning assessment measures for middle school youth*. Raikes Foundation. https://www.search-institute.org/wp-content/uploads/2017/11/DAP-Raikes-Foundation-Review.pdf

Hartas, D. (2019). Assessing the foundational studies on adverse childhood experiences. *Social Policy and Society, 18*(3), 435–443. https://doi.org/10.1017/S1474746419000034

Hollar, M. (2001). The impact of racism on the delivery of healthcare and mental health services. *Psychological Quarterly, 72*(4), 337.

Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., & Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: A call for action for mental health science. *The Lancet Psychiatry, 7*, 547. https://doi.org/10.1016/S2215-0366(20)30168-1

Jennings, P. L., Roeser, R. W., & Lantieri, L. (2012). Supporting educational goals through cultivating mindfulness. In *Handbook of Prosocial Education* (Vol. 1, p. 371).

Jones, S. M., & Doolittle, E. J. (2017). Social and emotional learning: Introducing the issue. *The Future of Children, 27*(1), 3–11. https://doi.org/10.1353/foc.2017.0000

Kagee, A., Tsai, A. C., Lund, C., & Tomlinson, M. (2013). Screening for common mental disorders in low resource settings: Reasons for caution and a way forward. *International Health, 5*(1), 11–14. https://doi.org/10.1093/inthealth/ihs004

La Paro, K. M., & Pianta, R. C. (2012). *Classroom assessment scoring system*. Teachstone. https://teachstone.com/class/

Lambrese, J. V. (2020). Helping children cope with the COVID-19 pandemic. *Cleveland Clinic Journal of Medicine*. https://doi.org/10.3949/ccjm.87a.ccc010

Lang, J. M., Campbell, K., Shanley, P., Crusto, C. A., & Connell, C. M. (2016). Building capacity for trauma-informed care in the child welfare system: Initial results of a statewide implementation. *Child Maltreatment, 21*(2), 113–124. https://doi.org/10.1177/1077559516635273

LaParo, K., Pianta, R. C., & Stuhlman, M. (2003). *CLASS: Classroom assessment scoring system*. University of Virginia.

Le Cornu, R. (2013). Building early career teacher resilience: The role of relationships. *Australian Journal of Teacher Education, 38*(4). https://doi.org/10.14221/ajte.2013v38n4.4

Leffler, J. M., Fristad, M. A., & Klaus, N. M. (2010). Psychoeducational psychotherapy (PEP) for children with bipolar disorder: Two case studies. *Journal of Family Psychotherapy, 21*(4), 269–286. https://doi.org/10.1080/08975353.2010.529051

Lewis, T. T., Cogburn, C. D., & Williams, D. R. (2015). Self-reported experiences of discrimination and health: Scientific advances, ongoing controversies, and emerging issues. *Annual Review of Clinical Psychology, 11*, 407–440.

Liu, Y., Carney, J. V., Kim, H., Hazler, R. J., & Guo, X. (2020). Victimization and students' psychological well-being: The mediating roles of hope and school connectedness. *Children and Youth Services Review, 108*, 104674. https://doi.org/10.1016/j.childyouth.2019.104674

Longhi, D., Brown, M., Barila, T., Reed, S. F., & Porter, L. (2019). How to increase community-wide resilience and decrease inequalities due to adverse childhood experiences (ACEs): Strategies from Walla Walla, Washington. *Journal of Prevention and Intervention in the Community, 49*, 43. https://doi.org/10.1080/10852352.2019.1633071

Lösel, F., & Farrington, D. P. (2012). Direct protective and buffering protective factors in the development of youth violence. *American Journal of Preventive Medicine, 43*(2 SUPPL. 1), S8–S23. https://doi.org/10.1016/j.amepre.2012.04.029

Mason, C., Murphy, M. R., Bergey, M., Sawilowsky, S., Mullane, S., & Asby, D. (2018). *Validation of the School Compassionate Culture Analytic Tool for Educators (S-CCATE)*. Edimprovement.org

McCrae, J. S., Bender, K., Brown, S. M., Phillips, J. D., & Rienks, S. (2019). Adverse childhood experiences and complex health concerns among child welfare-involved children. *Children's Health Care, 48*(1), 38–58. https://doi.org/10.1080/02739615.2018.1446140

Metzl, J. M., & Hansen, H. (2014). Structural competency: Theorizing a new medical engagement with stigma and inequality. *Social Science and Medicine, 103*, 126–133. https://doi.org/10.1016/j.socscimed.2013.06.032

MHTTC- New England. (2020). *2019–2020 survey of C-TLC fellows*. https://mhttcnetwork.org/sites/default/files/2020-06/C-TLC%20Fellows%20Report%20-%20Final%20Submission.pdf

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., & Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery, 78*, 185–193. https://doi.org/10.1016/j.ijsu.2020.04.018

Plumb, J. L., Bush, K. A., & Kersevich, S. E. (2016). Trauma-sensitive schools: An evidence-based approach. *School Social Work Journal, 40*(2), 37–60.

Reeves, E. (2015). A synthesis of the literature on trauma-informed care [Article]. *Issues in Mental Health Nursing, 36*(9), 698–709. https://doi.org/10.3109/01612840.2015.1025319

Rolon-Arroyo, B., Oosterhoff, B., Layne, C. M., Steinberg, A. M., Pynoos, R. S., & Kaplow, J. B. (2020). The UCLA PTSD Reaction Index for DSM-5 Brief Form: A screening tool for trauma-exposed youths. *Journal of the American Academy of Child and Adolescent Psychiatry, 59*(3), 434–443. https://doi.org/10.1016/j.jaac.2019.06.015

Sabshin, M., Diesenhaus, H., & Wilkerson, R. (1970). Dimensions of institutional racism in psychiatry. *American Journal of Psychiatry, 127*(6), 87.

Sandilos, L. E., Shervey, S. W., DiPerna, J. C., Lei, P., & Cheng, W. (2017). Structural validity of CLASS K–3 in primary grades: Testing alternative models. *School Psychology Quarterly, 32*(2), 226–239. https://doi.org/10.1037/spq0000155

Sapienza, J. K., & Masten, A. S. (2011). Understanding and promoting resilience in children and youth. *Current Opinion in Psychiatry, 24*(4), 267–273.

Stillman, S. B., Stillman, P., Martinez, L., Freedman, J., Jensen, A. L., & Leet, C. (2018). Strengthening social emotional learning with student, teacher, and school-wide assessments. *Journal of Applied Developmental Psychology, 55*, 71–92. https://doi.org/10.1016/j.appdev.2017.07.010

Streiner, D. L., & Norman, G. R. (2008). *Health measurement scales: A practical guide to their development and use*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199231881.001.0001

Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of Educational Research, 83*(3), 357–385. https://doi.org/10.3102/0034654313483907

Thomas, M. S., Crosby, S., & Vanderhaar, J. (2019). Trauma-informed practices in schools across two decades: An interdisciplinary review of research. *Review of Research in Education, 43*(1), 422–452. https://doi.org/10.3102/0091732x18821123

Thomason, M. E., Marusak, H. A., Tocco, M. A., Vila, A. M., McGarragle, O., & Rosenberg, D. R. (2015). Altered amygdala connectivity in urban youth exposed to trauma. *Social Cognitive and Affective Neuroscience, 10*(11), 1460–1468. https://doi.org/10.1093/scan/nsv030

von der Embse, N., Rutherford, L., Mankin, A., & Jenkins, A. (2019). Demonstration of a trauma-informed assessment to intervention model in a large urban school district. *School Mental Health, 11*(2), 276–289. https://doi.org/10.1007/s12310-018-9294-z

Wherry, J. N., Huffhines, L. P., & Walisky, D. N. (2016). A short form of the trauma symptom checklist for children. *Child Maltreatment, 21*(1), 37–46. https://doi.org/10.1177/1077559515619487

Williams, D. R. (2012). Miles to go before we sleep: Racial inequities in health. *Journal of Health and Social Behavior, 53*(3), 279–295. https://doi.org/10.1177/0022146512455804

Williams, D. R., Mohammed, S. A., Leavell, J., & Collins, C. (2010). Race, socioeconomic status, and health: Complexities, ongoing challenges, and research opportunities. *Annals of the New York Academy of Science, 1186*, 69–101. https://doi.org/10.1111/j.1749-6632.2009.05339.x

Yu, E., & Cantor, P. (2014). *Turnaround for children, poverty, stress, and schools: Implications for research, practice, and assessment*. Turnaround for Children. Retrieved January from http://www.turnaroundusa.org/wp-content/uploads/2016/05/Turnaround-for-Children-Poverty-Stress-Schools.pdf

Zelazo, P. D., & Lyons, K. E. (2012). The potential benefits of mindfulness training in early childhood: A developmental social cognitive neuroscience perspective. *Child Development Perspectives, 6*(2), 154–160. https://doi.org/10.1111/j.1750-8606.2012.00241.x

Zolkoski, S. M., & Bullock, L. M. (2012). Resilience in children and youth: A review. *Children and Youth Services Review, 34*(12), 2295–2303. https://doi.org/10.1016/j.childyouth.2012.08.009

Part III

Applying the Science of Adverse Childhood Experiences (ACEs) in Health and Human Service Settings

6

Utilizing Adverse Childhood Experiences (ACEs) Science to Inform Health Care in Urban Settings

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Introduction

Many leading organizations across health-care fields such as the Centers for Disease Control (CDC) and the National Child Traumatic Stress Network (NCTSN) consider childhood adversity, defined as "circumstances or events that pose a serious threat to a child's physical or psychological well-being" (Bartlett & Sacks, 2019, para 2), a public health crisis facing our nation's children. It has also become well-recognized that exposure to early stressors in life (in utero until about 5 years of age), including to specific adverse childhood experiences (ACEs), have the most devastating impact on the individual due to potential and long-lasting changes in neurodevelopment and gene expression (Nelson, 2020; Nelson et al., 2020; Teicher et al., 2016). With disproportionate exposure to childhood adversity in urban settings, among individuals with fewer economic resources, and among those identifying as from racial and ethnic minority groups (Giano et al., 2020; Maguire-Jack et al., 2020), interventions to mitigate the impact of childhood adversity and promote protective factors are crucial for promoting health equity.

Responding to Childhood Adversity in Pediatric Health-Care Settings

Health-care settings are increasingly recognized as key venues to both identify and intervene to mitigate the impact of ACEs and build resilience among at-risk children and their families (Garner & Yogman, 2021; Forkey et al., 2021; Oral et al., 2020) through trauma-informed systems and practice. As defined by the American Academy of Pediatrics (AAP) and the Substance Abuse and Mental Health Services Administration (SAMHSA), *trauma-informed systems* integrate organizational structures, policies, and procedures to facilitate understanding, recognition, and response to symptoms of trauma from adversity expressed by patients, families, and clinicians through *trauma-informed practice* that prioritize physical and emotional safety for patients and clinicians and actively seek to prevent re-traumatization. Pediatric primary care

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settings may be particularly well-suited for trauma-informed practice as families are often seen 8–10 times during the first 2 years of life for well-child care. This schedule provides a unique opportunity to build relationships with families, inquire about stressors, and implement primary prevention efforts by supporting safe and nurturing parenting and early relational health (Duffee et al., 2021).

Pediatrician Knowledge and Awareness

Literature suggests that physicians may not feel knowledgeable about or comfortable with screening for ACEs or other childhood adversities. One study (Weinreb et al., 2010) reported that less than 33% of family physicians "usually or always" screened for childhood trauma, while 25% reported that they "rarely or never screened patients." In 2013, the AAP's National Periodic Survey indicated that only 4% of general pediatricians comprehensively asked about ACEs, and one in three did not ask about ACEs at all (Kerker et al., 2016). Furthermore, fewer than 11% reported being "very or somewhat familiar" with the original ACEs study. Pediatricians were less likely to ask about ACEs if they felt they had little effect on influencing parenting skills and/or felt screening for such risks was beyond the scope of pediatric practice.

Acceptability and Feasibility of Screening for Adversity in Pediatrics

There has been much debate in the field regarding the potential advantages and disadvantages to universal screening for childhood adversity during routine pediatric care. Several papers have warned against universal screening for ACEs or other forms of childhood adversity (Anda et al., 2020; Campbell, 2020; Finkelhor, 2018). The main cautionary points have included the following: (1) The ACEs questionnaire, specifically, was not designed for universal screening use; (2) People have misinterpreted the ACEs score as a deterministic result and clinical decisions based solely on an ACEs score are inappropriate and possibly harmful; (3) The ACEs questionnaire, specifically, is overly narrow and simplistic, fails to appreciate other important trauma experiences, and likely underestimates prevalence of childhood adversity; (4) Screening for adversity is only deficit-focused and one-sided; (5) Screening should not be done without embedding it within a broader trauma-informed system nor without training; and (6) Screening should not be done unless there is a protocol to respond and resources in place.

Equally, there may be many advantages to *careful* and *responsive* universal screening within health-care settings, especially pediatric primary care settings (Bartlett, 2020; Bethell et al., 2017; Liu et al., 2021; Thakur et al., 2020). Potential benefits include the following: (1) Universal screening may identify many more children and families at-risk for poor outcomes than would otherwise happen without routine screening, increasing equitable access to available supports and services; (2) Universal screening presents an opportunity to provide primary prevention education to families about the link between stress, trauma, health, and well-being, regardless of exposure; (3) Universal screening opens the door to a conversation and can be used as a "jumping off point" to open up dialogue about family risks and stressors; some clinicians may find the added structure of screening helpful in initiating such conversations; some families may be more willing to disclose something verbally after being first prompted by a screen; (4) Universal screening can contribute to a culture shift for clinicians and patients; it sends a message that talking about life stress and adversity is an important part of a health-care visit. The more universal screening is infused into primary health care, the more patients may come to view it as a "regular part of going to the doctor"; over time, this may increase the likelihood of patient disclosures and will help to combat the stigma associated with sharing personal struggles with one's clinician.

Past research on acceptability and feasibility of ACEs and other adversity screening in pediatric primary care has indicated that, overwhelmingly, patients find this type of screening appropriate and acceptable in the context of health-care visits (Kia-Keating et al., 2019; Marie-Mitchell et al., 2019; Matthew et al., 2022; see Olsen, 2018 for a review). Several studies found that most patients (as many as >90%) were comfortable answering sensitive questions, and parents strongly supported screening by their children's clinicians, viewing their pediatrician as an important change agent (Conn et al., 2017). Other studies reported that adult patients perceived that clinicians could help them and that asking about such topics improved the patient–clinician relationship (Goldstein et al., 2017). Pediatric clinicians have also reported positive feelings about the benefits of screening, noting that it increased empathy toward patients, led to a better understanding of and communication with patients, and cultivated a trusting relationship (Gillespie & Folger, 2017; Liu et al., 2021).

In terms of feasibility, clinicians have reported that clinic visits were not unduly burdened in terms of time or patient resistance, and visit length increased by about 5 min or less 90% of the time (Gillespie & Folger, 2017; Glowa et al., 2016); however, it should be noted that these studies have not represented patients who may experience higher levels of ACEs such as chronically marginalized families in urban settings. Clinicians have reported that the most common barriers are lack of time, confidence about how to respond, and concerns about lack of resources; they are more willing to screen if they feel confident and knowledgeable about the topic and what to do with "positive" screens (Weinreb et al., 2010). In one important study examining culturally responsive screening in a safety-net, urban pediatric practice with high ACEs exposures (Liu et al., 2021), findings indicated both feasibility and acceptability of ACEs screening within their trauma-informed, collaborative care practice team. More details on these and other studies can be found in several recent reviews (Ford et al., 2019; Oral et al., 2020).

Recommendations from the American Academy of Pediatrics (AAP)

In 2012, the AAP (lead authors Garner & Shonkoff) published a seminal policy statement, bringing the long-standing science of adversity and trauma into discourse within the field of pediatrics. Among other critical information, the statement emphasized the need for pediatric health-care professionals to: (1) consider and integrate psychosocial problems within health care; (2) incorporate training in childhood toxic stress for current and future physicians; (3) educate parents, policymakers, and the general public about the long-term consequences of toxic stress and the benefits of preventing and reducing it; (4) be vocal advocates for evidence-based interventions for trauma and toxic stress; (5) actively screen for adversity and sources of toxic stress; (6) provide anticipatory guidance about stress and social-emotional health; and (7) identify community resources to aid in the recovery from toxic stress.

To support pediatric clinicians in implementing these practices, the AAP with the University of California Los Angelos (UCLA), University of Massachusetts Medical School, and SAMHSA launched a national education program titled, "Pediatric Approach to Trauma, Treatment and Resilience (PATTeR)" (https://www.aap.org/en/patient-care/trauma-treatment-and-resilience/). The AAP also created the Resilience Project, a core health initiative dedicated to addressing toxic stress through training, clinician resources, and screening recommendations.

More recently, in a 2021 update (Garner & Yogman, 2021) to the 2012 policy statement addressing toxic stress, the AAP made clear that additional focus is needed to support pediatric relational health through safe, secure, and nurturing relationships (SSNRs) in order to buffer the effects of adversity on children and promote resilience. While affirming what is well known about the deleterious consequences of exposure to childhood adversity, the authors call for a paradigm shift toward a public health approach to build well-being and resilience through universal promotion of SSNRs and relational health. Several complementary AAP policy (Duffee et al., 2021) and practice (Forkey et al., 2021) statements provide excellent guidance for organizations considering the integration of trauma-informed care principles in care settings and for direct pediatric care based on the accumulation of developmental science regarding the effects of adversity and the buffering potential of early supportive relationships, respectively.

Applications of ACEs Science and Trauma-Informed Care: Example Pediatric Models

As research has repeatedly demonstrated the long-ranging impact of early adversity as well as protective factors such as safe, nurturing relationships with trusted adults, appreciation for translating this science to practices that benefit the health and well-being of children and families has grown. Below are a few examples of programs and initiatives, each with unique strengths, that seek to integrate trauma-informed care into pediatric health-care settings. This section concludes with a detailed description of our own trauma-informed pediatric practice.

California ACEs Aware

The ACEs Aware Initiative was launched in 2019 to build a trauma-informed network of health care with key components that included: (1) freely available training for clinicians and staff in and outside of California to help prepare caregivers to provide trauma-informed care; (2) a screening and response protocol using the Pediatric ACEs and Related Life-Events Screener (PEARLS); and (3) billing codes and reimbursement mechanisms through third-party insurance and Medi-Cal (Medicaid) for clinicians who complete a 2-h training (more trainings are available, but optional). The result of this multiyear initiative included a detailed ACEs Aware Trauma-Informed Network of Care Roadmap published in June 2021 (https://www.acesaware.org/wp-content/uploads/2021/06/Aces-Aware-Network-of-Care-Roadmap.pdf). Through this model, a Network of Care is encouraged to provide families with resources and supports that may help buffer individuals from adversity.

This state-wide initiative promotes universal screening using an expanded list of ACEs in primary care at annual well-child visits. Clinical workflows are provided to assess risk for toxic stress, identify child and family needs, build clinician–patient trust, and offer trauma-informed responses. A detailed “ACEs and Toxic Stress Risk Assessment Algorithm” provides guidance on how to respond based on ACEs scores, which correspond to levels of risk. Three screening versions are available for the pediatric setting based on child age and informant (parent/caregiver and child). Each screener has a “de-identified” version, which asks individuals to provide only a “total” number of events experienced without details about which events have occurred, which may be preferred by patients (Gillespie & Folger, 2017; Thakur et al., 2020).

The ACEs Aware Initiative is the first statewide plan to combat the effects of childhood adversity through a comprehensive system that prepares the workforce, provides clinical guidance, and offers reimbursement mechanisms to health-care clinicians for the time needed to screen and respond to ACEs. As of October 2022, ACEs Aware had trained over 25,000 clinicians and had screened well almost 900,000 Californians. Notably, 97% of those who were trained in the model said they were “convinced” to implement changes in their practices or to keep current trauma-informed care practices in place. The ACEs Aware Initiative also led to greater public awareness and legislation (Senate Bill 428) to expand coverage for ACEs screening; this law requires health insurance companies to provide coverage for ACEs screening. The benefits of this initiative on health outcomes are currently being examined.

Safe Environment for Every Kid (SEEK)

Based on research documenting associations between child abuse and neglect and pediatric health outcomes, as well as literature linking various risk factors to perpetration of child maltreatment, the Safe Environment for Every Kid (SEEK) model was developed for use in primary care to help prevent maltreatment. This model was developed in the Division of Child Protection, Department of Pediatrics at University of Maryland by Dr. Howard Dubowitz. In contrast to some other models reviewed in this chapter, the explicit goal of the SEEK model is to prevent maltreatment rather than mitigate outcomes resulting from ACEs exposure.

The core components of the SEEK model are: (1) free, online training for primary care professionals; (2) screening at well-child visits during the first 5 years of life (at 2, 9, 15 months and 2, 3, 4, 5 years); (3) screening responses using motivational interviewing strategies; (4) utilization of parent handouts; and (5) linkages with behavioral health partners. The SEEK screener is a parent/caregiver report measure that assesses a variety of family risk factors for childhood maltreatment including: food insecurity, parental depression, major stress including parenting stress, substance use, intimate partner violence, and harsh punishment. Rather than relying on a total score (as seen in other programs), responses on the SEEK guide next steps depending on what family risk(s) are endorsed. The SEEK model includes domain-specific handouts that can be adapted for use by insertion of local resources, e.g., domestic violence supports, mental–behavioral health services, and parenting programs.

Research evidence demonstrates that patients who received the SEEK model in an urban university-based resident continuity clinic had significantly lower rates of child maltreatment according to child protective services reports and physician documentation, fewer cases of delayed immunizations, and less parent/caregiver harsh punishment (Dubowitz et al., 2009). In another study with a low-risk sample (Dubowitz et al., 2012), mothers who received the SEEK model during their children's primary care visits reported less verbal aggression and harsh punishment than did mothers who did not receive the SEEK during care. Another randomized controlled trial is underway (Dubowitz et al., 2020).

Importantly, several other studies have demonstrated the impact of the SEEK model on clinician outcomes. For example, pediatric residents who were trained in the SEEK model were more likely to screen and assess patients, had higher self-assessment scores, and parents seen by these residents were more satisfied than residents (and parents) who were not trained in the SEEK model (Feigelman et al., 2011). Likewise, pediatric clinicians who implemented the SEEK model reported greater comfort and confidence in addressing family risks and were more likely to address depression, intimate partner violence, substance use, and stress during visits (based on coded observations) compared to those who did not use the SEEK model (Dubowitz et al., 2011). An additional study conducted by another team also reported feasibility in implementation across an urban, a rural, and a suburban clinic, as well as clinician improvements in knowledge, skills, and ability to address family risks on the SEEK screen (Eismann et al., 2019).

Intermountain Health-Care Process Model

The Intermountain Care Process Model for Traumatic Stress in Pediatric Patients (Intermountain Health Care, 2020) was developed through a collaboration between the Department of Pediatrics at the University of Utah and the Center for Safe and Healthy Families at Intermountain Healthcare's Primary Children's Hospital. This model utilizes the SEEK for children 0–5 years of age, administered at the suggested 2, 9, 15 months and 2, 3, 4, and 5 years well-child visits, with a focus on prevention of childhood adversity.

For children 6–18 years of age (via caregiver report for 6–10 years and via self-report for 11–18 years), youth are screened for potentially traumatic experiences using the program's

Pediatric Traumatic Stress Screening Tool; if any exposure is endorsed, further screening for traumatic stress symptoms is initiated. The Pediatric Traumatic Stress Screening Tool is a 15-item questionnaire that includes two trauma exposure questions, one suicide screening question (from the Patient Health Questionnaire-Adolescent), and 12 traumatic stress symptom questions (from the UCLA Brief Screen). Depending on symptoms and acuity, brief in-office interventions are offered and follow-up at regular intervals is planned.

The Intermountain Care Process Model for Pediatric Trauma has well developed "Road Maps of Care" for both young (0–5 years) and older (6–18 years) youth including decision-making trees, guidance for clinicians for various scenarios, rubrics for risk stratification, and handouts for anticipatory guidance and links to community resources. This program is intentionally situated within a trauma-informed setting, with attention paid to staff training and possible secondary stress for workers. It has been implemented across a number of pediatric primary care clinics in Utah and Wyoming. As of now, no results regarding effectiveness for improving pediatric health outcomes have been reported.

Montefiore Medical Group

The Montefiore Medical Group is the largest health-care network in Bronx, New York, serving one of the poorest urban areas of the country. With support from the Center for Health Care Strategies, a nonprofit partner of health-care organizations to promote innovative health care for people enrolled in Medicaid, Montefiore launched a system-wide trauma-informed care initiative to address underlying causes of patient illness in 2018 (https://www.chcs.org/resource/expanding-awareness-and-screening-for-aces-in-the-bronx-montefiore-medical-group/). The Montefiore trauma-informed care program delivers ACEs screening at 11 of 13 pediatric primary care practices during annual well-child visits, with the goal of ACEs screening at all primary care sites from birth through geriatrics. Parental history of ACEs is collected once during an early infant well-child care visit; children's exposure is evaluated during infancy and annually thereafter.

Key features of Montefiore's trauma-informed approach include: (1) training for all clinicians and staff on trauma-informed care principles, ACEs screening, and compassion fatigue and secondary trauma; (2) patient input in organizational planning through the Montefiore's trauma-informed multidisciplinary specialist team; (3) utilization of a Critical Incident Management Team for deployment to primary care sites after a critical community event; (4) universal ACEs screening at primary care sites; and (5) a yearly training institute. Their goal is to become one of the largest trauma-informed health systems in the country; Montefiore screened ~60,000 pediatric patients in the first year of their program.

Another important aspect of the Montefiore model is their comprehensive approach to measuring outcomes. In a recent published Brief (Germán et al., 2020), the program team described a unique approach to measuring and evaluating trauma-informed pediatric primary care, which includes, in addition to patient health outcomes as an indicator of effectiveness, assessing "upstream" variables such as clinician attitudes and behavior, workforce wellness, and changes in the health-care environment. Preliminary results have shown that screening for ACEs is not redundant with screening for behavioral health concerns. They also found that having behavioral health specialists integrated into primary care results in greater clinician comfort in screening, more satisfaction with these specialty services, and a greater sense of competence in handling patient concerns related to adversity (Germán et al., 2017).

University Hospitals (UH) Rainbow Babies & Children's Ahuja Rainbow Center for Women and Children

Finally, described here in detail is our team's efforts at building comprehensive trauma-informed care at the UH Rainbow Babies & Children's Ahuja Rainbow Center for Women and Children (RCWC; hereafter referred to as the "Center") in Cleveland, Ohio. Centrally situated to Cleveland's most impoverished historically red-lined neighborhoods, our urban pediatric clinic serves families with complex psychosocial needs through community-oriented women's health and pediatric primary care with integrated mental–behavioral health and social care services. The Center also serves as the primary ambulatory training site for approximately 80–90 pediatric resident physicians per year, supervised by 11 faculty and supported by two advanced practice nurses. Given Cleveland's notoriety for having the highest rate of urban childhood poverty in the United States (https://www.communitysolutions.com/cleveland-ranks-1-2-3-poverty/), it is unsurprising that families at the Center face substantial adversity, with high exposure to neighborhood and domestic violence, housing instability, and food insecurity. A substantial proportion of children face loss of caregivers due to incarceration or death. Center families largely self-identify as Black or African American (~95%); more than 85% rely on Medicaid as their primary insurer. Like other large programs reviewed in this chapter, our model of trauma-informed care rests on decades of research on childhood adversity (ACEs related as well as broader research on child traumatic stress, child maltreatment, and social determinants of health), SAMHSA's principles of trauma-informed care, state-wide data sources, and local patient input.

Our trauma-informed care initiative began in 2018 with the development of a multidisciplinary team (nursing, pediatrics, psychology, psychiatry, obstetrics/gynecology, and midwifery, with support and representation from leadership and our hospitals' research and development office). The team met monthly for 1 year to develop a plan toward implementation of trauma-informed care. The resulting core components of our program included: (1) continuous learning through embedded research; (2) continuing education and training with clinicians, support staff, ancillary staff, and pediatric residents; (3) universal screening for adversity during pediatric well-child care from 6 months to 6 years of age; (4) enhanced workflow to address complex psychosocial needs and coordination with other specialty clinic services; (5) on-site trauma-informed offerings plus linkages to trauma-informed community partners; and (6) ongoing support for clinician and staff wellness.

Continuous Learning through Embedded Research

Our model relies on regular input from all stakeholders and key community partners in trauma-informed care: patients, families, clinicians, staff, and trainees, elicited as part of an overall embedded research strategy at the Center to ensure program evaluation and improvement. Data sources include annual cross-sectional surveys of staff, annual interviews with a representative cross-section of patients and families, screening results, and referral data. In focus groups with patients and clinicians/staff completed early in model implementation, we learned, similar to findings from the published literature, that most employees and patients felt it was appropriate and necessary to discuss life adversity during health-care visits, as long as it was done with compassion and respect, without judgment, and if help or resources could be offered. Clinicians, staff, and patients all expressed that *the way in which one asks about and responds to such sensitive topics* is more important than *what* exactly is asked (Matthew et al., 2022).

Annual survey data collected from Center clinicians, staff, and trainees reveal that those working at the Center are generally well-prepared to meet this challenge, with high levels of knowledge about trauma and trauma-informed practice [mean Attitudes Related to Trauma Informed Care (ARTIC-10; Baker et al., 2021) score was 5.33 ($SD = 0.84$; range 1–7) with no significant variation between 2019, 2020, and 2021 survey years], including very high levels of flexibility, empathy toward patients, and occupational self-efficacy. Higher total scores among clinicians (5.57; $SD = 0.80$) compared to staff (5.24; $SD = 0.91$) and trainees (5.29; $SD = 0.76$), $p < 0.05$, were driven by differences in understanding difficult patient behavior from a trauma-informed lens and coping with work-related stress; these findings have informed educational offerings.

Continuing Education and Training

Leveraging resources from the 2019 Pediatric Integrated Care Collaborative (PICC-2) “Strengthening the Role of Primary Care in Serving Children and Families Experiencing Trauma or Chronic Stress,” a national learning collaborative of 15 sites across the country (funded by SAMHSA in affiliation with the National Child Traumatic Stress Network and Johns Hopkins University), the Center’s core team has developed a core curriculum for Center staff, clinicians, and trainees delivered through didactic presentations, group discussion, case debriefing, and data review. Early conversations centered on foundational topics such as the definition and prevalence of ACEs and other forms of adversity nationally and locally, associations between trauma and health outcomes, and core practice principles from a trauma-informed perspective.

Screening for Adversity

While annual screening has been recommended by other trauma-informed pediatric settings, we decided to screen beginning at 6 months of age given the high-risk nature of the postpartum period. We also prioritized screening during early childhood since this is a critical period for neurodevelopment, and an optimal time to support safe, nurturing relationships through primary prevention and early intervention. Our screens included: (1) the de-identified version of the Adverse Childhood Experiences-Questionnaire (ACE-Q; Center for Youth Wellness), which includes a list of 17 potentially traumatic events, (2) the SEEK (Dubowitz et al., 2009, 2011, 2020; Eismann et al., 2019), and (3) a measure of protective factors and child–family strengths, the Protective and Compensatory Experiences Scale (PACES; Hays-Grudo et al., 2021), modified for young children. These screens allowed for an assessment of ACEs exposure within a broader context of family adversity, while balancing potential strengths with risks. In our pilot screening efforts, we found >85% of caregivers completed our ACEs/SEEK/PACES screens in the pediatric clinic, showing evidence of acceptability and feasibility. Subsequently, we transitioned to universal screening with all clinicians. However, after about 1 year of pilot screening, some challenges to this approach emerged including perceived burden to families and limited perceived utility of de-identified ACEs/PACEs in comparison to actionable responses on the SEEK (e.g., food insecurity, risk for harsh punishment, witness to violence, caregiver mental health, or substance use risks). Based on these considerations, analysis of screening data, and accumulated evidence for benefit of the SEEK model, the adversity screening protocol was streamlined to the SEEK tool only.

Screening Results

As the time of this writing, 4222 children 6 years of age or younger (M = 39.40 months; SD = 23.93) have been screened for childhood adversity per parent/caregiver report on the SEEK; 2620 of these were also screened with the ACE-Q and 2586 were also screened with the PACES. At the time of screening, the number of children screened according to child age in years was roughly even, i.e., similar numbers were screened from birth to 1 year, 1–2 years, 2–3 years, and so on.

According to the SEEK, 33.4% of parents/caregivers reported at least one family risk. From most to least common, these were significant caregiver stress, caregiver depression, food insecurity, harsh punishment, household violence, and household substance abuse. The notably low levels of reported household violence and substance abuse were surprising; however, patients often disclosed other serious challenges including potentially traumatic events during follow-up calls that were prompted by endorsement of other stressors such as parental stress or depression. Thus, it seems that caregivers may be more willing to acknowledge certain forms of adversity on screeners, but through further inquiry, they may be willing to disclose other adversities for which they would like assistance. No differences by child biological sex on SEEK domains or total score were found, with one exception; parents/caregivers of male children reported more harsh punishment than parents/caregivers of female children, $X^2 = 7.14$, $p < 0.05$. Child age was not significantly related to total SEEK scores (i.e., the total number of endorsed domains of family stress/adversity). However, endorsement of parent/caregiver stress, food insecurity, and harsh punishment was significantly higher at certain child ages than at other child ages, $X^2 = 41.67$, $p < 0.01$; $X^2 = 15.45$, $p < 0.05$; $X^2 = 48.79$, $p < 0.01$, respectively.

According to the ACE-Q, 30% of children had been exposed to at least one ACE, which is notable considering the average age of children screened. ACE-Q scores did not differ by child biological sex. See Table 1 for prevalence of ACEs at each year of child age. Child age was significantly, positively correlated with ACE-Q total score ($r = 0.21$, $p < 0.01$).

Regarding the PACES, parents/caregivers reported high levels of protective factors; the average PACES score was 8.45 ($SD = 1.81$; possible 0–10). Thus, while there has been considerable discussion about the importance of assessing for family assets and strengths when screening for adversity, our practice of doing so did not reveal much variability. Further consideration regarding the value of doing so at pediatric primary care clinics versus the additional screening burden for patients and clinicians is warranted. No differences by child biological sex on the PACES total score was found nor was child age related to PACES total.

Bivariate correlations indicated that greater family adversity on the SEEK was significantly, positively related to ACE-Q total scores ($r = 0.37$, $p < 0.01$) and significantly, negatively related to PACES ($r = -0.19$, $p < 0.01$). ACE-Q total scores were significantly, negatively correlated with PACES ($r = -0.13$, $p < 0.01$).

Workflow and Expansion of Services

A clinical workflow was developed that outlined procedures to introduce and administer screens to patients while they were being groomed by nursing support staff, as well as guidelines for how to handle screening results. After piloting this procedure, the pre-screening workflow evolved over time to include handing out screeners upon check-in to reduce staff burden.

Response Protocol

All caregivers completing screens (ACEs, PACEs, and/or SEEK) receive a printed infographic containing brief information regarding different forms of adversity, links between adversity and health, and top protective factors to build up child and family strengths. For those with positive screens, a trauma-informed mental health specialist makes follow-up calls to parents within 3–4 days of the visit. Typically, this results in approximately 20–30 follow-up calls per week; during these calls, the clinician further inquiries about family concerns and offers brief support, as well as referrals to on-site and/or community services such as trauma-informed therapies. While live consultation with the trauma specialist during the screening visit is possible and often beneficial, we have found that advantages to asynchronous follow-up include being able to speak about distressing events when the child is not present, spending more time in discussion, and at times increased comfort with disclosures. Decision trees have also been developed and distributed to assist clinicians with offering additional supports and referrals.

On-Site Parenting Groups and Supports

In addition to follow-up calls, our existing integrated mental–behavioral health team and social navigation office have provided other on-site supports for families. During the course of our trauma-informed care implementation, several new parenting support programs have also launched including an online series of educational videos about common parenting concerns, a primary prevention group to strengthen early

Table .1 Prevalence of childhood adversity and protective factors by child biological sex and age

	SEEK Stress *n* (%)	SEEK CD *n* (%)	SEEK FI *n* (%)	SEEK HP *n* (%)	SEEK DV *n* (%)	SEEK SA *n* (%)	ACE-Q ≥ 1 *n* (%)	ACE-Q 1–2 *n* (%)	ACE-Q ≥3 *n* (%)	PACEs *M* (*SD*)
Total	1001 (23.7%)	532 (12.6%)	519 (12.3%)	211 (5%)	106 (2.5%)	101 (2.4%)	789 (30.1%)	610 (23.3%)	178 (6.8%)	8.5 (1.8)
Child sex (*n*, %)										
Boys (2132, 50.5%)	505 (23.7%)	288 (13.5%)	262 (12.3%)	115 (5.4%)^{a}	51 (2.4%)	47 (2.2%)	392 (29.6%)	299 (22.6%)	93 (7%)	8.4 (1.8)
Girls (2090, 49.5%)	491 (23.5%)	247 (11.8%)	255 (12.2%)	88 (4.2%)^{b}	56 (2.7%)	52 (2.5%)	396 (30.5%)	311 (24%)	84 (6.5%)	8.5 (1.8)
Child age (*n*, %)										
0 to <12 (676, 16%)	107 (15.9%)^{d}	76 (11.3%)	80 (11.8%)^{f}	7 (1.1%)^{h}	20 (2.9%)	8 (1.2%)	65 (15.5%)	57 (13.5%)	8 (2%)	8.5 (1.8)
12 to <24 (633, 15%)	128 (20.2%)^{d}	75 (11.8%)	87 (14%)^{e}	15 (2.4%)^{h}	14 (2.2)%	18 (2.8%)	79 (20.1%)	69 (17.5%)	10 (2.6%)	8.6 (1.7)
24 to <36 (507, 12%)	142 (28%)^{c}	81 (15.9%)	76 (14.9%)^{e}	39 (7.6%)^{g}	21 (4.2%)	19 (3.8%)	106 (33.6%)	83 (25.9%)	25 (7.8%)	8.5 (1.7)
3–4 yrs. (676, 16%)	172 (25.4%)^{c}	79 (11.7%)	71 (10.5%)^{f}	37 (5.5%)^{g}	15 (2.2%)	10 (1.5)%	124 (29.7%)	93 (22.1%)	32 (7.6%)	8.4 (1.8)
4–5 yrs. (633, 15%)	154 (24.3%)^{c}	71 (11.2%)	60 (9.4%)^{f}	36 (5.7%)^{g}	14 (2.2%)	18 (2.9%)	159 (40.4%)	125 (31.8%)	34 (8.6%)	8.4 (1.9)
5–6 yrs. (633, 15%)	168 (26.6%)^{c}	86 (13.6%)	93 (14.7%)^{e}	40 (6.3%)^{g}	12 (1.9%)	15 (2.4%)	151 (38.3%)	115 (29.2%)	36 (9.1%)	8.4 (1.7)
6–7 yrs. (464, 11%)	127 (27.4%)^{c}	64 (13.7%)	31 (6.7%)^{f}	33 (7.2%)^{g}	11 (2.3%)	17 (2.7%)	158 (55%)	90 (31.4%)	39 (13.6%)	8.3 (2.0)

Notes: SEEK Safe Environment for Every Kid, CD Caregiver Depression, FI Food Insecurity, HP Harsh Punishment, DV Domestic Violence, SA Substance Abuse, ACE-Q Adverse Childhood Experiences Questionnaire, PACES Protective and Compensatory Experiences Survey. The SEEK was completed by 4222 caregivers, the ACE-Q was completed by 2620 caregivers, and the PACEs was completed by 2586 caregivers. Percentages reflect percent of each respective group that had or endorsed each form of adversity (in columns) and *n*'s are rounded to whole numbers. Child age is in months unless otherwise noted in years. Statistically significant differences included: child biological sex differences for parent/caregiver harsh punishment, a > b, $X^2 = 7.14$, $p < 0.05$; age differences for caregiver stress, c > d, $X^2 = 41.67$, $p < 0.01$; age differences for food insecurity, e > f, $X^2 = 15.45$, $p < 0.05$; age differences in harsh punishment, g > h, $X^2 = 48.79$, $p < 0.01$

parent–child relationships (Attachment Vitamins; Waters et al., 2018), and a secondary intervention to address parenting when mothers have identified mental health diagnoses and/or their own histories of childhood adversity (Mom Power; Muzik et al., 2015). A newly developed multidisciplinary specialty assessment clinic, the "Overcoming Adverse Childhood Experiences (OACES): Developmental and Behavioral Clinic," has also been created through a partnership with one of our developmental–behavioral pediatricians; this service offers a comprehensive assessment for children with extensive adversity and developmental trauma exposure along with complex developmental–behavioral–emotional difficulties. Families see the entire team (psychologist, psychiatrist, developmental–behavioral pediatrician) at the same time, who then collaborate on a comprehensive treatment plan. In sum, we seek to offer trauma-informed services that range from universal primary prevention to highly specialized tertiary clinic visits.

Stronger Linkages to Community Services

An explicit focus on expansion of services has also prompted us to form partnerships with key community agencies providing additional trauma-informed services, including those who provide crisis intervention, emergency shelter, supervised parenting, parenting classes, violence-related advocacy, and evidence-based trauma specific psychotherapies.

Support for Clinician and Staff Wellness

An important, and increasingly recognized, component of a trauma-informed system or setting is the mindful attention toward caring for clinicians and staff in order to prevent compassion fatigue (burnout and secondary trauma). The Center's trauma-informed care team has supported and delivered a variety of ongoing supports to clinicians and staff in order to promote overall trauma-informed care and to be responsive to staff concerns and requests. Thus, far, we have: (1) outfitted a quiet room on a non-patient floor with recliner chairs, aromatherapy, self-care handouts, meditative coloring pages, stress balls, and mindfulness cards; (2) offered 1:1 30-min confidential sessions with two of our licensed mental health clinicians and monthly, open debrief sessions to discuss any work-related stress for clinicians/staff; (3) posted signs of gratitude and encouragement on the grounds of the Center; (4) provided small treat bags and affirmation stickers in the lunch room/lounge area, as well as a kudos board; (5) brought in chair massages from our hospital's Integrative Health team; and (6) held monthly debrief/process sessions for pediatric residents, which are worked into didactic time rather than held off-hours.

Lessons Learned

We have learned that the presence of trauma specialists within an existing landscape of integrated mental–behavioral health care is very valuable. Such specialists are available to step in and assist when needed with particularly distressing or complex patient circumstances. As our team's presence has solidified in the clinic, relationships and trust have formed with clinicians and staff. As a result, we have observed an increase in "curbside" questions and requests for assistance, especially when our trauma specialist is visible in shared clinic work spaces.

Another asset of our model has been the interdisciplinary nature of our team, which includes clinicians from pediatrics, psychology, psychiatry, and social work; this has been important in understanding different perspectives and practice priorities at our busy, demanding urban clinic. Furthermore, our early partnership with a community-based partner that offers robust trauma-specific interventions for young children and families, including trauma-informed early childhood mental health specialists, was critical so that we could offer a full range of services for those reporting more serious concerns on screens. As our own focus groups revealed and others in the field have noted (e.g., Duffee et al., 2021; Murphy & Bartlett, 2019), it is imperative that health-care settings that screen for adversity have resources and supports to offer in response. Finally, our work would not have been possible without generous grant and philanthropic support, which afforded us planning and implementation time and the co-location of an early childhood mental health trauma specialist.

A significant challenge has been the limited time allotted to patient visits; 15–30 min visits are simply not long enough to address needs for many families, especially in an urban clinic located within neighborhoods characterized by poverty and violence. This challenge requires a bigger transformation of care that allows for nontraditional scheduling and billing practices. While our Center provides excellent training for pediatric residents, continuity of care is difficult and families often see different clinicians at each visit. Lack of continuity can be a barrier to closer clinician–patient relationships that build trust and understanding over time and is, in fact, a patient-identified opportunity for improvement at our Center. Both pediatric residents and patients have shared that this makes it more challenging to address psychosocial adversities and trauma, and mental–behavioral health staff have noted that uptake of referrals to them may be reduced as a result. Finally, sustainability of trauma-informed care and screening-response protocols based on the science of ACEs and early adversity can be challenging given current reimbursement strategies. Nevertheless, our model of care continues to "translate science into action" within our unique setting.

Suggestions for Continued Advancement of the Field

There are several directions for research and the translation of empirical findings that will advance the science and practice of pediatric trauma-informed care. At this point, associations between exposure to childhood adversity and a wide range of short- and long-term biopsychosocial outcomes have been well established. The protective nature of early safe, nurturing, and secure relationships with primary caregivers is also clear. From a more basic scientific perspective, it will be important for research to continue examining the *mechanisms* that help explain associations between exposure to adversity and both individual and multigenerational outcomes such as, for example, epigenetic, neurodevelopmental, stress response, and immunological system functioning (e.g., Nelson, 2020; Teicher et al., 2016). Psychological and relational mechanisms by which childhood exposure affects a range of outcomes have also been examined and need to be further considered in combination with biological systems. Moderators of such associations are also important to examine as potential prevention or intervention targets.

Ongoing efforts are needed to examine the effectiveness of applied trauma-informed care within pediatric settings (Oral et al., 2020). Thus far, studies have shown that applying ACEs-related science to pediatric practice is generally feasible and acceptable, but is also not a "one-size-fits-all" approach, as the models described herein illustrate. The translation of adversity and resilience science to evidence-based trauma-informed principles and practices needs to match each unique setting, which varies according to practice size, location, patient population, staffing and time constraints, and other critical characteristics. Clinics seeking to implement trauma-informed pediatric care need persistent "champions" at all levels including direct patient care clinicians, mental–behavioral–trauma specialists, and those in leadership roles, and importantly, need to be able to pivot as needed through PDSA (Plan-Do-Study-Act) learning cycles.

The next phase of work to significantly advance effective trauma-informed pediatric health-care needs to include careful examination of outcomes resulting from different models of such care. Specifically, key questions for those undertaking this work include: (1) Are rates of exposure to ACEs and other serious family adversities being prevented and/or reduced? (2) Are short-term health outcomes being improved, for instance, fewer illnesses, fewer emotional–behavioral concerns, fewer developmental deviations, improved preventive care such as immunizations, decreased health-care utilization for sick visits or urgent care visits? (3) Can we reduce more chronic health-care concerns and what may be longer term outcomes such as diabetes, hypertension, inflammation, and other biological sequelae of chronic stress exposure? and, (4) Importantly, can we help to support early relational health and increase safe, supportive, and nurturing caregiving as a foundation to children's healthy development despite adversity?

Additionally, as Germán et al. (2020) remind us, "downstream" patient outcomes are not the only outcomes of value. "Upstream" outcomes are also critical such as improving clinician/staff knowledge about trauma and associated health outcomes, creating more predictable and trusting clinician–patient relationships, changing policies and setting characteristics (i.e., organizational structure, schedules, physical environment, etc.) to better address adversity and to promote family protective factors, and the like. These upstream outcomes may, in fact, serve as important pathways toward better patient outcomes as a result of trauma-informed care practices.

From a policy perspective, greater efforts need to be made to ensure adequate mechanisms for billing through third-party insurance payers, and importantly, through state-implemented Medicaid programs. Pediatric and integrated mental–behavioral health-care clinicians will not be able to sustain trauma-informed practices without ways to be reimbursed for time spent. At this scale, there is currently a significant mismatch between traditional health-care clinic practices (e.g., 15 min visits) and both recommendations and guidelines for trauma-informed pediatric care. This poses a very significant barrier to success and positive outcomes; to date, it appears that those able and willing to do this work need to find other financial mechanisms to support time and effort (with the possible exception of California where a clear system is in place to be reimbursed for screening and responding), so strong, collective advocacy is needed with policy "champions" on health-care teams.

Finally, patients will be best served if increased attention is paid toward *universal integration of primary prevention efforts in pediatric health-care settings during the earliest years of life*. Given that pediatric clinicians have many encounters with children and their caregivers during the first several years of life, when arguably the greatest potential exists for mitigating stress and building a strong foundation for healthy development, well-child care visits are ideally situated to implement primary prevention. Healthy Steps (Zero to Three, 2021), for example, is an excellent evidence-based model that has demonstrated numerous high-impact health outcomes for both children and their caregivers, as well as improved patient *and* clinician satisfaction and lower health-care costs.

In conclusion, trauma-informed, integrated pediatric primary care settings are poised to provide families with early identification of adversity and potential risks, anticipatory guidance about stress, positive relationships and other stress-buffers, and health, and responsive integration of services to build up safe, secure caregiver–child relationships as protective assets. It is imperative that increased and continued efforts are made toward translating the existing strong scientific base to policies and practices within pediatric settings to improve the lives of children and families, including those who disproportionately experience adversity, marginalization, and health-care inequities.

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References

Anda, R., Porder, L. E., & Brown, D. W. (2020). Inside the adverse childhood experience score: Strengths, limitations, and misapplications. *American Journal of Preventive Medicine, 59*, 293–295. https://doi.org/10.1016/j.amepre.2020.01.009

Baker, C. N., Brown, S. M., Overstreet, S., Wilcox, P. D., & New Orleans Trauma-Informed Schools Learning

Collaboratie. (2021). Validation of the Attitudes Related to Trauma-Informed Care Scale (ARTIC). *Psychological Trauma: Theory, Research, Practice, and Policy, 13*, 505–513. https://doi.org/10.1037/tra0000989

Bartlett, J. D. (2020). Screening for childhood adversity: Contemporary challenges and recommendations. *Adversity and Resilience Science, 1*, 65–79. https://doi.org/10.1007/s42844-020-00004-8

Bartlett, J. D., & Sacks, V. (2019, April). *Adverse Childhood Experiences are different than child trauma, and it's critical to understand why*. Child Trends. Retrieved March 12, 2022 from https://www.childtrends.org/adverse-childhood-experiencesdifferent-than-child-trauma-critical-to-understand-why

Bethell, C. D., Carle, A., Hudziak, J., Gombojav, N., Powers, K., Wade, R., & Braveman, P. (2017). Methods to assess adverse childhood experiences of children and families: Toward approaches to promote child well-being in policy and practice. *Academic Pediatrics, 17*, 51–69. https://doi.org/10.1016/j.acap.2017.04.161

Campbell. (2020). Screening for Adverse Childhood Experiences (ACEs) in primary care: A cautionary note. *Journal of the American Medical Association, 323*, 2379–2380. https://doi.org/10.1001/jama.2020.4365

Conn, A. M., Szilagyi, M. A., Jee, S. H., Manly, J. T., Briggs, R., & Szilagyi, P. G. (2017). Parental perspectives of screening for adverse childhood experiences in paediatric primary care. *Families, Systems & Health, 36*, 62–72. https://doi.org/10.1037/fsh0000311

Dubowitz, H., Feigelman, S., Lane, W., & Kim, J. (2009). Pediatric primary care to help prevent child maltreatment: The Safe Environment for Every Kid (SEEK) model. *Pediatrics, 123*, 857–864. https://doi.org/10.1542/peds.2008-1376

Dubowitz, H., Lane, W., Semiatin, J., & Magder, L. (2012). The SEEK model of pediatric primary care: Can child maltreatment be prevented in a low-risk population? *Academic Pediatrics, 12*, 259–268. https://doi.org/10.1016/j.acap.2012.03.005

Dubowitz, H., Lane, W. G., Semiatin, J. N., Magder, L. S., Venepally, M., & Jans, M. (2011). The Safe Environment for Every Kid model: Impact on pediatric primary care professionals. *Pediatrics, 127*, e962–e970. https://doi.org/10.1542/peds.2010-1845

Dubowitz, H., Saldana, L., Magder, L. A., Palinkas, L. A., Landsverk, J. A., Belanger, R. L., & Nwosu, U. S. (2020). Protocol for comparing two training approaches for primary care professionals implementing the Safe Environment for Every Kid (SEEK) model. *Implementation Science Communications, 78*, 1–12. https://doi.org/10.1186/s43058-020-00059-9

Duffee, J., Szilagyi, M., Forkey, M., & Kelly, E. (2021). Trauma-informed care in child health systems. *Pediatrics, 148*, e2021052579. https://doi.org/10.1542/peds.2021-052579

Eismann, E. A., Theuerling, J., Maguire, S., Hente, E. A., & Shapiro, R. A. (2019). Integration of the Safe Environment for Every Kid (SEEK) model across primary care settings. *Clinical Pediatrics, 58*, 166–176. https://doi.org/10.1177/0009922818809481

Feigelman, S., Dubowitz, H., Lane, W., Grube, L., & Kim, J. (2011). Training pediatric residents in a primary care clinic to help address psychosocial problems and prevent child maltreatment. *Academic Pediatrics, 11*, 474–480. https://doi.org/10.1016/j.acap.2011.07.005

Finkelhor, D. (2018). Screening for adverse childhood experiences (ACEs): Cautions and suggestions. *Child Abuse & Neglect, 85*, 174–179. https://doi.org/10.1016/j.chiabu.2017.07.016

Ford, K., Hughes, K., Hardcastle, K., Di Lemma, L. C. G., Davies, A. R., Edwards, S., & Bellis, M. A. (2019). The evidence base for routine enquiry into adverse childhood experiences: A scoping review. *Child Abuse & Neglect, 91*, 131–146. https://doi.org/10.1016/j.chiabu.2019.03.007

Forkey, H., Szilagyi, M., Kelly, E. T., & Duffee, J. (2021). Trauma-informed care. *Pediatrics, 148*, e2021052580. https://doi.org/10.1542/peds.2021-052580

Garner, A. S., Shonkoff, J., Siegel, B. S., Dobbins, M. I., Earls, M. F., McGuinn, L., Pascoe, J., Wood, D. L., & the Committee on Psychosocial Aspects of Child and Family Health, the Committee on Early Childhood, Adoption, and Dependent Care, and the Section on Developmental and Behavioral Pediatrics of the AAP. (2012). Early childhood adversity, toxic stress, and the role of the pediatrician: Translating developmental science into lifelong health. *Pediatrics, 129*, e224–e231. https://doi.org/10.1542/peds.2011-2662

Garner, A. S., & Yogman, M. (2021). Preventing childhood toxic stress: Partnering with families and communities to promote relational health. *Pediatrics, 148*, e2021052582. https://doi.org/10.1542/peds.2021-052582

Giano, Z., Wheeler, D. L., & Hubach, R. D. (2020). The frequencies and disparities of adverse childhood experiences in the U.S. *BMC Public Health, 201*, 1–12. https://doi.org/10.1186/s12889-020-09411-z

Germán, M., Crawford, D. E., & Dumpert, K. (2020). *Measuring the impact of trauma-informed primary care: Are we missing the forest for the trees?* Retrieved on March 5, 2022 from https://www.chcs.org/resource/measuring-the-impact-of-trauma-informed-primary-care-are-we-missing-the-forest-for-the-trees/

Germán, M., Rinke, M. L., Gurney, B. A., Gross, R. S., Bloomfield, D. E., Haliczer, L. A., et al. (2017). Comparing two models of integrated behavioral health programs in pediatric primary care. *Child and Adolescent Psychiatric Clinics of North America, 26*, 815–828. https://doi.org/10.1016/j.chc.2017.06.009

Gillespie, R. J., & Folger, A. T. (2017). Feasibility of assessing parental ACEs in pediatric primary care: Implications for practice-based implementation. *Journal of Child & Adolescent Trauma, 10*, 249–256. https://doi.org/10.1007/s40653-017-0138-z

Glowa, P. T., Olson, A. L., & Johnson, J. (2016). Screening for adverse childhood experiences in a family medicine setting: A feasibility study. *The Journal of the*

American Board of Family Medicine, 29, 303–307. https://doi.org/10.3122/jabfm.2016.03.150310

Goldstein, E., Athale, N., Sciolla, A. F., & Catz, S. L. (2017). Patient preferences for discussing childhood trauma in primary care. *The Permanente Journal, 21*, 16–055. https://doi.org/10.7812/TPP/16-055

Hays-Grudo, J., Sheffield Morris, A., Beasley, L., Ciciolla, L., Shreffler, K., & Cross, J. (2021). Integrating and synthesizing adversity and resilience knowledge and action: The ICARE Model. *American Psychology, 76*, 203–215.

Intermountain Healthcare. (2020). *Diagnosis and management of traumatic stress in pediatric patients*. Available at: https://intermountainhealthcare.org/ckrext/Dcmnt?ncid=529796906. Accessed Mar 5, 2022.

Kerker, B. D., Storfer-Isser, A., Szilagyi, M., Stein, R. E. K., Garner, A. S., O'Connor, K. G., Hoagwood, K. E., & Horwitz, S. M. (2016). Do pediatricians ask about Adverse Childhood Experiences in pediatric primary care? *Academic Pediatrics, 16*, 154–160. https://doi.org/10.1016/j.acap.2015.08.002

Kia-Keating, M., Barnett, M. L., Liu, S. R., Sims, G. M., & Ruth, A. B. (2019). Trauma-responsive care in a pediatric setting: Feasibility and acceptability of screening for adverse childhood experiences. *American Journal of Community Psychology, 64*, 286–297. https://doi.org/10.1002/ajcp.12366

Liu, S. R., Grimes, K. E., Creedon, T. B., Pathak, P., DiBona, L. A., & Hagan, G. N. (2021). Pediatric ACES assessment within a collaborative care practice model: Implications for health equity. *American Journal of Orthopsychiatry, 91*, 386–397. https://doi.org/10.1037/ort0000536

Maguire-Jack, K., Lanier, P., & Lombardi, B. (2020). Investigating racial differences in clusters of adverse childhood experiences. *American Journal of Orthopsychiatry, 90*, 106–114. https://doi.org/10.1037/ort0000405

Marie-Mitchell, A., Lee, J., Siplon, C., Chan, F., Riesen, S., & Vercio, C. (2019). Implementation of the Whole Child Assessment to screen for adverse childhood experiences. *Global Pediatric Health, 6*, 1–9. https://doi.org/10.1177/2333794X19862093

Matthew, A., Moffitt, C., Huth-Bocks, A. C., Ronis, S., Gabriel, M., & Burkhart, K. (2022). Establishing trauma-informed primary care: Qualitative guidance from patients and staff in an urban healthcare clinic. *Children, 9*. https://doi.org/10.3390/children9050616

Murphy, D., & Bartlett, J. D. (2019). Childhood adversity screenings are just one part of an effective policy response to childhood trauma. *Child Trends Report*, 1–20.

Muzik, M., Rosenblum, K. L., Alfafara, E. A., Schuster, M., Miller, N. M., Waddell, R. M., & Kohler, E. S. (2015). Mom Power: Preliminary outcomes of a group intervention to improve mental health and parenting among high-risk mothers. *Archives of Women's Mental Health, 18*, 507–521. https://doi.org/10.1007/s00737-014-0490-z

Nelson, C. (2020). The implications of early adversity even before birth. *JAMA Network Open, 3*, e1920030. https://doi.org/10.1001/jamanetworkopen.2019.20030

Nelson, C. A., Bhutta, Z. A., Burke-Harris, N., Danese, A., & Samara, M. (2020). Adversity in childhood is linked to mental and physical health throughout life. *BMJ, 371*, m3048. https://doi.org/10.1136/bmj.m3048

Olsen, J. M. (2018). Integrative review of pregnancy health risks and outcomes associated with Adverse Childhood Experiences. *JOGINN, 47*, 783–794. https://doi.org/10.1016/j.jogn.2018.09.005

Oral, R., Coohey, C., Zarei, K., Conrad, A., Nielson, A., et al. (2020). Nationwide efforts for trauma-informed care implementation and workforce development in healthcare and related fields: A systematic review. *The Turkish Journal of Pediatrics, 62*, 906–920. https://doi.org/10.24953/turkjped.2020.06.002

Teicher, M. H., Samson, J. A., Anderson, C. M., & Ohashi, K. (2016). The effects of childhood maltreatment on brain structure, function, and connectivity. *Nature Reviews Neuroscience, 17*, 652–666. https://doi.org/10.1038/nrn.2016.111

Thakur, N., Hessler, D., Koita, K., Ye, M., Benson, M., Gilgoff, R., Bucci, M., Long, D., & Burke-Harris, N. (2020). Pediatric adverse childhood experiences and related life events screener (PEARLS) and health in a safety-net practice. *Child Abuse & Neglect, 108*, 1–13. https://doi.org/10.1016/j.chiabu.2020.104685

Waters, S. F., Hulette, A., Davis, M., Bernstein, R., & Lieberman, A. (2018). Evidence for attachment vitamins: A trauma-informed universal prevention programme for parents of young children. *Early Child Development and Care*, 1, 1109–6. https://doi.org/10.1080/03004430.2018.1516650

Weinreb, L., Savageau, J. A., Candib, L. M., Reed, G. W., Fletcher, K. E., & Hargraves, J. L. (2010). Screening for childhood trauma in adult primary care patients: A cross-sectional survey. *Primary Care Companion to the Journal of Clinical Psychiatry, 12*. https://doi.org/10.4088/2FPCC.10m00950blu

Zero to Three. (2021). *Healthy steps: Evidence summary*. Retrieved on March 10, 2022 from: https://file:///C:/Users/ac3291/Downloads/HealthySteps_Evidence_Summary_2022_FINAL.pdf

7

Transforming the Promise of Pediatric Care: Rationale, Barriers, and Current Practices in Adverse Childhood Experience (ACEs) Screening

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The importance of adverse childhood experiences (ACEs) and their impact on health and flourishing has been well established thus far. In this chapter, the benefits of early screening in pediatric primary care will be discussed, along with addressing the how and why of screening, barriers to implementing screening, and how to overcome them. ACEs do not discriminate, and they are common and known to be more detrimental with increased dose (Felitti et al., 1998). As understanding about ACEs has grown, the desire to prevent and address their potential consequences has increased across sectors. This prevention effort includes the reduction of toxic stress, a threatening form of stress that is the result of persistent or prolonged activation of the body's stress response without a protective, adult relationship (Shonkoff et al., 2012). Programmatic and policy discussions have occurred among states and communities who are eager to support effective prevention, detection, and intervention strategies (DelFavero et al., 2021).

Why Universally Screen in the First Place?

Society must first identify problems before families and professionals can adequately address them. Universal screening is therefore the first step to identifying concerns for patients and their families. Universal screening, rather than selective screening, can also reduce the stigma associated with many of the issues most salient to pediatric primary care providers: social determinants of health (SDOH), developmental concerns (delays that require early intervention [EI], indications of autism spectrum disorder [ASD], and social-emotional/behavioral progress), maternal depression and other perinatal mood and anxiety disorders (PMADs), and ACEs. Without universal screening, practitioners and providers choose whether, when, and/or whom they screen, which may lead to biased decision-making processes and inequitable practices. Universal screening aims to identify concerns early and reduce the potential for bias, thereby contributing to the improvement of health equity among diverse populations.

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When all families are screened regularly, there is increased opportunity for clinicians to assess needs (Gilgoff et al., 2020). Once providers have this information, they can support parents and caregivers in providing or strengthening protective factors, such as responsive caregiving for their children, which can in turn buffer toxic stress (Gilgoff et al., 2020). This may be especially true for caregivers who experienced high exposure to adversity in their own childhoods. Research on parents and stress indicates that both elevated levels of parenting stress and negative feelings about parenting are a primary risk factor for child abuse and neglect (Crouch et al., 2019). Universal screening can help identify any concerns earlier and mitigate them more quickly, which may allow for better long-term outcomes and the most appropriate allocation of resources.

The earlier intervention occurs, the more impactful, making the pediatric setting ideal for universal screening. Almost all families bring their children to a primary care provider from the first week of life—in 2019 nearly 90% of young children ages 0–5 years received at least one well-child visit (Data Resource Center, 2019)—and the front-loaded well-child visit schedule allows for seven visits within the first year of a child's life. HealthySteps, a population health based, integrative care model that is tiered and risk-stratified, currently reaches over 350,000 children in over 215 sites in 25 states with a specific focus on prevention related to intergenerational trauma.

HealthySteps is a program of ZERO TO THREE—a national organization dedicated to ensuring that all babies and toddlers get a strong start in life—and brings focus to the important array of skills, knowledge, and connections needed for families to foster healthy child development and lifelong well-being. HealthySteps maximizes the focus on early intervention with its child development specialist (HealthySteps Specialist) integrated into the practice. Integration of the HealthySteps Specialist is ensured when they are considered an integral member of the pediatric care team, along with the primary care provider and medical staff. The HealthySteps Specialist works side by side with the provider during well-child visits by meeting with and supporting families. This team approach illustrates the cooperation and collaboration inherent to the model. A tiered, risk-stratified model also ensures early screening of all families and delivers support to those who may benefit most. By identifying and addressing potential issues within the first years of life, HealthySteps can prevent them from becoming bigger concerns that would be more difficult and costlier to fix later in childhood or adulthood (Guyer et al., 2003).

The evidence-based HealthySteps model is organized into three Tiers of Service and eight Core Components designed to provide universal screening, positive parenting guidance, care coordination, early learning resources, and more (Valado et al., 2019). An emphasis on building healthy relationships—between caregivers and children, between families and healthcare providers, and among healthcare professionals—is one of the model's guiding principles. HealthySteps works to build on and enhance the trust caregivers already have in pediatric primary care providers.

Universal screening for both caregiver and child ACEs, SDOH, and other concerns can assist providers in navigating the wide-ranging needs of their patient populations. While HealthySteps strongly recommends ACEs screening, it is not a requirement due to a recommendation that screening for ACEs must only be implemented within a trauma-informed context, and not every site has completed that training. However, many sites have recognized the importance and value of screening for ACEs within a trauma-informed environment. For example, in New York state, the largest HealthySteps footprint with over 50 sites, where more than half of them screen for ACEs.

Universal screening provided through HealthySteps' Tier 1 (focused on child development, autism, social-emotional development, caregiver depression, and SDOH) helps practices identify the children/families who may benefit from more intensive supports, an approach sometimes referred to as "targeted universalism" (Powell et al., 2019). These children and families are then provided Tier 2 services (if their needs are minor and can likely be addressed in one to three visits with the HealthySteps Specialist) or Tier 3 services (if their needs are substantial and thus merit ongoing co-managed care by the pediatric primary care provider and HealthySteps Specialist during team-based well-child visits). This approach allows practices with a single HealthySteps Specialist to serve up to 2000 children and their caregivers annually (Valado et al., 2019). In sum, universal screening is a critical component of population-based care, to help determine which patients may benefit from extra attention, and often relies on follow-up provided by team-based care such as HealthySteps, to ensure that screening is the beginning of a conversation, rather than an end goal in and of itself.

The Importance of Universal Screening for ACEs Using a Two-Generation Lens

The potential impact of ACEs on parenting is significant and increases the risk of intergenerational transmission of adversity and mental and physical health problems (Lê-Scherban et al., 2018; Oh et al., 2018). On the other hand, universal screening for ACEs, with a focus on prevention, can help to interrupt this intergenerational cycle, especially when children are screened prospectively, in addition to their caregivers being screened retrospectively. Using a two-generation approach ensures a concrete way to address prevention, especially when a caregiver's ACE score is high (Lê-Scherban et al., 2018), and they may not see the connection from one generation's trauma to the next.

ACEs do not necessarily equal toxic stress, though if you imagine a Venn diagram, they would obviously overlap and unmitigated ACEs could potentially become toxic stress. With exposure to toxic stress and unbuffered ACEs, neural functioning and allostasis—the process by which the body responds to stressors to return to homeostasis (Danese & McEwen, 2012; Lê-Scherban et al., 2018)—are impaired, impacting child functioning and caregivers' abilities to implement positive parenting approaches and foster secure caregiver–child attachment. Allostatic overload, where excessive stress activation occurs in the absence of buffering caregiving supports, can contribute to significant changes in brain and body functioning, especially in early childhood, a disproportionately receptive and "plastic" time for development (McEwen & McEwen, 2017). Uninterrupted, this cycle continues, and trauma is passed on intergenerationally (Murphy et al., 2016) as ACEs *without* buffers may impact a caregiver's and child's ability to regulate emotions and mitigate stress. The well-known "still face" experiment—in which mothers are instructed to abandon their typical ways of interacting and keep an expressionless face and not engage with their babies for 2 min—illustrates the impact that caregiver disconnection, conveyed through facial expression, can have on a baby (UMass Boston, 2009). However, safe, stable, and nurturing relationships (SSNRs) can help provide a buffer to adversity (Garner et al., 2021), reinforcing the importance of early screening and intervention.

The field is still working to capture the range of benefits of relational health, but research illustrates the impact of co-regulation on child brain development. There is biobehavioral synchronicity of infant and caregiver brain development, which demonstrates how an infant's brain is changed by relational experiences and caregiver's brains are influenced by their engagement with their baby (Garner et al., 2021; Feldman, 2015). These early relational experiences impact self-regulation and child development, especially regarding social-emotional skills (Garner et al., 2021; Feldman, 2015).

A two-generation approach to addressing caregiver and child needs simultaneously is paramount for better outcomes for children. Adults must self-regulate for adult–child co-regulation to occur, as adult mental health impacts Infant and Early Childhood Mental Health (IECMH) and brain development (Garner et al., 2021). Caregiver education is another ameliorating factor for toxic stress and poor health outcomes (Murphy et al., 2016). Caregivers cannot address something they do not know is a problem, i.e., the cumulative effects of multiple ACEs and their increased impact on caregiver–child attachment.

Recent research showed that once informed, many caregivers want to break the cycle of adversity by sparing their children the painful memories they have of their own childhoods (Conn et al., 2017). Some caregivers perceive their own ACEs as motivation to break the cycle—seeing their early experiences as how *not* to parent and as an impetus to learn new skills and parenting practices, so their children can have a better life—even if this task is a challenging endeavor (Conn et al., 2017).

Caregivers who struggle to create a cohesive narrative of their own trauma histories are at higher risk for carrying unresolved issues and adversity into their relationships with their children, potentially resulting in disorganized attachment, the most concerning attachment style (Murphy et al., 2016). Murphy and colleagues found that mothers endorsing four or more ACEs had much higher rates of trauma and loss on the Adult Attachment Interview (AAI) (Murphy et al., 2014). This research underscores the need to address the relationship between high caregiver ACEs and parenting style (Murphy et al., 2014) and to bring the two-generation conversation to pediatric primary care settings (Dube et al., 2003).

With ACEs screening for both caregiver and child, attachment concerns may be identified earlier and referrals for evidence-based treatments such as Child–Parent Psychotherapy (CPP) can be initiated sooner, yielding better results (Murphy et al., 2014). Caregiver ACEs may also impact child physical health, due to poor diet, food insecurity, and lack of physical activity, again, areas that often show significant health equity concerns, which can be addressed only once they are identified (Lê-Scherban et al., 2018).

In addition to caregivers potentially buffering the effects of ACEs on children, preventing them from becoming toxic stressors, pediatric providers continue to play an important role in mitigating the concerns noted above even after screening and referrals are complete. When providers "regulate, relate, and reason," they engage in a parallel process, providing a template for caregivers to do the same with their growing children (CSSP, 2022). Providers may also serve as liaisons to the broader community (e.g., early childhood educators, early intervention providers, social workers), who also play a buffering role (Garner et al., 2021).

Overcoming Barriers to Universal ACEs Screening in Pediatrics

Beyond the potential of far-reaching intergenerational benefits, research has demonstrated several challenges and barriers when considering ACEs screening in pediatric primary care (Kerker et al., 2016; Popp et al., 2020). Fundamentally, there is a different comfort level for providers when screening for current symptoms, a hallmark of good history taking in health care, versus historical screening for past events.

Providers can be hesitant or even resistant to historical screenings such as ACEs, typically for a range of reasons. One reason is lack of training and awareness of ACEs (Kerker et al., 2016; Popp et al., 2020). Kerker et al. (2016) discovered that only 2% of providers were very familiar versus 76% who were not at all familiar with ACEs. More recently, Clark and Jones (2022) reported 36% of providers were not aware of ACEs and 37% did not have enough education on ACEs to screen, suggesting some improvement in the field. Another major barrier is knowing which screening tool to use and feeling adequately trained in that tool (Clark & Jones, 2022). Even if they are familiar, providers may not feel comfortable due to lack of clarity regarding how to administer (paper, electronically, de-identified or not, total score only or answers to each question) and who should complete the form (caregiver, adolescent child, or caregiver and child).

In addition to logistical concerns, there continue to be healthy debates about screening for ACEs, which could impact provider perspectives. Some professionals note that the ACEs screening tool was developed for population-based information and should not be used as a diagnostic tool for individual screening (NJ ACES Collaborative, 2021). However, the American Academy of Pediatrics (AAP) policy statements

(2012, 2021) have encouraged screening for ACEs to detect and connect high-risk children to support systems as early as possible (Garner et al., 2021; Garner et al., 2012). Both sides of the debate agree that if screening does occur, it needs to be conducted in a trauma-informed manner with support and appropriate referrals for the individual and family being screened, and with a deep focus on an equitable, anti-bias approach ensuring universal screening and recognition of the intersectional impact of poverty and racism on health and trauma experiences.

Adding to provider resistance regarding ACEs, screening is the potential lack of comfort and knowledge about how to engage in conversations about trauma, and how to support families after the disclosure of adversities, whether from the caregiver, the child, or both. Regarding caregiver comfort with ACEs screening, Conn et al. (2017) indicated increased comfort when providers followed suggestions from caregivers to "make it feel easy" through a person-centered approach that included explaining the purpose of the questions and what the answers would be used for. Caregivers were generally open to answering questions about ACEs, especially when they were also given the option to decline answering, and most caregivers perceived ACEs screening as a tool that could lead to realizing family needs and referral to important services (Conn et al., 2017).

Increased provider understanding of caregiver preferences around how to administer the ACEs screening in a trauma-informed manner may lead to improved commitments to do so. Kerker et al. (2016) and Popp et al. (2020) studies illustrated that providers are comfortable if they have adequate knowledge about ACEs. However, Gillespie (2019) indicates that providers struggle with confidence and the skills needed to engage in these conversations. One area on which they do agree is that more research is needed as providers learn about ACEs and screening in this area (Gillespie, 2019; Kerker et al., 2016; Popp et al., 2020).

With additional research, undisclosed barriers could be discovered, such as providers struggling with their own unresolved trauma or cultural biases that may impact these delicate conversations. Once screening has occurred and adversities are disclosed, some providers believe they are not responsible for the after care of providing support, information, and/or referrals (Popp et al., 2020). However, other providers do not screen precisely because they *do* feel responsible for connecting patients to evidenced-based interventions and finding quality referrals for support (Finkelhor, 2017), and worry that the current infrastructure does not support this. The AAP has encouraged providers to engage in an active role of advocacy, education, and screening for ACEs as they have long-term consequences throughout an individual's life, physically and mentally (Garner et al., 2012).

Furthermore, the question and concern about mandated reporting continues to linger as a potential barrier. Because pediatric primary care providers are trained to recognize when abuse and neglect has occurred and are required to report it (Popp et al., 2020), ACEs screening brings the potential for real workflow challenges. If screening occurs on paper, or outside of a conversation, providers may be concerned that a mandated reporting requirement will be missed. More training and education are needed for providers to address ACEs screening as mandated reporters.

Despite all these potential and reported barriers to ACEs screening, the perceived and observed benefits have prompted many national and local entities to work to define best practices in ACEs screening and associated interventions. The next section of this chapter highlights some of those efforts.

What Is Happening in Practice?

American Academy of Pediatrics (AAP) Guidance

In 2012, the American Academy of Pediatrics policy statement examined the impact of toxic stress on children and the need for pediatric primary care providers to address this public health issue (Garner et al., 2012). This was an initial step to increase awareness and better inform the workforce about toxic stress and the relation to

ACEs. In expanding the policy statement more recently, the message has gone beyond discovering and acknowledging the problem and focuses on a solution-focused emphasis that includes safe, stable, and nurturing relationships (SSNRs) as a goal for all children with their caregivers (Garner et al., 2021).

SSNRs, often referred to as relational health, aid in protection from traumas, for example helping to keep ACEs from manifesting as toxic stress (Garner et al., 2021). Unfortunately, relational health is not a current practice in training, research, and advocacy, and there needs to be a public health shift, so this is understood and integrated more broadly into practice (Garner et al., 2021). Integration of relational health needs to be achieved both vertically and horizontally. When integrated vertically, the first focus is on universal preventions such as screening to prevent and detect adversities. This will lead to targeting interventions for discrete issues and those most at risk, and finally, implementing and referring to evidence-based treatments for those with the highest risk. Horizontal integration "cuts across traditional silos and funding streams" (Garner et al., 2021, p. 16) and encourages the workforce to advocate for policy changes at the federal, state, and local levels (Garner et al., 2021). One of the fundamental issues is the lack of funding support for evidence-based programs (e.g., HealthySteps) that address vertical integration by supporting families at the tiered levels. The lack of funding prevents detection, support, and referrals from becoming the standard of care.

Awareness in Tennessee

Alongside the national focus, Memphis and Shelby counties in Tennessee have replicated the ACEs study and discovered that 52% of the population had at least one ACE and 73% had experienced three or more ACEs (FrameWorks, 2020; Tennessee Dept. of Health, 2015). In 2015, the Memphis-based ACE Awareness Center (now the ACE Awareness Foundation) held a summit and announced their survey results (Rolando et al., 2020). With government, community, business, and philanthropic leaders in attendance, many ACEs champions were created in state leadership (Rolando et al., 2020). At the conclusion of the summit, there was a rallying call to create a culture shift and make an impact statewide (FrameWorks, 2020; Rolando et al., 2020).

Building Strong Brains Tennessee (BSBTN) was established with state funding and comprised of public and private sector steering group members (Rolando et al., 2020). The public members included child-serving state department representatives from the Tennessee Departments of Health, Education, Children's Services, and Human Services. The private members consisted of more than 25 representatives from various community associations, advocates, organizations, foundations, and providers (Rolando et al., 2020). For Tennesseans to listen, learn, and act about ACEs, BSBTN knew that the message needed a "powerful mix of science and storytelling" (FrameWorks, 2020, p. 4) and invited FrameWorks Institute to aid in the communication statewide. The messaging had to be clear, but also illustrate this is a public, policy-level problem and not a private, individual/family-level issue (FrameWorks, 2020).

The next question for BSBTN and FrameWorks was how to disseminate education and awareness. A "train the trainer" model was created for sustainability purposes (FrameWorks, 2020). With a series of symposia, 150 statewide leaders were trained on children's development and ACEs, which included brain architecture metaphors (comparing early childhood brain development to the foundation, room building, and electrical wiring of a sturdy home) to decrease stigma and aid in understanding and remembering, as well as empirically substantiated principles (FrameWorks, 2020; Rolando et al., 2020, 2021). As of November 2020, over 1100 practitioners have been trained by BSBTN, who have then trained over 60,000 individuals across the state, covering all 95 counties ("Building Strong Brains," 2020).

The ability to create and continue statewide impact on Tennessee is largely due to generous funding. Then Governor Bill Haslam budgeted $1.25 million for ACE-related activities in 2016, and at the end of his tenure in 2019, it was increased to $2.45 million with a recurring budget line to ensure the work could continue (FrameWorks, 2020).

Policy and systematic changes have been achieved within various child-serving state departments. For example, the Department of Children's Services integrated BSBTN principles in training for foster parents. The Department of Criminal Justice Programs sponsored awareness campaigns and implemented a statewide partnership with schools, corrections, and the community. The Department of Health included ACEs in the County Health Assessment, created an ACEs charter, and continues to focus attention on ACEs (Rolando et al., 2021). The BSBTN team reports impact far beyond their initial plans, largely due to the cross systems training and collaboration, leading to hope for a brighter future for Tennesseans (J. Drake-Croft & R. Kenned, personal communication, February 2, 2022).

Innovation in California

ACEs Aware is an initiative that started as an educational and advocacy campaign among local organizations in California, such as the Center for Youth Wellness, Children Now, and the California Campaign to Counter Childhood Adversity (4CA) (DelFavero et al., 2021). In early 2019, Governor Gavin Newsom issued an Executive Order that established the role of the California Surgeon General and advised the Office of the Surgeon General (CA-OSG) to address the "root causes and upstream factors that can lead to serious health conditions, including ACEs and toxic stress" (DelFavero et al., 2021, p. 2). Pediatric physician and researcher Dr. Nadine Burke Harris was appointed the first Surgeon General of California. The CA-OSG then convened the ACEs Reduction Leadership Team, which brought together several California agencies to set a goal to "cut ACEs and toxic stress in half in one generation" (DelFavero et al., 2021, p. 2). Their collaborative approach to address ACEs and childhood toxic stress became known as ACEs Aware (DelFavero et al., 2021).

ACEs Aware is comprised of four key areas. The first focus area is universal screening for early indication of ACEs and toxic stress (DelFavero et al., 2021). Next is to disrupt the transmission of ACEs and toxic stress from caregiver to child by focusing screening on both generations, prenatally and postnatally (DelFavero et al., 2021). The third area is focused on referrals and treatment options and ensuring straightforward navigation for families and providers (DelFavero et al., 2021). Lastly, it is important to have advancement in research and the science of toxic stress, determining possible therapeutic targets, and utilizing evidenced based interventions (DelFavero et al., 2021). To accomplish these focus areas, a plan was implemented to train providers and reimburse them for screening adults and children who are enrolled in California's Medicaid insurance plan, Medi-Cal. The training is a 2-h virtual course to aid providers in identifying and addressing ACEs and toxic stress through a trauma-informed lens (DelFavero et al., 2021). The course educates providers on toxic stress, which screening tools to use (ACEs Questionnaire for adults and Pediatric ACEs Screening and Related Life-events Screener [PEARLS] for children), how to complete the screening, how to respond clinically after screening, and how to obtain reimbursement for screening (DelFavero et al., 2021).

PEARLS is a 17-item screener and, in addition to the original ten ACEs questions, it asks about "Related Life Events" including exposure to discrimination, community violence, physical illness/disability of a caregiver, death of a caregiver, and forced separation from caregiver (Thakur et al., 2020). PEARLS keeps the integrity of the original ACE screening with its three domains by scoring them separately from these additional questions. The benefit of adding a fourth domain, Related Life Events, is to provide information on additional adversities linked to poverty, poor health, and toxic stress (DelFavero et al., 2021; Koita et al., 2018; Thakur et al., 2020). Research has demonstrated that these Related Life Events are correlated to exposure to ACEs and that PEARLS is effective in detecting children who are most at risk (Thakur et al.,

2020) as it is recommended to identify ACEs as early as possible to ensure prevention and intervention (Goldenson et al., 2021). When adolescents are screened, it is recommended that the adolescent and caregiver each complete the screener independently and use the higher scored screener for billing purposes (ACEs Aware, 2021).

Medi-Cal has committed to multiple payment innovations supporting ACEs screening and related interventions. ACEs screening is reimbursed depending on the tool used, review and interpretation of the results, a summary of the discussion with the family, and any referrals or action steps indicated afterwards (ACEs Aware, 2021). Beyond screening, California is also committed to paying for dyadic therapy (based on the HealthySteps model) (California Health, 2021), including reimbursement for individual and family psychotherapy for patients under the age of 21 who do not have, or are only suspected of having, a mental health diagnosis (Medi-Cal, 2021). To qualify for reimbursement if the patient does not have a diagnosis, the patient must have a history of (or have a caregiver with) specific risk factors, including but not limited to ACEs, to indicate medical necessity for therapy (Medi-Cal, 2021). With these new mechanisms in place to help educate providers and reimburse for screening and preventive therapeutic interventions, California is on track to meet the goal of reducing ACEs by 50% within a generation.

The Health's Early Roots & Origins (HERO) Study

In 2018, the Harvard Center on the Developing Child and JPB Research Network on Toxic Stress launched the HERO investigation, a multisite, feasibility trial to prevent disease and impairment due to toxic stress. The goal of the HERO Study is to make interventions more strategic, measure short-term impacts of interventions on health, learning, behavior, and social-emotional development, as well as target preventive services before obvious problems emerge ("HealthySteps Participates," 2020). This goal will be met by developing a fully validated battery of biological, behavioral, and social context measures that will make it possible to identify individual child stress effects and resilience, family assets and stressors, and key behavioral indicators in children as young as 4 months of age ("HealthySteps Participates," 2020).

The benefit of this kind of individualized "precision medicine" is that with more information about how individuals respond to stress comes a better ability to prevent their disruptive effects. Multiple HealthySteps sites are participating in the collection of HERO bio samples to validate the biomarker panel that will be used to identify evidence of toxic stress and its impacts on the development of young children. These biomarkers (collected from saliva, cheek swab, hair) and other tests include behavioral and social context measures to identify individual impacts of stress. Eventually, the HERO study will go on to address differential effects of interventions such as HealthySteps, based on individual toxic stress susceptibility of children.

A high ACE score, despite being profoundly linked to later health and wellness at a population level, is a historical count, not a symptom score, and one person with seven ACEs may look completely different from another with the same number due to important individual differences in susceptibility to stress. There are those that have "survived" and even thrived despite childhood adversity. On the other hand, some families will be missed because there are children growing up in families without high ACEs scores, without parental mental health concerns, but who are exquisitely sensitive and need the environment to be more predictable and the caregiving more attuned. Dr. W. Thomas Boyce compares these children to an orchid, in need of specific types of caregiving, they may do poorly in homes where there is notable chaos and adversity (Boyce, 2019). However, "dandelion" children tend to thrive regardless of the environment or caregiving style (Boyce, 2019). Understanding individual responses to stress is an important first step toward ensuring that all children may thrive.

Conclusion

Universal screening for ACEs within pediatric primary care has the potential to prevent toxic stress and interrupt intergenerational cycles of trauma. While there are challenges to implementing universal ACEs screening and debates in the field as to the best approach, the potential benefits are significant. With further education and screening being piloted in many locations using a two-generation approach, the how and why of implementation will become clearer and can create a culture shift within pediatrics toward increased prevention and the promotion of relational health. As noted, pediatrics is the only near-universally accessed infant and toddler-serving system in the United States and, as such, is an ideal venue to reach most children and their caregivers as early as possible before the challenges they face lead to more intractable issues later in life. We may be able to prevent what we can predict, and therefore universal screening for any caregiver concerns known to put children at increased risk for poor outcomes should be a standard of pediatric care. We must highlight the importance of prevention, the need to interrupt intergenerational transmission of trauma, and provide team-based and trauma-informed solutions in pediatric primary care. ACEs and toxic stress present significant challenges to safe, stable, and nurturing relationships, and therefore, universal screening within a trauma-informed environment should be strongly considered as an element of the gold standard comprehensive care that all families deserve.

References

ACEs Aware. (2021, July 20). *ACEs aware screening, training, and certification progress: July 2021 Update*. https://www.acesaware.org/wp-content/uploads/2021/07/July-ACEs-Aware-Data-Report.pdf

Boyce, W. T. (2019). *The orchid and the dandelion: Why some children struggle and how all can thrive*. Knopf.

Building Strong Brains Tennessee Lays Foundation for Statewide Culture Change. (2020, November 10). Health Federation of Philadelphia—MARC. Retrieved from: https://marc.healthfederation.org/tools/article/building-strong-brains-tennessee-lays-foundation-statewide-culture-change

California Health and Human Services Agency. (2021–22, May Revised). *Children and youth behavioral health initiative*. https://cdn-west-prod-chhs-01.dsh.ca.gov/chhs/uploads/2021/05/CHHS-Children-and-Youth-Behavioral-Health-Initiative-May-Revision-2021-22-Detailed-Proposal-FINAL.pdf

Clark, A. M., & Jones, H. M. (2022). Barriers to screening for adverse childhood experiences. *The Journal of Nurse Practitioners, 18*(2), 190–194. https://doi.org/10.1016/j.nurpra.2021.11.004

Conn, A., Szilagyi, M. A., Jee, S. H., Manly, J. T., Briggs, R., & Szilagyi, P. G. (2017). Parental perspectives of screening for adverse childhood experiences in pediatric primary care. *Families, Systems & Health, 36*(1), 62–72. https://doi.apa.org/doi/10.1037/fsh0000311

Crouch, E., Radcliff, E., Brown, M., & Hung, P. (2019). Exploring the association between parenting stress and a child's exposure to adverse childhood experiences (ACEs). *Children and Youth Services Review, 102*, 186–192. https://doi.org/10.1016/j.childyouth.2019.05.019

Danese, A., & McEwen, B. S. (2012). Adverse childhood experiences, allostasis, allostatic load, and age-related disease. *Physiology & Behavior, 106*(1), 29–39. https://doi.org/10.1016/j.physbeh.2011.08.019

Data Resource Center for Child and Adolescent Health supported by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2019). *National Survey of Children's Health (NSCH) data query*. https://www.childhealthdata.org/browse/survey/results?q=8210&r=1&g=786

DelFavero, M., Chhean, E., Tewarson, H., Haldar, S., & Hockenberry, S. (2021, October). *A case study of California's ACEs aware program: Screen. Treat. Heal*. Duke-Margolis Center for Health Policy, National Academy for State Health Policy, National Governors Association Center for Best Practices. https://www.nga.org/wp-content/uploads/2021/10/NGA_CA-ACEs_CaseStudy_10.21.pdf

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

Feldman, R. (2015). The adaptive human parental brain: Implications for children's social development. *Trends in Neuroscience, 38*(6), 387–399. https://doi.org/10.1016/j.tins.2015.04.004

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine, 14*(4), 245–528. https://doi.org/10.1016/S0749-3797(98)00017-8

Finkelhor, D. (2017). Screening for adverse childhood experiences (ACEs): Caution and suggestions. *Child Abuse & Neglect, 85*, 174–179. https://doi.org/10.1016/j.chiabu.2017.07.016

FrameWorks Institute. (2020). *Building strong brains in Tennessee (a FrameWorks impact brief)*. FrameWorks Institute. https://www.frameworksinstitute.org/wp-content/uploads/2020/12/Tennessee-ECD-Impact-brief.pdf

Garner, A. S., Shonkoff, J. P., Siegel, B. S., Dobbins, M. I., Earls, M. F., McGuinn, L., Pascoe, J., Wood, D. L., & American Academy of Pediatrics (AAP) Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Care, and Section on Developmental and Behavioral Pediatrics. (2012). Early childhood adversity, toxic stress, and the role of the pediatrician: Translating developmental science into lifelong health. *Pediatrics, 129*(1), e224–e231. https://doi.org/10.1542/peds.2011-2662

Garner, A., Yogman, M., & American Academy of Pediatrics (AAP) Committee on Psychosocial Aspects of Child and Family Health, Section on Developmental and Behavioral Pediatrics, Council on Early Childhood. (2021). Preventing childhood toxic stress: Partnering with families and communities to promote relational health. *Pediatrics, 148*(2), e2021052582. https://doi.org/10.1542/peds.2021-052582

Gilgoff, R., Singh, L., Koita, K., Gentile, B., & Marques, S. S. (2020). Adverse childhood experiences, outcomes, and interventions. *Pediatric Clinics of North America, 67*, 259–273. https://doi.org/10.1016/j.pcl.2019.12.001

Gillespie, R. (2019). Screening for adverse childhood experiences in pediatric primary care: Pitfalls and possibilities. *Pediatric Annals, 48*(7), e257–e261. https://doi.org/10.3928/19382359-20190610-02

Goldenson, J., Kitollari, I., & Lehman, F. (2021). The relationship between ACEs, trauma-related psychopathology, and resilience in vulnerable youth: Implications for screening and treatment. *Journal of Child & Adolescent Trauma, 14*, 151–160. https://doi.org/10.1007/s40653-020-00308-y

Guyer, B., Barth, M., Bishai, D., Caughy, M., Clark, B., Burkom, D., Genevro, J., Grason, H., Hou, W., Keng-Yen, H., Hughart, N., Snow Jones, A., McLearn, K. T., Miller, T., Minkovitz, C., Scharfstein, D., Stacy, H., Strobino, D., Szanton, E., & Tang, C. (2003). *Healthy Steps: The first three years: The Healthy Steps for Young Children Program National Evaluation*. https://ztt-healthysteps.s3.amazonaws.com/documents/139/attachments/2003_HS_National_Evaluation_Report.pdf?1539967

HealthySteps Participates in Groundbreaking Research: The HERO Study. (2020, May). Retrieved from: https://www.healthysteps.org/news/healthysteps-participates-in-groundbreaking-research-the-hero-study/

Kerker, B. D., Storfer-Isser, A., Szilagyi, M., Stein, R. E. K., Graner, A., O'Conner, K. G., Hoagwood, K. E., & Horwitz, S. M. (2016). Do pediatricians ask about adverse childhood experiences in pediatric primary care? *Academics Pediatrics, 16*(2), 154–160. https://doi.org/10.1016/j.acap.2015.08.002

Koita, K., Long, D., Hessler, D., Benson, M., Daley, K., Bucci, M., Thakur, N., & Burke Harris, N. (2018). Development and implementation of a pediatric adverse childhood experiences (ACEs) and other determinants of health questionnaire in the pediatric medical home: A pilot study. *PLoS One, 13*(12), e0208088. https://doi.org/10.1371/journal.pone.0208088

Lê-Scherban, F., Wang, X., Boyle-Steed, K. L., & Pachter, L. M. (2018). Intergenerational associations of parent adverse childhood experiences and child health outcomes. *Pediatrics, 141*(6), e20174274. https://doi.org/10.1542/peds.2017-4274

McEwen, C. A., & McEwen, B. S. (2017). Social structure, adversity, toxic stress, and intergenerational poverty: An early childhood model. *Annual Review of Sociology, 43*, 445–472. https://doi.org/10.1146/annurev-soc-060116-053252

Medi-Cal. (2021). *Non-specialty mental health services: Psychiatric and psychological services*. Retrieved February 15, 2022, from http://files.medi-cal.ca.gov/pubsdoco/publications/masters-mtp/part2/nonspecmental.pdf

Murphy, A., Steele, M., Dube, S. R., Bate, J., Bonuck, K., Meissner, P., Goldman, H., & Steele, H. (2014). Adverse childhood experiences (ACEs) questionnaire and adult attachment interview (AAI): Implications for parent child relationships. *Child Abuse & Neglect, 38*(2), 224–233. https://doi.org/10.1016/j.chiabu.2013.09.004

Murphy, A., Steele, H., Steele, M., Allman, B., Castner, T., & Dube, S. R. (2016). The clinical adverse childhood experiences (ACEs) questionnaire: Implications for trauma-informed behavioral healthcare. In R. D. Briggs (Ed.), *Integrated early childhood behavioral health in primary care: A guide to implementation and evaluation* (pp. 7–16). Springer International Publishing. https://doi.org/10.1007/978-3-319-31815-8_2

NJ ACES Collaborative. (2021). *Position statement: Social equity in New Jersey demands appropriate use of the ACE study*. https://www.nj.gov/dcf/documents/NJ.ACE.Collaborative.ACES.Screening.Position.Paper.10-14-21.pdf

Oh, D. L., Jerman, P., Marques, S. S., Koita, K., Purewal Boparai, S. K., Burke Harris, N., & Bucci, M. (2018). Systematic review of pediatric health outcomes associated with childhood adversity. *BMC Pediatrics, 18*, 83. https://doi.org/10.1186/s12887-018-1037-7

Popp, T. K., Geishardt, C., & Bumpus, E. A. (2020). Pediatric practitioners' screening for adverse childhood experiences: Current practices and future directions. *Social Work in Public Health, 35*(1–2), 1–10. https://doi.org/10.1080/19371918.2020.1711839

Powell, J. A., Menendian, S., & Ake, W. (2019, May). *Targeted universalism: Policy & practice*. Haas Institute for a Fair and Inclusive Society. Retrieved from: https://belonging.berkeley.edu/

sites/default/files/targeted_universalism_primer.pdf?file=1&force=1

Rolando, M., Drake-Croft, J., Dixon, W. E., Moser, M. R., Kennedy, R., Clements, A. D., & Quinn, M. (2020). *Building stronger brains Tennessee: ACEs and communication science transforming culture, policy, and practice* [Unpublished manuscript]. Tennessee Department of Children's Services; Tennessee Commission on Children and Youth; Department of Psychology, East Tennessee State University; Department of Psychiatry, East Tennessee State University; Department of Biostatistics and Epidemiology, East Tennessee State University; ETSU Ballad Health Strong BRAIN Institute.

Rolando, M., Block, L., Chhean, E., Haldar, S., & Tewarson, H. (2021, March). *A case study of building strong brains Tennessee: An initiative to address adverse childhood experiences and become a trauma-informed state*. National Governors Association Center for Best Practices and Duke-Margolis Center for Health Policy. https://www.nga.org/wp-content/uploads/2021/03/CaseStudyBuildingStrongBrainsTN.pdf

Shonkoff, J. P., Garner, A. S., & The Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Care, and Section on Development and Behavioral Pediatrics. (2012). The lifelong effects of early childhood adversity and toxic stress. *American Academy of Pediatrics, 129*(1), e232–e246. https://doi.org/10.1542/peds.2011-2663

Tennessee Department of Health. (2015). *Adverse childhood experiences in Tennessee: Fact not fate*. Department of Health, Tennessee State Government. https://www.tn.gov/content/dam/tn/health/documents/Tennessee_ACE_Final_Report_with_Authorization.pdf

Thakur, N., Hessler, D., Koita, K., Ye, M., Benson, M., Gilgoff, R., Bucci, M., Long, D., & Burke Harris, N. (2020). Pediatrics adverse childhood experiences and related life events screener (PEARLS) and health in a safety-net practice. *Child Abuse & Neglect, 108*(104685), 0145–2134. https://doi.org/10.1016/j.chiabu.2020.104685

The Center for the Study of Social Policy (CSSP). (2022, February 17). *The paradigm shift in pediatrics—From responding to toxic stress to promoting ERH* [Video]. YouTube. https://www.youtube.com/watch?v=u6mWTeFb1O

UMass Boston. (2009, November 30). *Still face experiment: Dr. Edward Tronick* [video]. YouTube. https://www.youtube.com/watch?v=apzXGEbZht0

Valado, T., Tracey, J., Goldfinger, J., & Briggs, R. (2019). HealthySteps: Transforming the promise of pediatric care. *The Future of Children, 29*(1), 101–124. https://files.eric.ed.gov/fulltext/EJ1220075.pdf

8

Adverse Childhood Experiences (ACEs): Translation into Action in PK-12 Education Settings

Stacy A. Gherardi, Sandra M. Chafouleas, and Jessica Koslouski

Introduction

The last two decades have been marked by the rapid proliferation and integration of research on the impact of adverse childhood experiences (ACEs) on children in schools. Stemming from the original work by Felitti et al. (1998), this wave of inquiry and interventions has been accompanied by a significant shift in the way prekindergarten through 12th grade (PK-12) education systems understand and respond to students who face academic, behavioral, or social challenges in school. In many ways, this shift represented the infusion of empirical data to support what many educators already knew instinctively: that experiences of adversity were significant influencers of children's school outcomes and that efforts to improve school outcomes should recognize and respond to these realities. This shift also represented opportunities to challenge assumptions about the relationship between these factors, raising questions about the role of schools themselves in creating or perpetuating adverse experiences, especially for young people in communities of color, low-income communities, or those with other marginalized identities.

Frameworks for responding to these needs at both the individual child and whole school level have resulted in schools and school systems that are increasingly understanding of and supportive of the nonacademic needs students bring to school. Despite these successes, challenges remain. Although ACEs and trauma are not synonymous, efforts to translate ACEs research into education have been largely characterized by the infusion of what are broadly referred to as *trauma-informed* approaches in PK-12 education. The frequent conflation of these terms has led to a lack of clarity about what trauma-informed approaches are and inconsistency in implementation (Berger & Martin, 2021; Maynard et al., 2019). Because ACEs research has largely occurred in medical and epidemiological spaces, the field is largely deficit focused. This has transferred into educational settings, with trauma-informed school approaches often ignoring the impact of social inequities or the role of schools in perpetuating those inequities (Shevrin Venet, 2021).

This chapter explores the translation of ACEs research into PK-12 education settings with a focus on the need to expand current approaches. We explore how ACEs research has been translated into frameworks for trauma-informed practices in education, offer evidence-based suggestions for effectively employing these practices, and propose opportunities for effectively integrating these approaches with cultur-

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ally responsive perspectives and other whole-school initiatives intended to support student well-being. This chapter concludes that meaningful translation of ACEs research into PK-12 education goes beyond understanding the impact of childhood adversity on student outcomes and functioning, requiring policy efforts that address the broader social context of trauma and trauma-informed approaches that are culturally relevant, equity-centered, and systemic.

Impact of Adverse Childhood Experiences Education

Research into the short- and long-term impacts of ACEs on childhood development, behavior, and learning, as well as academic and other life outcomes, provided new ways to understand and respond to the relationship between student adversity and school outcomes. While the initial ACE research primarily considered the relationship between adult health outcomes and childhood experiences, it naturally implied the direction of efforts toward the creation of a continuum of youth-focused intervention (Chafouleas et al., 2019). This work was marked by the creation of the National Child Traumatic Stress Network (NCTSN) in 2001 and subsequent efforts to align the policies and practices of child-serving systems with the emerging principles of trauma-informed care (Chafouleas et al., 2021). Naturally, PK-12 education has been one of the most critical systems involved in these efforts.

ACEs and School Performance

By definition, ACEs occur during childhood and adolescence, making their effects during this time particularly pertinent to educators. While trauma and ACEs are closely linked and often conflated, they are not synonymous. Importantly, trauma is a response, not an experience. As such, students may or may not experience trauma in response to ACE exposure. The likelihood of trauma is increased when an event interrupts feelings of safety, agency, dignity, and belonging (McGlynn-Wright & Briner, 2021). Trauma is also more likely to occur when ACEs are experienced in the absence of a supportive, adult relationship (Shonkoff et al., 2012). Additional personal, environmental, and contextual factors can also influence whether trauma is experienced (Chafouleas et al., 2019; Harvey, 1996).

When ACEs do result in trauma, there can be significant impacts on brain development, learning, and behavior in the classroom. Traumatic stress disrupts brain development, causing areas of the brain involved in stress responses to become taxed and sensitized and other areas to be underutilized and therefore, underdeveloped (Davis et al., 2015). Students' trauma responses may include internalizing symptoms such as withdrawal, anxiety, or depression as well as externalizing symptoms such as hyperactivity, aggression, or defiance (Perfect et al., 2016). Across studies, children with experiences of trauma have been shown to have challenges with attention, memory, language, and emotional and behavioral regulation, all of which have negative consequences for learning (Perfect et al., 2016). In addition, experiencing a greater number of ACEs is associated with poor school attendance, below-grade level achievement, retention, qualification for special education services, and high school dropout (Blodgett & Lanigan, 2018; Perfect et al., 2016; Porche et al., 2011, 2016).

Expanding ACEs

Since the original ACEs study (Felitti et al., 1998), several additional adversities in childhood have been documented as significant contributors to negative long-term outcomes. A growing body of research has focused on racism as a source of traumatic stress (American Psychological Association, 2017; Bryant-Davis, 2007; Carter, 2007) and has found that racism, discrimination, and harassment invoke reactions similar to those of other adverse events (Carter, 2007). Recent data indicates that Black youth endure five experiences of racial discrimination each day (English et al., 2020), and such experiences have been linked to negative psychological, physical, behavioral, and emotional effects in Black youth (Cave et al., 2020; Priest et al., 2013) and proposed as an additional ACE (Bernard et al., 2020).

Bullying and exposure to community violence have also been strongly correlated with youth-reported distress during adolescence (Finkelhor et al., 2013; Wade et al., 2014) and added to ACE inventories (Cronholm et al., 2015). Bullying increases risk for behavioral and mental health problems, poor school attendance, and reduced academic achievement (National Academies of Sciences, Engineering, and Medicine, 2019).

Schools themselves have a long history of causing or contributing to trauma experienced by children and families. For example, boarding schools intended to "civilize" Indigenous Americans were used as part of a cultural genocide (Luther Standing Bear, 1928) within the last century. Currently, exclusionary discipline practices (Skiba et al., 2014a, b), a lack of culturally relevant curriculum (Paris, 2012), inequitable school funding structures (Morgan & Amerikaner, 2018), and a lack of access to rigorous course offerings (U.S. Government Accountability Office, 2016) further contribute to students' experiences of adversity in schools.

These circumstances are disproportionately experienced by minoritized students. Schools serving predominantly low-income Black and Hispanic students are less likely to offer Advanced Placement classes and more likely to retain, suspend, and expel students (U.S. Government Accountability Office, 2016). Students who are Black, male, and/or who have a documented disability are disproportionately excluded from school (Skiba et al., 2014b). These patterns start when children are young, with preschool children more likely to be expelled than K-12 students (Gilliam & Shahar, 2006). The relationship between trauma and adverse school experiences is bidirectional, and student psychological distress has been documented as both a predictor and consequence of exclusionary school discipline (Ford et al., 2018).

Educator experiences of childhood adversity and Secondary Traumatic Stress (STS; Figley, 1995) represent an indirect impact of ACEs in education. One study of educators found that 73% had experienced at least one ACE, and teacher ACEs were correlated with lower quality social-emotional climate in the classroom (Hubel et al., 2020). In addition to the impact of teacher ACEs on classroom climate, hearing stories of students' traumatic experiences, whether acute or chronic, can lead to STS symptoms in educators (Hydon et al., 2015). STS symptoms can manifest across cognitive, physical, emotional, interpersonal, and/or professional domains of an educator's life, causing professional disengagement, declining work performance, difficulties in one's personal and family life, and can result in educators leaving the profession (Lawson et al., 2019).

School communities may also experience *collective trauma*, shared traumatic experiences that have effects on individual students and staff members as well as the organizational functioning of the school (Chafouleas et al., 2023). Collective traumas—such as death and violence, natural disasters and pandemics, or systemic failures, including chronic under-resourcing—may be experienced by a school community or by select members of the school community (such as through racial discrimination). These can overwhelm a community's capacity to cope (Hobfoll et al., 2007) and have been linked with negative psychological consequences (Somasundaram, 2014). In schools, collective trauma can contribute to prolonged consequences through disrupted routines, disrupted progress toward shared goals, a reduced sense of community and morale, and feelings of invalidated identities (Chafouleas et al., 2023). Because collective trauma is more common in disenfranchised communities, students, families, and communities already experiencing the toxic stress of unemployment, poverty, racism, violence, and discrimination are further saddled with disproportionate incidence and impacts of pandemics, natural and man-made disasters, poorly resourced schools (Fortuna et al., 2020), and subsequent educator turnover (Ronfeldt et al., 2013).

Trauma impacts students, educators, and schools in multiple intersecting ways. Student ACEs resulting in trauma negatively impact school performance. Educator ACEs can negatively impact the classroom climate. Student trauma can contribute to educator STS, which negatively impacts teacher performance and subsequently harms students. Collective traumas in and around school harm students, families, communities, and the organizational functioning of schools. These realities speak to the pervasive and substantial impact of trauma in education. As a result, understanding the impact of trauma and appropriate responses to support student and school well-being has become a critical focus of school reform in the last decade.

Translating ACEs Research into Educational Practice and Policy

ACEs research has provided a new lens through which researchers, educators, and policymakers understand and address the impact of children's lived experiences and their school and life outcomes. As research into the impact of childhood adversity has grown, the term *trauma* has been increasingly used as a shorthand description for the range of negative long-term outcomes that can be correlated to painful or stressful life experiences. This has included historical and cultural trauma, toxic stress accumulated through experiences of familial instability, chronic poverty, or identity-based discrimination, and acute traumatic experiences.

While the unspecific use of these overlapping and sometimes undefined terms causes difficulties, it is also true that the entanglement of these terms is a reality of the landscape in PK-12. This is especially true given the overlap between ACEs research and emerging frameworks for *trauma-informed care* (SAMHSA, 2014), which has resulted in a broader movement toward *trauma-informed education*. ACEs research has been a central focus of training and professional development for educators, which seeks to illuminate the significant impact that adversity in childhood can have on development and long-term outcomes. While efforts to address ACEs as a social or public health issue exist and exert a critical influence on education systems, schools themselves have focused on the implications of this knowledge for school-based resources, policies, and practices.

Translation of ACEs and trauma-related research in PK-12 education can be broadly categorized into two primary streams of responses that reflect the Substance Abuse and Mental Health Services Administration's (SAMHSA) distinction between *trauma-specific interventions* and *trauma-informed approaches* (2014). The first stream has largely focused on the impact of trauma at the individual level and the value of providing school-based treatment for children. Such *trauma-specific interventions* seek to identify and respond to trauma-specific needs in impacted students through school-based services. *Trauma-informed approaches*, on the other hand, tend to refer more broadly to the transfusion of principles of trauma-informed care across schools as organizations, resulting in schoolwide changes to policy and practice that enable schools to respond to the impact of student adversity more effectively. While we briefly highlight key literature documenting the value and impact of trauma-specific interventions in schools, this section focuses on the development of trauma-informed approaches in education, describing key features and limitations. We also describe new developments in these areas including the emergence of resilience-focused, culturally responsive approaches in schools that are oriented toward whole child, whole school, and whole community well-being.

Trauma-Specific Interventions

Surveys of the early literature suggest that much of the work integrating emergent knowledge about the impact of ACEs into schools was focused on identification and interventions for individual students or groups of students exhibiting trauma-related symptoms (Chafouleas et al., 2019, 2021; Thomas et al., 2019). This reality has been critiqued, as these efforts were often equated with trauma-informed education more broadly (Gherardi et al., 2020) and their focus on individual experiences of trauma often overlooked the social context of student experiences of adversity and systemic remedies to reduce and respond to these experiences. Despite this, a robust body of research describes and supports the value of trauma-specific interventions in schools.

Several studies have documented a significant positive impact for programs that adapt Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) for intervention in school settings (Fondren et al., 2020; Yohannan & Carlson, 2019). Two specific programs that have been widely implemented and evaluated include Cognitive Behavioral Intervention for Trauma in Schools (CBITS) and Bounce Back. CBITS integrates individual, group, and family intervention using TF-CBT in school settings for adolescents, whereas Bounce Back adapts a similar model for use in elementary schools. Both have been documented to significantly reduce symptoms of trauma in a range of diverse populations, including urban students experiencing community violence, American Indian students, and Latino students (Allison & Ferreira, 2017; Langley et al., 2015; Morsette et al., 2009; Santiago et al., 2013, 2018).

Outside TF-CBT, a range of other trauma-specific interventions have been implemented and evaluated in school settings. Fondren et al. (2020) reviewed 62 studies that addressed trauma-specific interventions, noting that there is strong evidence broadly for the impact of a school-based intervention on trauma-related symptoms in young people. They also noted the limitations of such interventions including questions about feasibility and effective integration of these supports in schools. Yohannan and Carlson's (2019) review of outcomes from studies of trauma-specific interventions yielded similar findings: support for the general efficacy of these approaches accompanied by questions about generalizability and scalability.

Trauma-Informed Frameworks

Parallel to practice and research focused on the implementation and evaluation of trauma-specific interventions in schools, significant attention has also been focused on efforts to integrate principles of trauma-informed care with practices and policies in schools. The result has been the emergence of what have been referred to as *trauma-sensitive*, *trauma-informed*, or *trauma-invested* practices or approaches (Souers & Hall, 2018; Trauma and Learning Policy Initiative, n.d.-a). We refer to these broadly as *trauma-informed frameworks*, exploring their development, implementation, outcomes, and evolution.

Development of Trauma-Informed Practice and Policy

Early efforts to articulate trauma-informed frameworks for education largely focused on the need to help schools realize and recognize trauma (SAMHSA, 2014) and adopt a *trauma-informed lens* (Craig, 2016, 2017; Gherardi et al., 2020). Some models described this movement as a key approach to school reform, focusing on school-wide efforts to support student safety and well-being, integrate needed resources into the school, build relationships and community, and embed a sense of shared responsibility (Trauma and Learning Policy Initiative, n.d.-b). Others shared a focus on safety and relationship building while also focusing on specific practices that would support student regulation (Craig, 2016, 2017; Souers & Hall, 2018). Also significant in early development of these frameworks was the replacement of punitive discipline with the use of restorative practices (Craig, 2016, 2017; Dorado et al., 2016).

The emergence of these frameworks was supported by significant policy activity, especially at the state level, encouraging schools and school systems to address the impact of trauma on students in schools through screening students, training educators, and funding supportive practices. In 2020, the Education Commission of the States (ECS) described policies enacted in ten states in 2018–2019 (ECS, 2020), which primarily focused on training for educators, funding for schools to implement discipline reform, and grant-funding for student mental health or other support providers. In their review of policies contributing to *supportive learning environments*, Harper and Temkin (2019) described policy initiatives as some of the most critical efforts to address the impact of ACEs on education, highlighting policies that addressed trauma in schools specifically as well as those which addressed root causes of childhood adversity, such as efforts to reduce barriers to health and safety supports.

The need to shift the policy focus toward a "whole school, whole community, whole child" approach has been articulated in response to critiques of policies primarily focused on screening students and training educators, despite a lack of consensus in the research about value of these activities (Temkin et al., 2020). For example, Tennessee and Pennsylvania have adopted policies that require or provide funding for screening for ACEs in schools even though use of an "ACE score" for screening has been cautioned against by one of the coauthors of the original ACEs study (Anda et al., 2020). Some states (Washington, Oregon, Minnesota, Missouri, Texas, Virginia, Maryland, Connecticut, and Massachusetts) encourage training in trauma-informed practices; North Dakota and Wisconsin now require such training (Temkin et al., 2020). While there is guidance presenting best practices for trauma-related training, there are questions about the impact of such policies, especially in the absence of other changes that more directly address root causes of trauma or school-based factors that perpetuate it (Temkin et al., 2020).

Implementation and Outcomes of Trauma-Informed Frameworks

The development of trauma-informed frameworks for educational policy and practice has been described as a social justice imperative and is often linked to evidence of the disproportionate impact of trauma and ACEs on youth of color and those living in poverty (Ridgard et al., 2015). Building on this reality and empirical support for trauma-specific interventions, the imperative for trauma-informed approaches is well-supported. However, research into the impact of these approaches is inconclusive. Gherardi et al. (2021) explain that while some studies have demonstrated effects in adjacent outcomes such as school suspensions or disciplinary referrals (Dorado et al., 2016), limited evidence exists to describe or document the impact of trauma-informed approaches at scale (Gherardi et al., 2020; Maynard et al., 2019). Cohen and Barron (2021) reported similar findings from a systematic narrative review of the literature around trauma-informed high schools. Avery et al. (2021) described inconsistencies in defining trauma-informed approaches, subsequent inconsistencies in evaluation, and limited availability of high-quality studies assessing outcomes as key challenges in the field. Another scoping review of the field (Stratford et al., 2020) reported limited efficacy for programs implemented by nonclinical staff.

Critiques and Evolution

In addition to limitations in the scope and quality of the evidence for trauma-informed approaches, critical perspectives on the equity implications of their theoretical foundations have emerged. Some of these critiques align with critiques of ACEs as a problematic concept for guiding policy and practice (White et al., 2019) or critiques of how ACEs research has overlooked systemic solutions, underrepresented the impact of social inequity, and been operationalized through a deficit orientation (McEwen & Gregerson, 2019). Increasingly, research has sought to expand the concept of ACEs to consider the impact of identity-based discrimination and marginalization, the significance of social inequities, historical and cultural trauma, and the role of schools in enacting or perpetuating adverse experiences. However, the connections between this expanded understanding of ACEs and models for/implementation of trauma-informed approaches in education are in their early stages.

Several critiques of the existing foundations of trauma-informed practices in education have emerged. One stream of criticism has focused on the reality that many early and current efforts to adopt trauma-informed practices framed ACEs and childhood trauma as individual or familial problems without probing the social context of these issues. This decontextualized understanding of trauma (Chafouleas et al., 2021; Gherardi et al., 2021) has also been critiqued for its potential to likely to overlook the impact of systemic and collective trauma as it occurs both within and outside of schools (Shevrin Venet, 2021). Such models were also critiqued for their deficit orientation (Ginwright, 2018). In response, voices have called for new conceptions trauma-informed education that address these realities (Petrone & Stanton, 2021; Saleem et al., 2021; Shevrin Venet, 2021)

In addition to these theoretical critiques, research has probed implementation issues in trauma-informed education. Because trauma-informed approaches seek system-level change, implementation requires a significant investment of time and resources (Phifer & Hull, 2016). In the absence of these resources, schools tend to focus on discrete universal activities (such as training teachers) or trauma-specific interventions for impacted students, rather than creating the intended continuum of supports. Berger's systemic review of literature on trauma-informed care in schools (2019) reported that only 7% of studies provided evidence of a multi-tiered approach. Effective and sustained implementation of multi-tiered trauma-informed supports requires both vertical alignment (across levels of intervention) and horizontal integration (across related initiatives). While research on the facilitators and barriers of the implementation of trauma-informed approaches in schools is emerging (McIntyre et al., 2019), more work to clarify core elements of effective adoption and implementation is needed.

Building Systems-Oriented, Resilience-Focused Approaches

The critiques and challenges described previously largely reflect two significant gaps in the translation of ACEs and trauma-related research to PK-12 education. The first gap emerges from challenges with implementation of trauma-informed practices at the systems level. Lack of clarity on outcomes, failure to integrate practices across tiers of intervention to meet the trauma-specific needs of some students while applying trauma-informed practices to support all students, and a general failure to address workforce needs to support implementation have been commonly observed. The second gap comes from the reality that orienting school reform around adverse experiences and adverse outcomes poses an inherent challenge to building systems that understand the social context of that adversity and respond by focusing on resilience.

Opportunities to overcome these barriers exist through the alignment and integration of school initiatives intended to support student well-being and outcomes. For example, Chafouleas et al. (2021) provide a model for the integration of trauma-informed care within multi-tiered service delivery (MTSS) already common in PK-12 schools while also engaging the Whole Child, Whole School, Whole Community (WSCC) model, and culturally responsive, healing-centered approaches. This model outlines opportunities to provide a continuum of trauma-informed supports that are culturally responsive, draw on the strengths of students, families, educators, and communities, and create an inclusive school community focused on equity. The model also outlines the importance of shifts in school policy to sustain practices and improvements and highlights the necessity of integrating understandings across related bodies of literature (e.g., ACEs, exclusionary discipline, racism) to create holistic and equity-driven approaches supporting students exposed to adversity.

In addition to efforts to integrate holistic, multi-tiered approaches, critical analyses have sought to reframe trauma-informed education through an equity lens. The emergence of what has been termed "equity-centered trauma-informed education" recognizes the need for trauma-informed education while asserting the necessity that such frameworks and practices to be anti-oppressive, asset-based, system-oriented, human-centered, proactive, and focused on social justice (Shevrin Venet, 2021). Others (Ginwright, 2018) have sought to emphasize the importance of moving beyond trauma or ACEs as labels with the potential to define and limit young people, moving toward a focus on healing and resilience.

Tools such as the Trauma-Informed Walk-Through Checklist from the New Orleans Trauma-Informed Schools Learning Collaborative (2020) are helping schools to operationalize changes to policy and practice that integrate what we know about the needs of children and youth impacted by trauma and ACEs. The checklist identifies six principles of trauma-informed schools that directly align with SAMHSA's (2014) principles of trauma-informed care: (1) Cultural Humility, (2) Safety, (3) Trustworthiness & Transparency, (4) Collaboration & Mutuality, (5) Empowerment, Voice & Choice, and (6) Peer Support. It then provides specific indicators for each of these principles and asks a team of stakeholders to observe the school to rate the degree to which these indicators are in place. These emerging approaches share a common focus on strengths at the student and community level, an emphasis on cultural humility and responsiveness, and center questions about the equity implications of this work.

Remaining Needs and Continued Advancement

At present, the field is at a crossroads. Decades of research have documented the significance of ACEs in student well-being and educational success. While the conflation of ACEs, specific experiences of trauma, and experiences of traumatic or toxic stress continue to pose challenges for clarifying and evaluating educational responses, collective attention to these issues presents the opportunity for positive educational change. Research supports the efficacy of school-based trauma-informed interventions for individuals and groups of students. While theory suggests the powerful potential for school-wide trauma-informed approaches, outcome data at present are limited and significant questions about these frameworks have emerged. Given this, critical analysis of how the translation of ACEs research into educational practice and policy differs from previous formulations of children as "at-risk" is needed. Below, we articulate important considerations for such critical analysis.

Early and continuing research on the impact of childhood adversity confirms the substantial impact of these experiences on education. However, the field is continuing to articulate how this knowledge informs specific educational practices. We suggest that the application of this work needs to go beyond basic conceptions of kids as "at-risk," clarifying and then measuring specific approaches to a range of educational issues including school discipline, instruction, social-emotional learning, holistic student supports and other areas.

While ACEs research has documented the disproportionate prevalence of and harm from these experiences on communities of color, low-income communities, and communities of individuals from other marginalized identities, it has yet to probe the social implications of these realities. In schools, this has meant a focus on specific experiences in individual students and families, rather than attention to the unjust systems of which schools are often a part. Reformulating the social justice rationale for implementing trauma-informed practices in schools as a response to ACEs as a social problem, rather than only a familial or individual problem, is a key area for further development.

In responding to the needs of children impacted by ACEs and trauma, schools and education systems face an imperative to shift away from a risk and deficit orientation, reorienting themselves toward a focus on strengths and resilience. While schools can work to prevent school-based trauma or the re-traumatization of children at school, the capacity to engage in meaningful prevention for other ACEs largely lies outside of schools. Schools do, however, have enormous potential to help students experience *protective and compensatory experiences* (PACES; Hays-Grudo & Morris, 2020) for young people. Such *PACES* include caregiver unconditional love, time with a best friend, helping others, social group activities, extrafamilial mentors, safe and adequate housing and food, opportunities to learn, hobbies, physical activity, and reliable routines/fair rules (Hays-Grudo & Morris, 2020).

Helping educators and policymakers to focus on the development of opportunities for students to experience *PACES* can combat the deficit orientation and implementation challenges that have been observed in current frameworks for trauma-informed education.

Educational responses to the impact of ACEs may be best situated within other broader movements to build schools that are more responsive to the holistic needs of children and communities, and making connections between these movements is important. Such work may help ensure that the important lessons from ACEs research are not lost due to reform fatigue/initiative overload. Effective integration will also include tools that provide clear frameworks for implementation and action steps. These should be based on a clear articulation of the purpose for trauma-informed practices and should readily demonstrate how these goals and related activities align with existing initiatives. While this work is beginning, the field needs sustained dialogue and increased consensus to help schools move forward effectively.

Conclusion

The translation of ACEs research into educational practice and policy has been a central focus of school reform efforts in the last decades. Given the enormous impact of the pandemic on children, youth, families, and communities, and the growing recognition that these events have represented one of the most substantial experiences of collective trauma in recent memory, this has never been more important (Taylor, 2021). Moving forward, practitioners, researchers, and policymakers must continue to apply the powerful lessons we have learned about the impact of childhood trauma and ACEs on education by developing, implementing, and integrating evidence-based approaches to supporting student resilience in education. The field must simultaneously learn from the failures of past efforts to use risk factors as a defining feature of children and communities, instead working to acknowledge challenges while honoring strengths and resilience, centering equity, and addressing the intersections of childhood adversity, education, and larger social justice issues. In addition to trauma-specific interventions, trauma-informed approaches, and holistic school-based supports, the imperative to address ACEs as an educational issue expands far beyond the school walls.

References

Allison, A. C., & Ferreira, R. J. (2017). Implementing cognitive behavioral intervention for trauma in schools (CBITS) with Latino youth. *Child and Adolescent Social Work Journal, 34*(2), 181–189. https://doi.org/10.1007/s10560-016-0486-9

American Psychological Association. (2017). *Multicultural guidelines: An ecological approach to context, identity, and intersectionality*. http://www.apa.org/about/policy/multicultural-guidelines.pdf

Anda, R. F., Porter, L. E., & Brown, D. W. (2020). Inside the adverse childhood experience score: Strengths, limitations, and misapplications. *American Journal of Preventive Medicine, 59*(2), 293–295.

Avery, J. C., Morris, H., Galvin, E., Misso, M., Savaglio, M., & Skouteris, H. (2021). Systematic review of school-wide trauma-informed approaches. *Journal of Child & Adolescent Trauma, 14*(3), 381–397. https://doi.org/10.1007/s40653-020-00326-w

Berger, E. (2019). Multi-tiered approaches to trauma-informed care in schools: A systematic review. *School Mental Health, 11*, 650–664. https://doi.org/10.1007/s12310-019-09325-0

Berger, E., & Martin, K. (2021). Embedding trauma-informed practice within the education sector. *Journal of Community & Applied Social Psychology, 31*(2), 223–227. https://doi.org/10.1002/casp.2494

Bernard, D. L., Calhoun, C. D., Banks, D. E., Halliday, C. A., Hughes-Halbert, C., & Danielson, C. K. (2020). Making the "C-ACE" for a culturally-informed adverse childhood experiences framework to understand the pervasive mental health impact of racism on Black youth. *Journal of Child & Adolescent Trauma, 14*(2), 233–247. https://doi.org/10.1007/s40653-020-00319-9

Blodgett, C., & Lanigan, J. D. (2018). The association between adverse childhood experience (ACE) and school success in elementary school children. *School Psychology Quarterly, 33*(1), 137–146. https://doi.org/10.1037/spq0000256

Bryant-Davis, T. (2007). Healing requires recognition: The case for race-based traumatic stress. *The Counseling Psychologist, 35*(1), 135–143. https://doi.org/10.1177/0011000006295152

Carter, R. T. (2007). Racism and psychological and emotional injury. *The Counseling Psychologist, 35*(1), 13–105. https://doi.org/10.1177/0011000006292033

Cave, L., Cooper, M. N., Zubrick, S. R., & Shepherd, C. C. J. (2020). Racial discrimination and child and adolescent health in longitudinal studies: A systematic review. *Social Science & Medicine, 250*, 112864. https://doi.org/10.1016/j.socscimed.2020.112864

Chafouleas, S. M., Koriakin, T. A., Roundfield, K. D., & Overstreet, S. (2019). Addressing childhood trauma in school settings: A framework for evidence-based practice. *School Mental Health, 11*, 40–53. https://doi.org/10.1007/s12310-018-9256-5

Chafouleas, S., Pickens, I., & Gherardi, S. A. (2021). Adverse childhood experiences (ACEs): Translation into action in K12 education settings. *School Mental Health, 13*, 213–224. https://doi.org/10.1007/s12310-021-09427-9

Chafouleas, S. M., Saleem, F., Overstreet, S., & Koriakin, T. A. (2023). Interventions for students exposed to trauma. In S. W. Evans, J. S. Owens, C. P. Bradshaw, & M. D. Weist (Eds.), *Handbook of school mental health: Innovations in science and practice* (3rd ed.). Springer International Publishing.

Cohen, C. E., & Barron, I. G. (2021). Trauma-informed high schools: A systematic narrative review of the literature. *School Mental Health, 13*(2), 225–234. https://doi.org/10.1007/s12310-021-09432-y

Craig, S. E. (2016). *Trauma-sensitive schools: Learning communities transforming children's lives, K 5*. Teachers College Press.

Craig, S. E. (2017). *Trauma-sensitive schools for the adolescent years: Promoting resiliency and healing, grades 6–12*. Teachers College Press.

Cronholm, P. F., Forke, C. M., Wade, R., Bair-Merritt, M. H., Davis, M., Harkins-Schwarz, M., Pachter, L. M., & Fein, J. A. (2015). Adverse childhood experiences: Expanding the concept of adversity. *American Journal of Preventive Medicine, 49*(3), 354–361. https://doi.org/10.1016/j.amepre.2015.02.001

Davis, A. S., Moss, L. E., Nogin, M. M., & Webb, N. E. (2015). Neuropsychology of child maltreatment and implications for school psychologists. *Psychology in the Schools, 52*(1), 77–91. https://doi.org/10.1002/pits.21806

Dorado, J. S., Martinez, M., McArthur, L. E., & Liebovitz, T. (2016). Healthy environments and response to trauma in schools (HEARTS): A school-based, multi-level comprehensive prevention and intervention program for creating trauma-informed, safe, and supportive schools. *School Mental Health, 8*, 163–176. https://doi.org/10.1007/s12310-016-9177-0

Education Commission of the States. (2020). *Education policy approaches to trauma-informed practices*. https://www.ecs.org/ education-policy-approaches-to-trauma-informed-practices/

English, D., Lambert, S. F., Tynes, B. M., Bowleg, L., Zea, M. C., & Howard, L. C. (2020). Daily multidimensional racial discrimination among black US American adolescents. *Journal of Applied Developmental Psychology, 66*, 1–12. https://doi.org/10.1016/j.appdev.2019.101068

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine, 14*(4), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Figley, C. R. (1995). Compassion fatigue as secondary traumatic stress disorder: An overview. In C. R. Figley (Ed.), *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized*. Brunner/Mazel.

Finkelhor, D., Turner, H. A., Shattuck, A., & Hamby, S. L. (2013). Violence, crime, and abuse exposure in a national sample of children and youth: An update. *JAMA Pediatrics, 167*(7), 614–621. https://doi.org/10.1001/jamapediatrics.2013.42

Fondren, K., Lawson, M., Speidel, R., McDonnell, C. G., & Valentino, K. (2020). Buffering the effects of childhood trauma within the school setting: A systematic review of trauma-informed and trauma-responsive interventions among trauma-affected youth. *Children & Youth Services Review, 109*, 104691. https://doi.org/10.1016/j.childyouth.2019.104691

Ford, T., Parker, C., Salim, J., Goodman, R., Logan, S., & Henley, W. (2018). The relationship between exclusion from school and mental health: A secondary analysis of the British Child and Adolescent Mental Health Surveys 2004 and 2007. *Psychological Medicine, 48*(4), 629–641. https://doi.org/10.1017/S003329171700215X

Fortuna, L. R., Tolou-Shams, M., Robles-Ramamurthy, B., & Porche, M. V. (2020). Inequity and the disproportionate impact of COVID-19 on communities of color in the United States: The need for a trauma-informed social justice response. *Psychological Trauma: Theory, Research, Practice, and Policy, 12*(5), 443–445. https://doi.org/10.1037/tra0000889

Gherardi, S. A., Flinn, R. E., & Jaure, V. B. (2020). Trauma-sensitive schools and social justice: A critical analysis. *Urban Review, 52*, 482–504. https://doi.org/10.1007/s11256-020-00553-3

Gherardi, S. A., Garcia, M., & Stoner, A. L. (2021). Social justice and trauma-informed education: Gaps, barriers, and next steps. *The International Journal of School Social Work, 6*(1). https://doi.org/10.4148/2161-4148.1070

Gilliam, W. S., & Shahar, G. (2006). Preschool and childcare expulsion and suspension: Rates and predictors in one state. *Infants & Young Children, 19*(3), 228–245. https://doi.org/10.1097/00001163-200607000-00007

Ginwright, S. (2018, May 31). *The future of healing: Shifting from trauma informed care to healing centered engagement*. Medium. https://ginwright.medium.com/the-future-of-healing-shifting-from-trauma-informed-care-to-healing-centered-engagement-634f557ce69c

Harper, K., & Temkin, D. (2019). Responding to trauma through policies to create supportive learning environments. *Child Trends*. Publication 2019-15. https://

www.childtrends.org/wp-content/uploads/2019/01/RespondingTraumaPolicyGuidance_ChildTrends_January2019.pdf

Harvey, M. (1996). An ecological view of psychological trauma and trauma recovery. *Journal of Traumatic Stress, 9*(1), 3–23. https://doi.org/10.1002/jts.2490090103

Hays-Grudo, J., & Morris, A. S. (2020). Protective and compensatory experiences: The antidote to ACEs. In I. J. Hays-Grudo & A. S. Morris (Eds.), *Adverse and protective childhood experiences: A developmental perspective* (pp. 23–40). American Psychological Association. https://doi.org/10.1037/0000177-002

Hobfoll, S. E., Watson, P., Bell, C. C., Bryant, R. A., Brymer, M. J., Friedman, M. J., Friedman, M., Gersons, B. P. R., de Jong, J. T. V. M., Layne, C. M., Maguen, S., Neria, Y., Norwood, A. E., Pynoos, R. S., Reissman, D., Ruzek, J. I., Shalev, A. Y., Solomon, Z., Steinberg, A. M., & Ursano, R. J. (2007). Five essential elements of immediate and mid–term mass trauma intervention: Empirical evidence. *Psychiatry, 70*(4), 283–315. https://doi.org/10.1521/psyc.2007.70.4.283

Hubel, G. S., Davies, F., Goodrum, N. M., Schmarder, K. M., Schnake, K., & Moreland, A. D. (2020). Adverse childhood experiences among early care and education teachers: Prevalence and associations with observed quality of classroom social and emotional climate. *Children and Youth Services Review, 111*, 104877. https://doi.org/10.1016/j.childyouth.2020.104877

Hydon, S., Wong, M., Langley, A. K., Stein, B. D., & Kataoka, S. H. (2015). Preventing secondary traumatic stress in educators. *Child and Adolescent Psychiatric Clinics of North America, 24*(2), 319–333. https://doi.org/10.1016/j.chc.2014.11.003

Langley, A. K., Gonzalez, A., Sugar, C. A., Solis, D., & Jaycox, L. (2015). Bounce back: Effectiveness of an elementary school-based intervention for multicultural children exposed to traumatic events. *Journal of Consulting and Clinical Psychology, 83*(5), 853. https://doi.org/10.1037/ccp0000051

Lawson, H. A., Caringi, J. C., Gottfried, R., Bride, B. E., & Hydon, S. P. (2019). Educators' secondary traumatic stress, children's trauma, and the need for trauma literacy. *Harvard Educational Review, 89*(3), 421–447. https://doi.org/10.17763/1943-5045-89.3.421

Luther Standing Bear. (1928). *My people the Sioux*. Houghton Mifflin Company.

Maynard, B. R., Farina, A., Dell, N. A., & Kelly, M. S. (2019). Effects of trauma-informed approaches in schools: A systematic review. *Campbell Systematic Reviews, 2019*, e1018. https://doi.org/10.1002/cl2.1018

McEwen, C. A., & Gregerson, S. F. (2019). A critical assessment of the adverse childhood experiences study at 20 years. *American Journal of Preventive Medicine, 56*(6), 790–794. https://doi.org/10.1016/j.amepre.2018.10.016

McGlynn-Wright, T., & Briner, L. (2021, March 30). *Integrative trauma and healing framework*. Retrieved from: https://intheworksllc.squarespace.com/inflections/2021/3/30/integrative-trauma-and-healing-framework

McIntyre, E. M., Baker, C. N., & Overstreet, S. (2019). Evaluating foundational professional development training for trauma-informed approaches in schools. *Psychological Services, 16*(1), 95–102. https://doi.org/10.1037/ser0000312

Morgan, I., & Amerikaner, A. (2018). *Funding gaps: An analysis of school funding equity across the U.S. and within each state*. T. E. Trust. https://edtrust.org/resource/funding-gaps-2018/

Morsette, A., Swaney, G., Stolle, D., Schuldberg, D., van den Pol, R., & Young, M. (2009). Cognitive behavioral intervention for trauma in schools (CBITS): School-based treatment on a rural American Indian reservation. *Journal of Behavior Therapy and Experimental Psychiatry, 40*(1), 169–178. https://doi.org/10.1016/j.jbtep.2008.07.006

National Academies of Sciences, Engineering, and Medicine. (2019). *Fostering healthy mental, emotional, and behavioral development in children and youth: A national agenda*. The National Academies Press. https://doi.org/10.17226/25201

New Orleans Trauma-Informed Schools Learning Collaborative. (2020). *Trauma-informed schools walk-through checklist*. Retrieved from: TIS-LC-Walk-Through-Checklist-Updated-July-2020.pdf (tulane.edu)

Paris, D. (2012). Culturally sustaining pedagogy: A needed change in stance, terminology, and practice. *Educational Researcher, 41*(3), 93–97. https://doi.org/10.3102/0013189X12441244

Perfect, M. M., Turley, M. R., Carlson, J. S., Yohanna, J., & Saint Gilles, M. P. (2016). School-related outcomes of traumatic event exposure and traumatic stress symptoms in students: A systematic review of research from 1990 to 2015. *School Mental Health, 8*(1), 7–43. https://doi.org/10.1007/s12310-016-9175-2

Petrone, R., & Stanton, C. R. (2021). From producing to reducing trauma: A call for "trauma-informed" research (ers) to interrogate how schools harm students. *Educational Researcher, 50*(8), 537–545. https://doi.org/10.3102/0013189X211014850

Phifer, L. W., & Hull, R. (2016). Helping students heal: Observations of trauma-informed practices in the schools. *School Mental Health, 8*(1), 201–205. https://doi.org/10.1007/s12310-016-9183-2

Porche, M. V., Fortuna, L. R., Lin, J., & Alegria, M. (2011). Childhood trauma and psychiatric disorders as correlates of school dropout in a national sample of young adults. *Child Development, 82*(3), 982–998. https://doi.org/10.1111/j.1467-8624.2010.01534.x

Porche, M. V., Costello, D. M., & Rosen-Reynoso, M. (2016). Adverse family experiences, child mental health, and educational outcomes for a national sample of students. *School Mental Health, 8*(1), 44–60. https://doi.org/10.1007/s12310-016-9174-3

Priest, N., Paradies, Y., Trenerry, B., Truong, M., Karlsen, S., & Kelly, Y. (2013). A systematic review of studies examining the relationship between reported racism and health and wellbeing for children and young people. *Social Science & Medicine, 95*, 115–127. https://doi.org/10.1016/j.socscimed.2012.11.031

Ridgard, T. J., Laracy, S. D., DuPaul, G. J., Shapiro, E. S., & Power, T. J. (2015). Trauma-informed care in schools: A social justice imperative. *Communiqué, 44*(2), 1–12. https://eric.ed.gov/?id=EJ1189969

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal, 50*(1), 4–36. https://doi.org/10.3102/0002831212463813

Saleem, F. T., Howard, T. C., & Langley, A. K. (2021). Understanding and addressing racial stress and trauma in schools: A pathway toward resistance and healing. *Psychology in the Schools, 59*, 2506. https://doi.org/10.1002/pits.22615

Santiago, C. D., Pears, G., Baweja, S., Vona, P., Tang, J., & Kataoka, S. H. (2013). Engaging parents in evidence-based treatments in schools: Community perspectives from implementing CBITS. *School Mental Health, 5*(4), 209–220. https://doi.org/10.1007/s12310-012-9100-2

Santiago, C. D., Raviv, T., Ros, A. M., Brewer, S. K., Distel, L. M., Torres, S. A., et al. (2018). Implementing the bounce Back trauma intervention in urban elementary schools: A real-world replication trial. *School Psychology Quarterly, 33*(1), 1. https://doi.org/10.1037/spq0000229

Shevrin Venet, A. (2021). *Equity-centered trauma-informed education*. Norton.

Shonkoff, J. P., Garner, A. S., & Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Care, & Section on Developmental and Behavioral Pediatrics. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics, 129*(1), e232–e246. https://doi.org/10.1542/peds.2011-2663

Skiba, R. J., Arredondo, M. I., & Williams, N. T. (2014a). More than a metaphor: The contribution of exclusionary discipline to a school-to-prison pipeline. *Equity & Excellence in Education, 47*(4), 546–564. https://doi.org/10.1080/10665684.2014.958965

Skiba, R. J., Chung, C. G., Trachok, M., Baker, T. L., Sheya, A., & Hughes, R. L. (2014b). Parsing disciplinary disproportionality: Contributions of infraction, student, and school characteristics to out-of-school suspension and expulsion. *American Educational Research Journal, 51*(4), 640–670. https://doi.org/10.3102/0002831214541670

Somasundaram, D. (2014). Addressing collective trauma: Conceptualizations and interventions. *Intervention, 12*(1), 43–60. https://www.interventionjournal.com/sites/default/files/Somasundaram%202014%20I%20collective%20trauma.pdf

Souers, K. V. M., & Hall, P. (2018). *Relationship, responsibility, and regulation: Trauma-invested practices for fostering resilient learners*. ASCD.

Stratford, B., Cook, E., Hanneke, R., Katz, E., Seok, D., Steed, H., et al. (2020). A scoping review of school-based efforts to support students who have experienced trauma. *School Mental Health, 12*(3), 442–477. https://doi.org/10.1007/s12310-020-09368-9

Substance Abuse and Mental Health Services Administration [SAMHSA]. (2014). *Concept of trauma and guidance for a trauma-informed approach*. https://store.samhsa.gov/system/files/sma14-4884.pdf

Taylor, S. S. (2021). Trauma-informed care in schools: A necessity in the time of COVID-19. *Beyond Behavior, 30*(3), 124–134. https://doi.org/10.1177/10742956211020841

Temkin, D., Harper, K., Stratford, B., Sacks, V., Rodriguez, Y., & Bartlett, J. D. (2020). Moving policy toward a whole school, whole community, whole child approach to support children who have experienced trauma. *Journal of School Health, 90*(12), 940–947. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7702060/

Thomas, M. S., Crosby, S., & Vanderhaar, J. (2019). Trauma-informed practices in schools across two decades: An interdisciplinary review of research. *Review of Research in Education, 43*(1), 422–452. https://doi.org/10.3102/0091732X18821123

Trauma and Learning Policy Initiative. (n.d.-a). *About TLPI*. https://traumasensitiveschools.org/about-tlpi/

Trauma and Learning Policy Initiative. (n.d.-b). *The solution: Trauma-sensitive schools*. https://traumasensitiveschools.org/trauma-and-learning/the-solution-trauma-sensitive-schools/

U.S. Government Accountability Office. (2016). *K-12 education: Better use of information could help agencies identify disparities and address racial discrimination*. https://www.gao.gov/products/GAO-16-345

Wade, R., Jr., Shea, J. A., Rubin, D., & Wood, J. (2014). Adverse childhood experiences of low-income urban youth. *Pediatrics, 134*(1), e13–e20. https://doi.org/10.1542/peds.2013-2475

White, S., Edwards, R., Gillies, V., & Wastell, D. (2019). All the ACEs: A chaotic concept for family policy and decision-making? *Social Policy and Society, 18*(3), 457–466. https://doi.org/10.1017/S147474641900006X

Yohannan, J., & Carlson, J. S. (2019). A systematic review of school-based interventions and their outcomes for youth exposed to traumatic events. *Psychology in the Schools, 56*(3), 447–464. https://doi.org/10.1002/pits.22202

9

Adverse Childhood Experiences (ACEs) and Violent Offending Among Juveniles with Justice System Involvement: Theory, Research, and Implications for Policy

Michael T. Baglivio and Kevin T. Wolff

Introduction

The total lifetime economic repercussions from a single year of new child maltreatment cases are estimated at $120 billion, making exposure to adverse childhood experiences (ACEs) among the costliest public health issues in the United States (Fang et al., 2012; Putnam, 2006). As such, development of the science and policies surrounding ACE prevention, the aftermath of ACE exposure, and intervention among those with traumatic symptomolgy associated with ACE exposure are critical. Felitti et al. (1998) coined the term "ACEs" to refer to exposure to various forms of abuse (physical, sexual, emotional), neglect (physical, emotional), and household dysfunctions (family violence, household substance use, jail/incarceration history, mental health problems, parental separation or divorce), during childhood and adolescence. The negative repercussions of ACE exposures across physical, mental, and behavioral health outcomes are well elucidated and ever-expanding (e.g., Centers for Disease Control and Prevention, CDC, 2019a). Deleterious effects empirically demonstrated include increased aggression/violence, criminal victimization and offending, and justice system involvement (e.g., Braga et al., 2017; Widom et al., 2018). Unfortunately, exposure to abuse, neglect, and household dysfunctions is exacerbated among youth involved in the juvenile justice system (e.g., Abram et al., 2004; Baglivio et al., 2014; Dierkhising et al., 2013). This heightened exposure among adolescents with justice system involvement highlights the need for research examining both the short- and long-term implications of such exposures and for increased attention to policy. This chapter (1) provides an overview of the ACE–aggression/offending relationship, (2) discusses the implications for justice system policy and best practices, and (3) reflects on the limitations of prior work and future research needs.

ACE–Offending Relationship

ACEs in the criminal and juvenile justice context (and as operationalized herein) predominantly refer to dichotomous (yes or no) exposure to ten

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indicators of abuse, neglect, and household challenges articulated in the original ACE Study (Felitti et al., 1998; see also Dong et al., 2004). The benefits and limitations of this approach are detailed below (see "Limitations and future directions"). The ACE pyramid is the predominant conceptual framework regarding the manifestation of negative outcomes from ACE exposure. The ACE pyramid holds that ACE exposure(s) leads to disrupted neurological development and functional changes to the developing brain that affect self-control, behavioral inhibition (the ability to not act on emotions), and emotional responses. The implications of these developmental changes are an increased likelihood of engaging in health-risk behaviors, such as substance abuse, emotional cutting and/or self-mutilating behaviors, unhealthy coping strategies, and antisocial behavior. This escalation in health-risk behaviors increases the likelihood of disease, disability, and social problems (including justice system involvement), which then may ultimately lead to an earlier death than non-ACE-exposed individuals. Research indicates that negative events disrupt normal neurological development as ACEs have been linked to chromosomal damage and functional changes to the developing brain (e.g., Cicchetti, 2013; Danese & McEwen, 2012; Shalev et al., 2013). For example, childhood maltreatment, especially during critical developmental periods, disrupts neurological development and effectuates neurobiological deficits (Painter & Scannapieco, 2013; Twardosz & Lutzker, 2010). These deficits lead to long-term biological and cognitive functioning changes that impact self-regulatory behavioral and emotional responses, affect regulation, and social attachment (Anda et al., 2006; Bremner, 2003; Heim et al., 2010; Lanius et al., 2011). Notably, self-regulation deficits are associated with both internalizing (substance use, self-mutilization) and externalizing (interpersonal violence, delinquency) behaviors and coping strategies (e.g., Larkin et al., 2014). Unfortunately, exposure to each given type of ACE, and to a greater number of types of ACEs, is more prevalent in disadvantaged areas plagued by poverty, discrimination, lack of resources and opportunity, affordable housing, and violence (Ellis & Dietz, 2017). Such heightened exposure is evidenced both as exacerbated community prevalence rates (e.g., Coulton et al., 2007; Freisthler et al., 2006) and at the individual level (Baglivio et al., 2017), both of which have repercussions for racial and ethnic disparities in juvenile delinquency. Furthermore, evidence is mounting regarding the intergenerational transmission of ACEs wherein parent's own experiences of adversity during their childhood(s) pose substantial risk for ACEs among their children (Narayan et al., 2021).

Criminological Theory Explaining the ACE–Offending Linkage

Prominent criminological theories have centered on inept parental practices as well as self-regulation deficits and hostile interpretation of the actions/intents of others that are often manifestations of such maltreatment. Moffitt (1993) maintains that neurological deficits juxtaposed with adverse rearing environments lead to persistent offending throughout life. Regrettably, infants presenting as irritable and impulsive, with delays in achieving developmental milestones, slower learning, and difficulties expressing themselves, more easily frustrate parents who then are more likely to withdraw and provide inconsistent, inappropriate, and/or punitive supervision. This transaction between the child and his/her contextual reality sets the stage wherein the vulnerable youth developing in a dysfunctional environment enhances the likelihood of antisocial and unhealthy behaviors (Duke et al., 2010; Lynch & Cicchetti, 1998). Life-course persistent offenders (those that begin offending at early ages and continue offending throughout adolescence, young adulthood, and into later adulthood; see Moffitt, 1993) evidence a higher prevalence and range of ACEs, substance use, and psychopathology than nonoffenders, as well as those persons only engaging in adolescent-limited offending (Kerridge et al., 2020).

Empirical Findings in Support of the ACE–Crime Association

Antisocial/criminal behavior was first linked to singular types of adverse experiences, such as childhood physical abuse, neglect, and sexual abuse, as in Widom's (1989a) "cycle of violence" work (see also Browne & Finkelhor, 1986; Fagan, 2005; Widom, 1989b). Studies demonstrated that childhood maltreatment increased self-reported and official delinquency, frequency and seriousness of arrests (Smith & Thornberry, 1995), and, astonishingly, increased violent juvenile offending by over 200% (Maxfield & Widom, 1996). Meta-analytic work has suggested that parental divorce has a moderate effect size; cumulatively, this effect has increased even as prevalence (and normalization) of divorce has also increased over time (Amato, 2001; D'Onofrio et al., 2005). Similarly, parental incarceration is associated with delinquency and maladaptive behavior (Geller et al., 2009; Murray & Farrington, 2005; Parke & Clarke-Stewart, 2002). Witnessing domestic violence has also been found to be related to increased juvenile delinquency (Evans et al., 2008; Moylan et al., 2010). Early childhood physical abuse increases violent juvenile offenses, controlling for socioeconomic status (Lansford et al., 2007). Sexual abuse, among all individual ACEs, may be the strongest predictor of juvenile crime and persistent offending into adulthood (Basto-Pereira et al., 2016).

Substantiated maltreatment is associated with an earlier onset of delinquency (Barrett et al., 2014; Dannerbeck & Yan, 2011; Rivera & Widom, 1990). Further, maltreated youth are more likely to continue offending as adults (Topitzes et al., 2011; Widom et al., 2018), are 38% more likely to have a violent offense (Widom, 1989a), and have nearly nine times the odds of being incarcerated at some point in adulthood (Bellis et al., 2014; see also English et al., 2001; Fagan, 2005; Mersky & Topitzes, 2010). Maltreated boys and girls show increased violent offending, though studies differ on which sex is most impacted (e.g., Herrera & McCloskey, 2001; Mass et al., 2008; Teague et al., 2008; Widom & Maxfeld, 2001; Yu-Ling Chiu et al., 2011).

More recently, an "ACE score" concept has been used to examine antisocial behavior outcomes (e.g., Baglivio et al., 2014; Bellis et al., 2014). Considering cumulative ACEs, rather than independent effects of each form of adversity (each ACE,), coincides with evidence that exposures are interrelated, occurring nonrandomly (exposure to one ACE increases the odds of exposure to others; Baglivio & Epps, 2016; Dong et al., 2004; Finkelhor et al., 2007; Scott et al., 2013). The ACE score combines affirmative responses to specific experiences, where exposure to each type adds one "point" to a cumulative score. Most often, ten exposures are assessed: three abuse types (physical, sexual, emotional), two types of neglect (physical and emotional), and five household dysfunctions (household mental health problems, household substance abuse, household member incarceration history, family violence, and parental separation/death/divorce) (Dong et al., 2004). As such, ACE scores range from 0 (never experienced any of the types) to 10 (having experienced each type). School-age youth with higher ACE scores are at increased odds of interpersonal (weapon-carrying, fighting, bullying, dating violence) and self-directed (attempted suicide, self-mutilation) violence by 35–144%, depending on the outcome (Duke et al., 2010).

Empirical work extending to ACEs among juveniles with justice system involvement has predominantly substantiated the ACE–antisocial behavior/offending link (e.g., Graf et al., 2021). Exposure to more types of ACEs among youth involved in Florida's juvenile justice system increases the likelihood reoffending and shortens the time to which those with higher ACE scores commit their next offense (Wolff et al., 2017; see also Craig et al., 2019). Similar findings were seen among the youth in Washington State, with a greater number of types of ACE exposures associated with increased odds of "any," property, and violent offending for both males and females (Kowalski, 2018), and in South Australia where youth with violent offenses evidence more ACEs than those with nonviolent offenses (Malvaso et al., 2019). Several studies indicate higher ACE scores among juveniles engaging in sexual offenses than those youth with exclusively nonsexual offenses (e.g., Boonmann et al., 2016; Levenson et al., 2017). Higher ACE scores were found among females who sexually offend as well (Levenson et al., 2015).

Unfortunately, the negative implications of ACE exposure extend beyond initial and subsequent reoffending. Prospectively, higher ACE scores increase the odds of gang involvement (Wolff et al., 2020) and placement in a long-term juvenile justice residential facility (Zettler et al., 2018) by age 18. Youth in Texas placed in juvenile justice facilities with higher ACE scores accumulate more misconduct incidents, suicidal behaviors, and sexual misconduct during placement (Trulson et al., 2016). Additionally, having exposure to a greater number of types of ACEs distinguishes those first arrested at age 12 or under and persistent juvenile offending (with an average of 17.8 arrests by age 18; Baglivio et al., 2015). One study found that exposure to each additional type of ACE equated to a 35% increase in the likelihood of serious, violent, and chronic (SVC) offending by age 18 compared to those adjudicated for only one nonviolent felony (Fox et al., 2015; see also Perez et al., 2018). Craig and colleagues (2017c) demonstrated the ACE–offending link extends into middle adulthood, finding that as ACE scores increased, the average number of convictions from age 10 to 56 increased among males in the longitudinal Cambridge Study in Delinquent Development. Males with exposure to more types of ACE accumulated substantially more convictions through their mid-50s. Longitudinal, nationally representative US data also support higher ACE scores being associated with young and middle adulthood criminal justice contact, including having ever been arrested, more lifetime arrests, more likely to experience incarceration in adulthood, evidence multiple incarcerations, and spend longer periods incarcerated (Testa et al., 2022).

Importantly, higher ACE scores among youth with justice system involvement are also associated with increased odds of being victimized and maladaptive behaviors beyond offending. Having exposure to more types of ACEs increases internalizing and externalizing behaviors (Muniz et al., 2019), substance abuse and delinquency (Leban & Gibson, 2020), being a victim of human trafficking and engaging in sex trading (Reid et al., 2019; Naramore et al., 2017), suicide attempts (Perez et al., 2016), evidencing psychopathic features (Baglivio et al., 2020), and is prospectively associated with psychiatric symptoms and substance use (Folk et al., 2021).

Notably, while exposure to ACEs increases the likelihood of deleterious physical and mental health and behavioral outcomes, such exposure is not deterministic. Some individuals evidence resilience to the negative pathology associated with adversity (Cameranesi et al., 2022). Individuals who experience ACEs but also have greater resiliency are less likely to evidence the negative implications correlated with ACE exposure (e.g., Banyard et al., 2017; Bethell et al., 2019; CDC, 2019b; Hillis et al., 2010). Resilience is essentially a developed, positive adaptation in the ability to maintain, or regain, positive functioning, despite exposure to adversity (e.g., Herrman et al., 2011). Importantly, resilience is dynamic and can be developed. In normal development, children are exposed to positive stress/minor adversity where stable, nurturing parents provide consistent and predictable support to the child in developing the capacity to overcome minor challenges. These children develop self-regulation, effective interpersonal skills, and healthy/prosocial behaviors (e.g., Narayan et al., 2021). Instances of excessive and/or persistent stress and adversity without stable support/protection are associated with the disruptive effects that portend the emergence of long-term mental health and dysfunctional behavior problems and negative outcomes associated with ACE exposure reviewed above (Herrman et al., 2011). Notably, while resilience is often considered an individual characteristic, it is multisystemic in that the capacity to maintain positive functioning and resistance to environmental risk/adversity involves individual (biological, psychological), relational (family, social system), and environmental/sociocultural (resource deprivation, concentrated disadvantage) determinants (Baglivio & Wolff, 2021a; Cameranesi et al., 2022; CDC, 2019b; Herrman et al., 2011). The dynamic and multisystemic components of resilience are critical to consider with respect to effective prevention and intervention efforts to mitigate the detrimental effects of ACE exposure on crime and delinquency, including violent offending.

Relationship of ACE to Offense and Victim Types

Studies indicate that different ACEs were more strongly related to different offense types. Childhood sexual abuse, emotional neglect, and witnessing domestic violence are significantly related to sexual offenses, while household dysfunctions (substance abuse in the home, family member incarceration, and unmarried parents, the latter of which was included as a proxy for the parental separation/divorce ACE indicator due to data limitations) were found more related to nonsexual offending and criminal versatility (Levenson & Socia, 2016), see also DeLisi et al., 2017). Toward that end, based on a cumulative stressor approach and ACE co-occurrence, recent work has examined typologies of ACEs, employing latent class analyses (LCA). Among over 90,000 youth involved in the justice system, five distinct ACE typologies were identified, where the highest adversity class composed of 7% of the youth (avg. ACE score 5.17 out of a possible 9) was identified by child welfare system history (7 times more likely than the low adversity class), parents with employment problems, and living in areas of higher socioeconomic disadvantage (Wolff et al., 2018).

Recent research has also examined how ACE exposure is related to the types of individuals that a youth is likely to violently victimize, based on the youth–victim relationship. Notably, higher ACE scores decreased violent offending against strangers, while increased victimizing family members, authority figures, and having multiple types of victims (Baglivio, Wolff, & Epps, 2021a). Growing up in households with mental illness and incarceration histories had the most substantial impact on victim types among the ACE exposures. Focusing exclusively on violent sexual offending, higher ACE scores increased the odds of violently victimizing siblings and other relatives (not a parent/guardian or the youth's own child), while decreased the likelihood of targeting classmates versus targeting acquaintances (Baglivio & Wolff, 2021b). Further, the only ACE type that increased the odds of victimizing diverse types of victims was household drug abuse. Sexual abuse had the strongest association of any ACE exposure to victim type. Youth with sexual abuse histories were substantially more likely to sexually victimize their own siblings (Baglivio & Wolff, 2021b; see also Fox, 2017). Importantly, the concept of considering the effects of unique constellations of ACE exposures on offending and juvenile justice system outcomes will be essential to further professionals' understanding and even more critical to juvenile justice policy initiatives.

Moderators of the ACE–Crime Relationship

A growing body of work has explored potential moderators that may increase or attenuate the effect of ACEs on juvenile justice outcomes. Stronger social bonds independently lowered the likelihood of reoffending, and youth with higher ACE scores had weaker social bonds, though stronger attachment/bonds did not reduce the negative impact of heightened ACEs on recidivism (Craig et al., 2017a). However, additional work has found that ACEs increased recidivism among youth with moderate or higher substance use, while having exposure to a greater number of types of ACEs did not increase reoffending among those with little or no drug use (Craig et al., 2017b). That finding illuminated differing effects of ACE on delinquency based on the extent of substance use/abuse. Another promising avenue for intervention among youth with justice involvement and higher ACE scores are efforts aimed at building empathy. Greater increases in empathy during residential placement were found to decrease the impact of heightened exposure to more types of ACEs on reoffending following release from residential placement (Narvey et al., 2020).

ACE–Crime Association Mediators

The mediating pathways by which ACEs may impact delinquency have also been explored. Wolff and Baglivio (2017) found that nearly half of the total effect of ACEs on reoffending operated through negative emotionality (higher ACE scores led to greater negative emotionality, which was positively associated with recidivism). Relatedly, the pathway by which higher ACE scores led to serious, violent, and chronic juvenile offending operated largely through maladaptive features of aggression and impulsivity, plus school problems, delinquent peers, substance abuse, and mental illness (Perez et al., 2018). Similarly, current drug use and mental health problems partially mediated the ACEs–recidivism relationship among nearly 30,000 youth involved in the juvenile justice system, though gender and race/ethnic differences were found (Craig, Zettler, Wolff, & Baglivio, 2019). These studies lend credence to calls for a more nuanced examination of the pathways by which ACE may lead to substance use, mental health issues, and temperament features, which, in turn, increase antisocial and criminal behavior. Uncovering such pathways is critical to optimizing prevention, intervention, and justice system responses to address ACE exposure.

Juvenile Justice System Policy Implications and Best Practices

The negative implications of ACE exposure on internalizing and externalizing unhealthy behaviors, including delinquency and juvenile justice involvement, are consistently demonstrated in research. The ACE–offending relationship necessitates juvenile justice policies that develop a system to prepare effectively for, and address the implications of, serving youth with extensive ACE exposure. Importantly, the prominent Risk–Need–Responsivity (RNR) model paradigm in juvenile (and criminal) justice espouses recidivism reduction occurs through optimal treatment of targeting individualized dynamic risk factors (as per validated assessment) with evidence-based interventions delivered at ideal dosages (e.g., as per the Standardized Program Evaluation Protocol; Lipsey et al., 2010). However, limited prior work has assessed whether this strategy holds true for youth with extensive ACE exposure as it does for those without/with limited ACEs. A recent study demonstrated that exposure to more types of ACEs was related to smaller reductions in dynamic risk during residential placement and 20% increased odds of reoffending (Baglivio et al., 2021b). However, receiving services matched to individualized dynamic risk provided at recommended dosages led to greater treatment progress (greater risk reduction) and to lower recidivism for both low- and high-ACE youth. Yet, youth with exposure to four or more types of ACEs still reoffended at higher rates than those with exposure to fewer types of ACEs, such that the low-ACE youth without optimal treatment had nearly identical reoffending as the high-ACE youth with optimal treatment. This demonstrates that the deficit of ACE exposure is difficult to overcome, meaning evidence-based best practice is *necessary*, but may not be *sufficient* for those youth with histories of experiencing several types of ACEs. Extensive ACE exposures among youth in juvenile justice systems are addressed optimally through the following multitiered strategy.

Tier 1: ACE Prevention

Prevention of ACE exposure is central in reducing the influx of juveniles into the justice system. Prevention strategies involve strengthening household financial security, family-friendly work policy such as paid maternity and sick leave and flexible work schedules, promoting norms against violence and adversity through public awareness campaigns, early home visitation programs, high-quality child care, and universal preschool (CDC, 2019a, b). The juvenile justice system plays a role in the prevention of ACEs. This is especially critical in light of the implications that justice system involvement itself may be an adverse childhood experience. Procedural aspects from arrest, court appearances, supervision, and certainly any detainment or residential placement may have similar repercussions for exposed youth as other ACEs. Toward that end, it is essential that agencies work to ensure they do not further traumatize youth. Processes and procedures, especially in facility settings, should be scrutinized with a trauma-informed lens. Specifically, protocols eliminating shackles during court hearings, eliminating seclusion in detention and residential facilities, and minimizing physical restraint techniques to those involving immediate life safety situations in juvenile justice settings are targets for reform.

Tier 2: Screening and Assessment of Clinical Symptomology Related to ACE Exposure

The second tier calls for universal ACE screening to determine the need for the assessment of clinical symptomology for ACE-exposed youth. The assessment determines the implications of ACE exposure on each youth. ACEs are not synonymous with trauma. Whether an experience or event is traumatic is highly individualized. The assessment of underlying clinical symptomology such as flashbacks, difficulty sleeping/nightmares, arousal/reactivity, negative cognition/mood, or avoidance is highly relevant. The assessments for children/adolescents are widely available, such as the UCLA Child/Adolescent PTSD Reaction Index for DSM-5 (e.g., Stienberg et al., 2013).

Tier 3: Staff Training and Service Referrals

Critically, juvenile justice staff across placement types (e.g., diversion, probation, residential) should receive training on the implications of ACEs and principles of trauma-informed care to ensure physically and emotionally safe environments where behavioral manifestations are understood as often repercussions of childhood maltreatment and ACEs. ACE screening processes are needed, as is training on the assessment of clinical implications for ACE-exposed youth. Establishing protocols for discussing psychosocial issues with youth and families, developing and disseminating community resource lists of available services, and providing in-house treatment or service referrals for needed trauma-specific treatment are critical (see also Flynn et al., 2015). Trauma-informed safety plans should be developed with indicated youth, updated regularly, and staff trained to assist youth in using such plans. Plans may include individualized trauma reminders (triggers), early warning signs, and calming strategies/coping skills that work for that specific youth. Staff training on assessing the extent to which their agency/facility/program adheres to best practices on trauma-informed care is essential.

Tier 4: Trauma-Specific Treatment

Enhancing the response to trauma resulting from ACE exposure is essential. Treatment should include evidence-based practices proven to reduce clinical symptomology. Currently, a paucity of research exists on the extent to which trauma-specific interventions reduce (re)offending (e.g., Zettler, 2020). Yet, a recent systematic review indicates such services reduce PTSD symptoms and trauma-related depressive symptoms, with promising findings for reduced delinquency and recidivism (Baetz et al., 2021). Considering trauma as a responsivity factor, symptom reduction should remove roadblocks to effective interventions addressing criminogenic dynamic risks. Trauma-Focused CBT, Eye Movement Desensitization and Reprocessing (EMDR), and Dialectical Behavior Therapy are promising models gaining prominence in juvenile justice settings. Additional services should target resiliency-building and -enhancing exposure to protective and compensatory experiences (PACEs). PACEs among youth involved in the juvenile justice system include positive family–child communication, feeling supported by family, participating in community/family traditions, feeling a sense of belonging/engagement in school, supportive friends, organized activity participation, and adult mentors (Baglivio & Wolff, 2021a). Higher cumulative PACEs, meaning exposure to a greater number of types of PACEs, have been found to render the ACE–recidivism relationship nonsignificant (Baglivio & Wolff, 2021a). This is critical to juvenile justice policy as ACE exposure no longer leads to increased recidivism when youth have numerous positive and compensatory experiences as well.

Tier 5: System Alignment

Youth dually involved or dually adjudicated (e.g., "crossover youth") that are both juvenile justice and child welfare system-involved are especially vulnerable and present with more extensive ACE exposures than single-system-involved youth (Baglivio et al., 2016). Best practices involve early identification of these youth across systems, data/information sharing, dedicated court liaisons to navigate (often) different court systems, as well as a coordinated approach to case management as opposed to siloed, individual agency case plans (Stewart et al., 2010).

Limitations and Future Directions

Importantly, the cumulative exposure ACE concept is not without limitations. Research and advocacy have cautioned against universal ACE screening (e.g., Winninghoff, 2020). Hesitation toward universal screening is related to concerns with labeling and differential treatment of identified youth. We argue that ACEs among youth already involved in the justice system and related trauma (based on clinical symptom assessment) is a responsivity factor at minimum, and, more likely, a risk factor for future offending that demands awareness, targeted services, and treatment. We reiterate an essential point that ACEs do not equate to trauma (e.g., Finkelhor, 2018). A recent systematic review indicates that youth with both a higher number and multiple types of ACEs are more likely to be diagnosed with posttraumatic stress symptoms (Malvaso et al., 2021). However, considering only high-quality studies, findings are limited for higher ACE scores predicting trauma symptoms or that trauma symptoms mediate the ACE–offending association (Malvaso et al., 2021; see also Kahn et al., 2021). Notably, among federal prisoners, higher ACE scores were associated with antisocial personality disorder, as was conduct disorder, while oppositional-defiant disorder and ADHD were not (DeLisi et al., 2019). Yet still, research mistakenly equates ACEs to trauma using the terms interchangeably, which demands to be distinguished more carefully as ACE research advances.

Further, inclusion of additional exposures as ACEs such as experiencing racial discrimination, community violence, residing within a chaotic home, bullying victimization, and homelessness has been recommended (Bonner et al., 2020; DeLisi et al., 2019; Mersky et al., 2017). Arguments that qualitative differences in ACE experiences between race/ethnicity are likely highly relevant. The binary nature of how ACE exposures are most often measured in the extant research as either present (the individual has been exposed to the indicated ACE type) or absent (the individual has no prior exposure to the indicated ACE type) does not account for the frequency, duration, severity, or developmental timing of exposure (e.g., Dierkhising et al., 2019; Pierce & Jones, 2021; Schroeder et al., 2020). This limitation of duration and severity of exposure and ages/developmental period when exposed may also differ across race/ethnic groups (e.g., Jaffee & Maikovich-Fong, 2011).

Future study of the ACE–offending relationship should better assess race/ethnic and sex (and gender identity) differences across juvenile justice processes and outcomes (court decisions, dispositions/placements, changes in risk and protective factors through treatment, and recidivism). Improved understanding of the pathways by which ACE translates into offending and examining potential moderators and mediators will be essential. Evaluation of specific juvenile justice practices and policies for their implications for ACE-exposed youth are fruitful avenues for future research. Improved measurement of the timing, frequency, duration, and severity of ACE exposures and differences in constellations of specific ACE types and the implications of those concepts on justice system outcomes is paramount.

Notwithstanding these limitations and need for further exploration, the significance of the ACE science to practice cannot be overstated. The proliferation of ACEs, both in research (Struck et al., 2021) and in the lexicon of juvenile justice system actors, has moved practices, programs, and entire agencies toward being more trauma-informed entities. For instance, all residential programs contracted by the Florida Department of Juvenile Justice annually complete a "Trauma Responsive and Caring Environment" (TRACE) process to assess adherence to trauma-informed best practices. Further, ACE research has involved extensive interdisciplinary and collaborative efforts across psychology and related counseling disciplines, criminology, psychiatry, epidemiology, neurobiology, and many health-service disciplines. The interdisciplinary collaborations have moved ACE out of academic and practitioner silos and allowed for proliferation across fields.

Conclusion

Over four million children are involved in child protective investigations in the United States alone each year (U.S. DHHS, 2020). ACE prevention remains paramount, yet justice systems must be prepared and equipped to address the treatment needs of ACE-exposed individuals. Exposure to a greater number of types of ACEs increases the odds of initial offending, reoffending, deeper end justice system placements, and chronicity and severity of offending both as a juvenile and into middle adulthood. A multitiered strategy within juvenile justice systems of prevention, screening, and assessment of clinical symptomology related to ACE exposure, staff training and service referrals, trauma-specific treatment, and systems alignment ensuring information-sharing across agencies is critical.

References

Abram, K. M., Teplin, L. A., Charles, D. R., Longworth, S. L., McClelland, G. M., & Dulcan, M. K. (2004). Posttraumatic stress disorder and trauma in youth in juvenile detention. *Archives of General Psychiatry, 61*, 403–410.

Amato, P. R. (2001). Children of divorce in the 1990's: An update of the Amato and Keith (1991) meta-analysis. *Journal of Family Psychology, 15*, 355–370.

Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., Dube, S. R., & Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood: A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience, 256*, 174–186.

Baetz, C. L., Branson, C. E., Weinberger, E., Rose, R. E., Petkova, E., Horwitz, S. M., & Hoagwood, E. (2021). The effectiveness of PTSD treatment for adolescents in the juvenile justice system: A systematic review. *Psychological Trauma: Theory, Research, and Policy*. Advance online publication., *14*, 642. https://doi.org/10.1037/tra0001073

Baglivio, M. T., & Epps, N. (2016). The interrelatedness of adverse childhood experiences among high-risk juvenile offenders. *Youth Violence and Juvenile Justice, 14*(3), 179–198.

Baglivio, M. T., & Wolff, K. T. (2021a). Positive childhood experiences (PCE): Cumulative resiliency in the face of adverse childhood experiences. *Youth Violence and Juvenile Justice, 19*(2), 139–162.

Baglivio, M. T., & Wolff, K. T. (2021b). Adverse childhood experiences distinguish violent juvenile sexual offenders' victim typologies. *International Journal of Environmental Research and Public Health, 18*(21), 11345. https://doi.org/10.3390/ijerph182111345

Baglivio, M. T., Epps, N., Swartz, K., Huq, M. S., Sheer, A., & Hardt, N. S. (2014). The prevalence of Adverse Childhood Experiences (ACE) in the lives of juvenile offenders. *Journal of Juvenile Justice, 3*, 1–23.

Baglivio, M. T., Wolff, K. T., Piquero, A. R., & Epps, N. (2015). The relationship between adverse childhood experiences (ACE) and juvenile offending trajectories in a juvenile offender sample. *Journal of Criminal Justice, 43*, 229–241.

Baglivio, M. T., Wolff, K. T., Piquero, A. R., Bilchik, S., Jackowski, K., Greenwald, M. A., & Epps, N. (2016). Maltreatment, child welfare, and recidivism in a sample of deep-end crossover youth. *Journal of Youth and Adolescence, 45*, 625–654.

Baglivio, M. T., Wolff, K. T., Epps, N., & Nelson, R. (2017). Predicting Adverse Childhood Experiences: The importance of neighborhood context in youth trauma among delinquent youth. *Crime & Delinquency, 63*(2), 166–188.

Baglivio, M. T., Wolff, K. T., DeLisi, M., & Jackowski, K. (2020). The role of adverse childhood experiences (ACEs) and psychopathic features on juvenile offending criminal careers to age 18. *Youth Violence and Juvenile Justice, 18*(4), 337–364.

Baglivio, M. T., Wolff, K. T., & Epps, N. (2021a). Violent juveniles' adverse childhood experiences: Differentiating victim groups. *Journal of Criminal Justice, 72*, 101769. https://doi.org/10.1016/j.jcrimjus.2020.101769

Baglivio, M. T., Zettler, H., Craig, J. M., & Wolff, K. T. (2021b). Evaluating RNR-based targeted treatment and intervention dosage in the context of traumatic exposure. *Youth Violence and Juvenile Justice, 19*(3), 251–276.

Banyard, V., Hamby, S., & Grych, J. (2017). Health effects of adverse childhood events: Identifying promising protective factors at the intersection of mental and physical well-being. *Child Abuse and Neglect, 65*, 88–98.

Barrett, D. E., Katsiyannis, A., Zhang, D., & Zhang, D. (2014). Delinquency and recidivism, A multicohort, matched-control study of the role of early adverse experiences, mental health problems, and disabilities. *Journal of Emotional and Behavioral Disorders, 22*, 3–15.

Basto-Pereira, M., Miranda, A., Ribeiro, S., & Maia, ^. A. (2016). Growing up with adversity: From juvenile justice involvement to criminal persistence and psychosocial problems in young adulthood. *Child Abuse & Neglect, 62*, 63–75.

Bellis, M. A., Lowey, H., Leckenby, N., Hughes, K., & Harrison, D. (2014). Adverse childhood experiences: Retrospective study to determine their impact on adult health behaviours and health outcomes in a UK population. *Journal of Public Health, 36*, 81–91.

Bethell, C., Jones, J., Gombojav, N., Linkenbach, J., & Sege, R. (2019). Positive childhood experiences and adult mental and relational health in a statewide sample: Association across adverse childhood experiences levels. *JAMA Pediatrics, 173*(11), e193007.

Bonner, T., DeLisi, M., Jones-Johnson, G., Caudill, J. W., & Trulson, C. (2020). Chaotic homes, adverse childhood experiences, and serious delinquency: Differential effects by race and ethnicity. *Justice Quarterly, 37*, 697–714.

Boonmann, C., Grisso, T., Guy, L. S., Collins, O. F., Mulder, E. A., Vahl, P., Jansen, L. M. C., Doreleijers, T. A. H., & Vermeiren, R. J. M. (2016). Childhood traumatic experiences and mental health problems in sexually offending and non-sexually offending juveniles. *Child and Adolescent Psychiatry and Mental Health, 10*, 45–55.

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

Bremner, D. (2003). Long- term effects of childhood abuse on brain and neurobiology. *Child and Adolescent Psychiatric Clinics of North America, 12*, 271–292.

Browne, A., & Finkelhor, D. (1986). Impact of child sexual abuse: A review of the research. *Psychological Bulletin, 99*, 66–77.

Cameranesi, M., Theron, L., Holtge, J., Jefferies, P., & Ungar, M. (2022). Understanding the mechanisms through which family risk affects adolescent mental health: A model of multisystemic resilience in context. *Children, 9*(4), 546–569.

Centers for Disease Control and Prevention. (2019a). *Preventing adverse childhood experiences: Leveraging the best available evidence*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Centers for Disease Control and Prevention. (2019b). *Essential for childhood framework: Creating safe, stable, and nurtureing environments for children*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Cicchetti, D. (2013). Annual research review: Resilient functioning in maltreated children – past, present, and future perspectives. *Journal of Child Psychology and Psychiatry, 54*, 402–422.

Coulton, C. J., Crampton, D. S., Irwin, M., Spilsbury, J. C., & Korbin, J. E. (2007). How neighborhoods influence child maltreatment: A review of the literature and alternative pathways. *Child Abuse & Neglect, 31*, 1117–1142.

Craig, J. M., Baglivio, M. T., Wolff, K. T., Piquero, A. R., & Epps, N. (2017a). Do social bonds buffer the impact of adverse childhood experiences on reoffending? *Youth Violence and Juvenile Justice, 15*(1), 3–20.

Craig, J. M., Intravia, J., Wolff, K. T., & Baglivio, M. T. (2017b). What can help? Examining levels of substance (non)use as a protective factor in the effect of ACEs on crime. *Youth Violence and Juvenile Justice, 17*(1), 42–61.

Craig, J. M., Piquero, A. R., Farrington, D. P., & Ttofi, M. M. (2017c). A little early risk goes a long way: Adverse childhood experiences and life-course offending in the Cambridge Study. *Journal of Criminal Justice, 53*, 34–45.

Craig, J. M., Zettler, H. R., Wolff, K. T., & Baglivio, M. T. (2019). Considering the mediating effects of drug and alcohol use, mental health, and their co-occurrence on the adverse childhood experiences-recidivism relationship. *Youth Violence and Juvenile Justice, 17*(3), 219–240.

D'Onofrio, B. M., Turkheimer, E., Emery, R. E., Slutske, W. S., Heath, A. C., Madden, P. A., & Martin, N. G. (2005). A genetically informed study of marital instability and its association with offspring psychopathology. *Journal of Abnormal Psychology, 114*, 570–586.

Danese, A., & McEwen, B. S. (2012). Adverse childhood experiences, allostasis, allostatic load, and age- related disease. *Physiology and Behavior, 106*, 29–39.

Dannerbeck, A., & Yan, J. (2011). Missouri's crossover youth: Examining the relationship between maltreatment history and their risk of violence. *Journal of Juvenile Justice, 1*, 78–97.

DeLisi, M., Alcala, J., Kusow, A., Hochstetler, A., Heirigs, M. H., Caudill, J. W., Trulson, C. R., & Baglivio, M. T. (2017). Adverse childhood experiences, commitment offense, and race/ethnicity: Are the effects crime-, race-, and ethnicity-specific? *International Journal of Environmental Research and Public Health, 14*(3), 331. https://doi.org/10.3390/ijerph14030331

DeLisi, M., Drury, A. J., & Elbert, M. J. (2019). Etiology of antisocial personality disorder: The differential roles of adverse childhood experiences and childhood psychopathy. *Comprehensive Psychiatry, 92*, 1. https://doi.org/10.1016/j.comppsych.2019.04.001

Dierkhising, C. B., Ko, S. J., Woods- Jaeger, B., Briggs, E. C., Lee, R., & Pynoos, R. S. (2013). Trauma histories among justice-involved youth: Findings from the National Child Traumatic Stress Network. *European Journal of Psychotraumatology, 4*, 1–12.

Dierkhising, C. B., Ford, J. D., Branson, C., Grasso, D. J., & Lee, R. (2019). Developmental timing of polyvictimization: Continuity, change, and association with adverse outcomes in adolescence. *Child Abuse & Neglect, 87*, 40–50.

Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., Loo, C. M., & Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse and Neglect, 28*, 771–784.

Duke, N. N., Pettingell, S. L., McMorris, B. J., & Borowsky, I. W. (2010). Adolescent violence perpetration: Associations with multiple types of adverse childhood experiences. *Pediatrics, 125*, 778–786.

Ellis, W. R., & Dietz, W. H. (2017). A new framework for addressing adverse childhood experiences: Building community resilience (BCR) model. *Academic Pediatrics, 17*, S86–S93.

English, D., Widom, C., & Brandford, C. (2001). *Childhood victimization and delinquency, adult criminality, and violent criminal behavior: A replication and extension (NCJ 192291)*. National Institute of Justice.

Evans, S. E., Davies, C., & DiLillo, D. (2008). Exposure to domestic violence: A meta-analysis of child and adolescent outcomes. *Aggression and Violent Behavior, 13*, 131–140.

Fagan, A. A. (2005). The relationship between adolescent physical abuse and criminal offending: Support for an enduring and generalized cycle of violence. *Journal of Family Violence, 20*, 279–290.

Fang, X., Brown, D. S., Florence, C. S., & Mercy, J. A. (2012). The economic burden of child maltreatment in the United States and implications for prevention. *Child Abuse & Neglect, 36*, 156–165.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine, 14*, 245–258.

Finkelhor, D. (2018). Screening for adverse childhood experiences (ACEs): Cautions and suggestions. *Child Abuse & Neglect, 85*, 174–179.

Finkelhor, D., Ormrod, R., & Turner, H. A. (2007). Polyvictimization and trauma in a national longitudinal cohort. *Development and Psychopathology, 19*, 149–166.

Flynn, A. B., Fothergill, K. E., Wilcox, H. C., Coleclough, E., Horwitz, R., Ruble, A., Burkey, M. D., & Wissow, L. S. (2015). Primary care interventions to prevent and treat traumatic stress in childhood: A systematic review. *Academic Pediatrics, 15*, 480–492.

Folk, J. B., Ramos, L. M. C., Bath, E. P., Rosen, B., Marshall, B. D. L., Kemp, K., Brown, L., Conrad, S., & Tolou-Shams, M. (2021). The prospective impact of adverse childhood experiences on justice-involved youth's psychiatric symptoms and substance use. *Journal of Consulting and Clinical Psychology, 89*(6), 483–498.

Fox, B. H. (2017). What makes a difference? Evaluating the key distinctions and predictors of sexual and non-sexual offending among male and female juvenile offenders. *Journal of Criminal Psychology, 7*, 134–150.

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

Freisthler, B., Merritt, D. H., & LaScala, E. A. (2006). Understanding the ecology of child maltreatment: A review of the literature and directions for future research. *Child Maltreatment, 11*, 263–280.

Geller, A., Garfinkel, I., Cooper, C. E., & Mincy, R. B. (2009). Parental incarceration and child wellbeing: Implications for urban families. *Social Science Quarterly, 90*, 1186–1202.

Graf, G. H.-J., Chihuri, S., Blow, M., & Li, G. (2021). Adverse childhood experiences and justice system contact: A systematic review. *Pediatrics, 147*(1), e2020021030.

Heim, C., Shugart, M., Craighead, W. E., & Nemeroff, C. B. (2010). Neurobiological and psychiatric consequences of child abuse and neglect. *Developmental Psychobiology, 52*, 671–690.

Herrera, V. M., & McCloskey, L. A. (2001). Gender differences in the risk for delinquency among youth exposed to family violence. *Child Abuse and Neglect, 25*, 1037–1051.

Herrman, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience? *Canadian Journal of Psychiatry, 56*(5), 258–265.

Hillis, S. D., Anda, R. F., Dube, S. R., Felitti, V. J., Marchbanks, P. A., Macaluso, M., & Marks, J. S. (2010). The protective effect of family strengths in childhood against adolescent pregnancy and its long-term psychosocial consequences. *The Permanente Journal, 14*(3), 18–27.

Jaffee, S. R., & Maikovich-Fong, A. K. (2011). Effects of chronic maltreatment and maltreatment timing on children's behavior and cognitive abilities. *Journal of Child Psychology & Psychiatry, 52*(2), 184–194.

Kahn, R. E., Jackson, K., Keiser, K., Ambroziak, G., & Levenson, J. S. (2021). Adverse childhood experiences among sexual offenders: Association with sexual recidivism and psychopathology. *Sexual Abuse, 33*(7), 839–866.

Kerridge, B. T., Chou, S. P., Huang, B., & Harford, T. C. (2020). Sociodemographic characteristics, adverse childhood experiences, and substance use and psychiatric disorders among adolescent-limited, adult-onset, life-course-persistent offenders and nonoffenders in a general population survey. *Crime & Delinquency, 66*(12), 1729–1753.

Kowalski, M. A. (2018). Adverse childhood experiences and justice involved youth: The effect of trauma and programming on different recidivistic outcomes. *Youth Violence and Juvenile Justice, 17*(4), 354–384.

Lanius, R., Vermetten, E., & Pain, C. (2011). *The impact of early life trauma on health and disease: The hidden epidemic*. Cambridge University Press.

Lansford, J. E., Miller-Johnson, S., Berlin, L. J., Dodge, K. A., Bates, J. E., & Pettit, G. S. (2007). Early physical abuse and later violent delinquency: A prospective longitudinal study. *Child Maltreatment, 12*, 233–245.

Larkin, H., Felitti, V. J., & Anda, R. F. (2014). Social work and adverse childhood experiences research: Implications for practice and health policy. *Social Work in Public Health, 29*, 1–16.

Leban, L., & Gibson, C. L. (2020). The role of gender in the relationship between adverse childhood experiences and delinquency and substance use in adolescence. *Journal of Criminal Justice, 66*, 101637. https://doi.org/10.1016/j.jcrimjus.2019.101637

Levenson, J. S., & Socia, K. M. (2016). Adverse childhood experiences and arrest patterns in a sample of sexual offenders. *Journal of Interpersonal Violence, 31*(10), 1883–1911.

Levenson, J. S., Willis, G. M., & Prescott, D. S. (2015). Adverse childhood experiences in the lives of female sex offenders. *Sexual Abuse: A Journal of Research and Treatment, 27*(3), 258–283.

Levenson, J. S., Baglivio, M., Wolff, K. T., Epps, N., Royall, W. C., Gomez, K. C., & Kaplan, D. (2017). You learn what you live: Prevalence of childhood adversity in the lives of juveniles arrested for sexual offenses. *Advances in Social Work, 18*(1), 313–334.

Lipsey, M. W., Howell, J. C., Kelly, M. R., Chapman, G., & Carver, D. (2010). *Improving the effectiveness of juvenile justice programs: A new perspective on evidence-based practice*. Center for Juvenile Justice Reform; Georgetown Public Policy Institute.

Lynch, M., & Cicchetti, D. (1998). An ecological transactional analysis of children and contexts: The longitudinal interplay among child maltreatment, community violence, and children's symptomology. *Development and Psychopathology, 10*, 235–257.

Malvaso, C. G., Delfabbro, P. H., & Day, A. (2019). Adverse childhood experiences in a South Australian sample of young people in detention. *Australian and New Zealand Journal of Criminology, 52*(3), 411–431.

Malvaso, C. G., Cale, J., Whitten, T., Day, A., Singh, S., Hackett, L., Delfabbro, P. H., & Ross, S. (2021). Associations between adverse childhood experiences and trauma among young people who offend: A systematic literature review. *Trauma, Violence, & Abuse*. https://doi.org/10.1177/15248380211013132

Mass, C., Herrenkohl, T. I., & Sousa, C. (2008). Review of research on child maltreatment and violence in youth. *Trauma, Violence, & Abuse, 9*(1), 56–67.

Maxfield, M. G., & Widom, C. S. (1996). The cycle of violence: Revisited six years later. *Archives of Pediatric Adolescent Medicine, 150*, 390–395.

Mersky, J. P., & Topitzes, J. (2010). Comparing early adult outcomes of maltreated and non-maltreated children: A prospective longitudinal investigation. *Children and Youth Services Review, 36*, 22–29.

Mersky, J. P., Janczwewski, C. E., & Topitzes, J. (2017). Rethinking the measurement of adversity: Moving toward second-generation research on adverse childhood experiences. *Child Maltreatment, 22*(1), 58–68.

Moffitt, T. E. (1993). Adolescent-limited and life-course persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*(4), 674–701.

Moylan, C. A., Herrenkohl, T. I., Sousa, C., Tajima, E. A., Herrenkohl, R. C., & Russo, M. J. (2010). The effects of child abuse exposure to domestic violence on adolescent internalizing and externalizing behavior problems. *Journal of Family Violence, 25*, 53–63.

Muniz, C. N., Fox, B., Miley, L. N., DeLisi, M., Cigarran, G. P., II., & Birnbaum, A. (2019). The effects of adverse childhood experiences on internalizing versus externalizing outcomes. *Criminal Justice and Behavior, 46*(4), 568–589.

Murray, J., & Farrington, D. P. (2005). Parental imprisonment: Effects on boys' antisocial behavior and delinquency through the life-course. *Journal of Child Psychology and Psychiatry, 46*, 1269–1278.

Naramore, R., Bright, M. A., Epps, N., & Hardt, N. S. (2017). Youth arrested for trading sex have the highest rates of childhood adversity: A statewide study of juvenile offenders. *Sexual Abuse, 29*(4), 396–410.

Narayan, A. J., Lieberman, A. F., & Masten, A. S. (2021). Intergenerational transmission and prevention of adverse childhood experiences (ACEs). *Clinical Psychology Review, 85*, 101997. https://doi.org/10.1016/j.cpr.2021.101997

Narvey, C., Yang, J., Wolff, K. T., Baglivio, M. T., & Piquero, A. R. (2020). The interrelationship between empathy and adverse childhood experiences and their impact on juvenile recidivism. *Youth Violence and Juvenile Justice, 19*(1), 45–97.

Painter, K., & Scannapieco, M. (2013). Child maltreatment: The neurobiological aspects of posttraumatic stress disorder. *Journal of Evidence-Based Social Work, 10*, 276–284.

Parke, R., & Clarke-Stewart, K. (2002). *Effects of parental incarceration on young children*. US Department of Health and Human Services.

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

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

Pierce, H., & Jones, M. S. (2021). Gender differences in the accumulation, timing, and duration of childhood adverse experiences and youth delinquency in fragile families. *Journal of Research in Crime and Delinquency, 59*(1), 3–43.

Putnam, F. W. (2006). The impact of trauma on child development. *Juvenile and Family Court Journal, 57*, 1–11.

Reid, J. A., Baglivio, M. T., Piquero, A. R., Greenwald, M. A., & Epps, N. (2019). No youth left behind to human trafficking: Exploring profiles of risk. *American Journal of Orthopsychiatry, 89*, 704–715.

Rivera, B., & Widom, C. S. (1990). Childhood victimization and violent offending. *Violence and Victims, 5*, 19–35.

Schroeder, A., Slopen, N., & Mittal, M. (2020). Accumulation, timing, and duration of early childhood adversity and behavior problems at age 9. *Journal of Clinical Child & Adolescent Psychology, 49*, 36–49.

Scott, B. G., Burke, N. J., Weems, C. F., Hellman, J. L., & Carrión, V. G. (2013). The interrelations of adverse childhood experiences within an at-risk pediatric sample. *Journal of Child & Adolescent Trauma, 6*, 217–229.

Shalev, I., Moffitt, T., Sugden, K., Williams, B., Houts, R. M., Danese, A., Mill, J., Arseneault, L., & Caspi, A. (2013). Exposure to violence during childhood is associated with telomere erosion from 5 to 10 years of age: A longitudinal study. *Molecular Psychiatry, 18*, 576–581.

Smith, C., & Thornberry, T. P. (1995). The relationship between childhood maltreatment and adolescent involvement in delinquency. *Criminology, 33*, 451–477.

Stewart, M., Lutz, L., & Herz, D. H. (2010). *Crossover youth practice model*. Center for Juvenile Justice Reform, Georgetown University McCourt School of Public Policy.

Stienberg, A. M., Brymer, M. J., Kim, S., Ghosh, C., Ostrowski, S. A., Gulley, K., Briggs, E. C., & Pynoos, R. S. (2013). Psychometric properties of the UCLA PTSD Reaction Index. Part 2: Investigating factor structure findings in a national clinic-referred youth sample. *Journal of Traumatic Stress, 26*, 10–18.

Struck, S., Stewart-Tufescu, A., Asmudson, A. J. N., Asmundson, G. G. J., & Afifi, T. O. (2021). Adverse childhood experiences (ACEs) research: A bibliometric analysis of publication trends over the first 20 years. *Child Abuse & Neglect, 112*, 104895. https://doi.org/10.1016/j.chiabu.2020.104895

Teague, R., Mazerolle, P., Legosz, M., & Sanderson, J. (2008). Linking childhood exposure to physical abuse and adult offending: Examining mediating factors and gendered relationships. *Justice Quarterly, 25*, 313–348.

Testa, A., Jackson, D. B., Ganson, K. T., & Nagata, J. M. (2022). Adverse childhood experiences and criminal justice contact in adulthood. *Academic Pediatrics, 22*(6), 972–980.

Topitzes, J., Mersky, J. P., & Reynolds, A. J. (2011). Child maltreatment and offending behavior: Gender-specific pathways. *Criminal Justice and Behavior, 38*, 492–510.

Trulson, C. R., Haerle, D. R., Caudill, J. W., & DeLisi, M. (2016). *Lost causes: Blended sentencing, second chances, and the Texas Youth Commission*. University of Texas Press.

Twardosz, S., & Lutzker, J. R. (2010). Child maltreatment and the developing brain: A review of neuroscience perspectives. *Aggression and Violent Behavior, 15*, 59–68.

U.S. Department of Health & Human Services. (2020). *Child Maltreatment 2018*. Administration on Children, Youth, and Families, Children's Bureau. Available from https://www.acf.hhs.gov/sites/default/files/documents/cb/cm2018.pdf

Widom, C. S. (1989a). The cycle of violence. *Science, 244*(4901), 160–166.

Widom, C. S. (1989b). Child abuse, neglect, and adult behavior: Research design and findings on criminality, violence, and child abuse. *American Journal of Orthopsychiatry, 59*, 355–367.

Widom, C. S., & Maxfeld, M. G. (2001). *An update on the "cycle of violence."*. National Institute of Justice, U.S. Department of Justice.

Widom, C. S., Fisher, J. H., Nagin, D. S., & Piquero, A. R. (2018). A prospective examination of criminal career trajectories in abused and neglected males and females followed up into middle adulthood. *Journal of Quantitative Criminology, 34*, 831–852.

Winninghoff, A. (2020). Trauma by the numbers: Warning against the use of ACE scores in trauma-informed schools. *Occasional Paper Series, 43*, 32–43.

Wolff, K. T., & Baglivio, M. T. (2017). Adverse childhood experiences, negative emotionality, and pathways to juvenile recidivism. *Crime & Delinquency, 63*(12), 1495–1521.

Wolff, K. T., Baglivio, M. T., & Piquero, A. R. (2017). The relationship between adverse childhood experiences and recidivism in a sample of juvenile offenders in community-based treatment. *International Journal of Offender Therapy and Comparative Criminology, 61*, 1210–1242.

Wolff, K. T., Cuevas, C., Intravia, J., Baglivio, M. T., & Epps, N. (2018). The effects of neighborhood context on exposure to adverse childhood experiences (ACE) among adolescents involved in the juvenile justice system: Latent classes and contextual effects. *Journal of Youth and Adolescence, 47*, 2279–2300.

Wolff, K. T., Baglivio, M. T., Klein, H. J., Piquero, A. R., DeLisi, M., & Howell, J. C. (2020). Adverse childhood experiences and gang involvement among juvenile offenders: Assessing the mediation effects of substance use and temperament deficits. *Youth Violence and Juvenile Justice, 18*(1), 24–53.

Yu-Ling Chiu, Y. L., Ryan, J. P., & Herz, D. C. (2011). Allegations of maltreatment and delinquency: Does risk of juvenile arrest vary substantiation status? *Children and Youth Services Review, 33*, 855–860.

Zettler, H. R. (2020). Much to do about trauma: A systematic review of existing trauma-informed treatments on violence and recidivism. *Youth Violence and Juvenile Justice, 19*(1), 113–134.

Zettler, H. R., Wolff, K. T., Baglivio, M. T., Craig, J. M., & Epps, N. (2018). The racial and gender differences in the impact of adverse childhood experiences on juvenile residential placement. *Youth Violence and Juvenile Justice, 16*, 319–337.

Part IV

Applying the Science of Adverse Childhood Experiences (ACEs) to Current Policy and Public Health Issues

10

Clinical Implications of an Immigration-Related Adverse Childhood Experiences (ACEs) Framework for Latinx Children of Immigrant Parents

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Recently, we proposed an expansion to the adverse childhood experiences (ACEs) framework to explain the experiences Latinx children in the United States endure in a restrictive, anti-immigrant sociopolitical climate, the *Immigration-Related Adverse Childhood Experiences Framework* (Barajas-Gonzalez et al., 2021a). We proposed this expansion because the traditional ACEs framework primarily measured adversities originating in the home, failing to identify the systematic oppression that afflicts Latinx immigrants (Flores & Salazar, 2017). In this chapter, we use our ACEs framework to identify and advance comprehensive preventive and treatment interventions for Latinx children and families in the United States.

The Immigration-Related Adverse Childhood Experiences Framework

In creating our framework, we integrated the Ecological-Transactional Model of Development (Cicchetti & Lynch, 1993) with the Dimensional Model of Adversity and Psychopathology (DMAP; McLaughlin et al., 2016; McLaughlin & Sheridan, 2016) to posit that children of Latinx immigrants in the United States experience a range of racialized immigration-related adversities that are associated with detriments to their development and well-being. We define immigration-related adversities as those experiences that originate from or can be traced back to immigration policy and/or enforcement practices. We distinguish these adversities from those that might occur in the home or

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neighborhood contexts, although we acknowledge that immigration policy and enforcement likely affect stability in those contexts.

Ecological-transactional theory (Cicchetti & Lynch, 1993) proposes that child development is shaped by bidirectional influences of risk and protective factors occurring across nested ecologies that vary in proximity to the child. These ecologies, from least to most proximal, are (a) the *macrosystem*, i.e., values and policies that shape how society functions; (b) the *exosystem*, i.e., community settings in which families live; (c) the *microsystem*, i.e., individuals in the proximal ecologies with whom the child directly interacts; and (d) the *ontogenic* level, meaning factors within the child that influence their development.

The DMAP (McLaughlin & Sheridan, 2016) framework proposes that there are two distinct but related dimensions of ACEs: threat and deprivation. Threat refers to situations in which harm could occur to self or loved ones. Deprivation refers to the absence of normative cognitive and social stimuli, physical resources, and emotional nurturance in the environment. McLaughlin and Sheridan (2016) claim that a cumulative approach to understanding ACEs that focuses on the number of adversities, although useful for calling attention to the public health importance of adversity, is limited when used to identify the mechanisms linking childhood adversity with long-term outcomes. ACEs characterized by threat lead to heightened attention and greater neural responses to potential threats. ACEs characterized by deprivation impair reward and pattern learning, executive functioning, and language development.

Informed by the Ecological-Transactional Model and DMAP, our Immigration-Related Adverse Childhood Experiences Framework proposes that a macrosystem characterized by racialized immigration policy and enforcement and anti-immigrant rhetoric leads to immigration-related adversities in the exosystem and microsystem that fall along both threat and deprivation dimensions (see Fig. 10.1). Immigration-related ACEs include those characterized by (a) deprivation due to marginalization in the form of precluded access to resources, parental work exploitation and segregation into under-resourced neighborhoods and schools, among others; (b) deprivation and threat due to racialized immigration enforcement and policing, including discrimination and racial profiling, Immigration and Customs Enforcement (ICE) and police collaboration, ICE raids in Latinx communities, and threat of deportation; and (c) deprivation and threat due to actual detention and deportation, e.g., forced separation from a parent/caregiver and economic insecurity due to parent detention. For a review of the links between immigration-related ACEs and developmental outcomes for Latinxs, see Barajas-Gonzalez et al. (2021a).

Our framework proposes that legal statuses of the child and of the child's family members influence the extent to which each immigration-related adversity is experienced as highly threatening and/or depriving because different types of legal statuses are associated with varying degrees of economic and civic opportunities. Naturalized citizenship confers the same rights and access as native-born citizens except for the eligibility to be president or vice president. Outside of this status, the immigrant population in the United States is classified under four general legal statuses, which determine individuals' access to opportunities: permanent, temporary, discretionary, and unauthorized (National Academies of Sciences, Engineering and Medicine; NASEM, 2015). *Permanent status* (i.e., lawful permanent residency) is conferred when an employer or US citizen family member petitions on an individual's behalf and affords the most protections and benefits. Still, individuals with this status are not allowed to vote and do not have the right to remain in the United States indefinitely. *Temporary status* is held by visa holders who are entitled to limited periods of presence in the United States. *Discretionary status* is temporary lawful status conferred through Executive discretion that is not intended to result in permanent presence, such as Deferred Action for Childhood Arrival (DACA) and Temporary Protected Status (TPS). *Unauthorized status* (i.e., undocumented or "illegal" status) affords few legal protections and confers the constant risk of

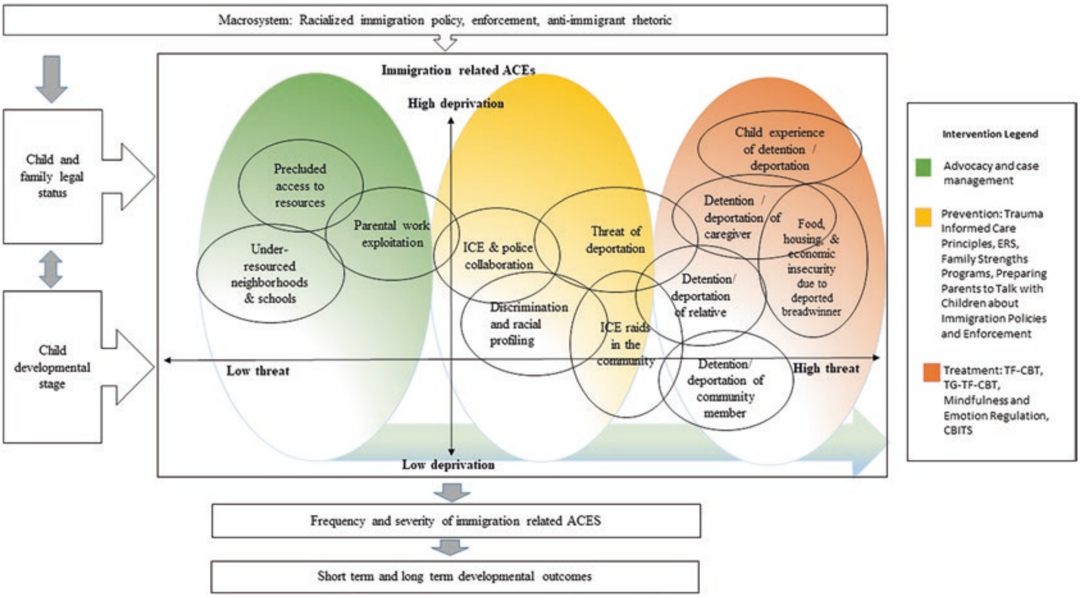

Fig. 10.1 Immigration-Related Adverse Childhood Experiences Framework and levels of intervention. *Note.* Levels of intervention are superimposed on the Immigration-Related Adverse Childhood Experiences Framework. (Adapted from Barajas-Gonzalez et al. (2021a). Copyright 2022 by Elsevier)

detention and deportation. In the past decade, 5.2 million children in the United States (85% of whom were US citizens) lived with at least one immigrant parent with unauthorized status (Batalova et al., 2021). Thus, a large number of children live with the possibility that a parent or family member with unauthorized status in the United States could be detained and deported. This experience involves ongoing threat to a child's sense of safety, which in turn is linked to anxiety and depression in Latinx youth (Barajas-Gonzalez et al., 2021b; Rojas-Flores et al., 2017). Our framework applies to US citizen children who live with their parents or to children who immigrated with their parents without authorization. For literature on unaccompanied migrant children, see Androff (2016) and Rodriguez et al. (2019).

In addition to family and child legal status, the macrosystem (e.g., anti-immigrant rhetoric) and the child's ontogenic ecology, such as their awareness of immigration policies, are important considerations. Young children may be relatively unaware of their parents' or own legal status, and hence, their or their parents' precarious legal position, but they are affected through the impact that status has on their parents' vulnerability to employment exploitation and lack of access to health services (Yoshikawa, 2011). Awareness and understanding of legal status increase through childhood, as cognition and identity develop, and exposure increases to media, peers, family conversations, and deportations in their community (Barajas-Gonzalez et al., 2022; Valdez et al., 2021). Drawing on our framework, we present practice recommendations aimed at supporting Latinx children and families as they navigate and endure immigration-related ACEs.

Screening for Immigration-Related ACEs

ACEs screening measures used with children in immigrant families or their parents should include general indicators of threat and deprivation, including (a) ICE arrests or deportations of caregivers, (b) being a victim of, or witnessing, ICE arrests or raids, (c) caregiver separation because of migration, and (d) experiencing anti-immigrant discrimination (Flores & Salazar, 2017). Specific factors should also be screened, such as children's direct experiences of detention or deportation; prolonged food, housing, and economic insecurity due to the loss of a breadwinner; under-resourced neighborhoods and schools; parental work exploitation; and precluded access to resources. The Perceived Immigration Policy Effects Scale (PIPES; Ayón, 2017) assesses parents' perceptions of many of these immigration stressors, including family's experiences of discrimination, social exclusion, threat to family, and children's vulnerability due to the policy climate. ACEs screening could provide an understanding of the family's context, mental health burden, and resilience, and point to appropriate resources and interventions.

Risks and Safeguards of Immigration-Related ACEs Screening

To protect against threats to client confidentiality, clinical providers screening youth and their families for immigration-related ACEs should consider (a) helping families understand the limits of confidentiality (e.g., reporting potential allegations of safety concerns to law enforcement and other agencies) that may identify their immigration status; (b) encouraging families to ask questions about how their healthcare setting uses information about immigration status; (c) avoiding asking directly about or recording client disclosed legal status in their records; and (d) inquiring from parents what children know about their own or their family's legal status prior to discussing it openly with the child (Gonzales, 2011; Walsdorf et al., 2019).

To acknowledge clients' concerns about confidentiality, providers should disclose to families their stance on ICE arrests in healthcare settings, reassure families that they are not required to report legal status of clients to ICE, and validate families' uncertainty and fears (Walsdorf et al., 2019). They could further support families by exploring some of their greatest challenges and fears by asking, "Have you ever feared you might be separated from your child?" "Are you able to access the resources you need for your child?" and "What gets in the way of accessing the resources you need for your child?" Finally, inquiring about threatening exposures without offering appropriate or accessible support may be harmful because of the potential for retraumatization (Finkelhor, 2018). Following assessment for immigration-related ACEs, providers can offer grounding strategies, breathing techniques, precautions (e.g., safety assessment and plan), and referral to mental health services when appropriate.

Mental Health Provider Considerations and Development

Mental health providers' ability to effectively assess the threat and deprivation faced by children of immigrant parents and their families requires ongoing inquiry, reflexivity, and self-awareness. This involves (a) understanding of the historical macro-level factors that contribute to threat and deprivation, (b) reflexivity about privilege and bias, and (c) a trauma-informed and culturally attuned practice.

Knowledge of Families' Historical Context

Providers must be attentive to how historical factors that contribute to immigration and current immigration policies shape families' lives (Walsdorf et al., 2019). For example, the Bracero Program brought seasonal workers to the United States at approximate rates of 450,000 per year between 1942 and 1964. The government then attempted to send these workers back when they were no longer needed, not considering that many had built lives in the United States. Similarly, the 1986 Immigration Reform and Control Act drastically increased border enforcement and punitive removal procedures despite the continual pull for workers to the United States, leading to the creation of underground networks and forcing many families to attempt crossing the border without authorization.

Knowledge of this history is an important step for providers as they work to practice with cultural humility within a US sociopolitical climate of rhetoric that blames Latinx individuals, families, and failed Latin American governments (Massey & Pren, 2012).

Mental health providers must also be aware of current policies and practices that produce threat and deprivation for Latinx children of immigrant families, as well as those that offer hope. Enforcement-first practices that pose significant threat include detention and deportation. From 2009 to 2016, nearly three million immigrants were deported (Budiman, 2020), and many of them had US-born children. Locally, states have taken various actions that increase threat for immigrant families including SB 1070 in Arizona and SB 4 in Texas, which forces local law enforcement to collaborate with ICE and has led to increased fear over routine enforcement such as traffic stops. Beyond those directly affected, these policies and practices harm immigrant families across the United States impacted by "spillover effects" (Aranda et al., 2014). Policies that promote deprivation include the 1996 Personal Responsibility and Work Opportunity Reconciliation Act, which restricted access to federal, state, and local government resources to undocumented immigrants (Kullgren, 2003). Conversely, programs like DACA offer some equitable opportunities for Latinx immigrant youth. Providers should be aware of both those policies that drive threat and deprivation as well as those that create opportunities for thriving.

Reflection of Provider Privilege and Bias

In addition to awareness of historical factors and current enforcement trends, providers must engage in ongoing reflexivity and self-awareness. Walsdorf et al. (2019) adapted a series of questions by McGeorge and Carlson (2011) to help mental health providers explore (a) what they learned about immigration and immigrants, (b) their own national and/or ethnic identities, and (c) unearned privileges related to US citizenship and/or European ancestry. Sample questions include: What are my beliefs about how a person becomes an immigrant? Do I believe immigration is merely a choice? How has my citizenship, nationality, or documentation status been encouraged, rewarded, or supported by those around me and the larger society?

Culturally Humble, Trauma-Informed Practice

Along with an analysis of bias, power, and privilege, practicing from a culturally responsive framework requires a culturally attuned stance that considers the cultural wealth of Latinx communities (Falicov, 2014; Yosso, 2005). Adames and Chavez-Dueñas (2017) identified seven psychological strengths of Latinxs, including (a) determination, (b) *esperanza* or faith, (c) adaptability, (d) strong work ethic, (e) connectedness to others, (f) collective emotional expression, and (g) resistance. In addition, providers should be apprised of the literature related to Latinx psychology (see Falicov, 2014), psychological trauma, and oppression and liberation psychology, which focus on dismantling systems of oppression and privilege (Chavez-Dueñas et al., 2019). Given the immense strengths of Latinxs, clinical interventions should shift away from marginalizing and/or pathologizing narratives toward accounts of resilience, perseverance, and of dreams for a better life. An example of this type of intervention is an immigration narrative exercise where clients can "re-author" their immigration story to focus on their dreams for the future and how they have achieved a better life for their children (Walsdorf et al., 2019).

Trauma-informed practice includes establishing physical and psychological safety, and prioritizing transparency and trustworthiness in all interactions (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). This means following through on promises, informing clients of the purpose of assessments, and being open with clients about decisions related to their care. Trauma-informed practice centers empowerment and choice, which involves understanding how many identities—including immigrant—have been marginalized, silenced, and disempowered, and deliberately centering clients' experiences, wishes, and perspectives. Trauma-informed work entails collaborative work with clients rather than working "on" them, and building on personal, family, and community/cultural strengths. Finally, trauma-informed providers are attentive to their own experiences of secondary and vicarious traumatization.

Interventions for Immigration-Related ACEs

Figure 10.1 illustrates three appropriate levels of intervention for immigration-related ACEs in accord with the *Immigration-Related Adverse Childhood Experiences Model* (Barajas-Gonzalez et al., 2021a). For Latinx children and their immigrant families experiencing deprivation caused by marginalization, provider advocacy and case management are the first level, depicted in Fig. 10.1 with a green overlay. For children and their families experiencing deprivation and threat due to racialized immigration enforcement and policing, prevention strategies and programs are the second level of intervention, depicted in Fig. 10.1 with a yellow overlay. These strategies and programs include racial/ethnic and immigration socialization with parents and racial/ethnic healing community programs, and school-based trauma-informed practices. For these at-risk children as well as children already experiencing deprivation and threat associated with a family member's detention and deportation, strengths-based family programs and trauma-informed treatments are the third level of intervention, depicted in Fig. 10.1 with a red overlay. The arrow in the figure from the advocacy level through the other two levels indicates that families at risk and those most impacted by immigration-related ACEs would also benefit from provider case management and advocacy for structural changes.

Provider Advocacy and Case Management

Provider advocacy must be a backdrop to any prevention and intervention with Latinx children and their immigrant parents. Advocacy is defined as the public support of Latinx youth and families. Notably, provider advocacy will look different in varying contexts, and examples of advocacy acts are detailed here. For example, regardless of the level of intervention, families experiencing threat and deprivation from housing or food insecurity, legal issues, and violence will need connection to available resources. They can find available social resources by partnering with other local care providers and community members (Walsdorf et al., 2019), ensuring they make a closed-loop referral, i.e., that clients actually connect to the resources.

Beyond case management for individual families, providers are encouraged to engage in social action toward macro-level changes that might result in a more humane and just immigration system that prioritizes family unity and the best interests of the child (Bailey et al., 2011). This may take the form of attending protests, writing letters to officials, leveraging academic research to support policy change, and participating in the efforts of community-based advocacy organizations. One related opportunity for mental health providers to support Latinx immigrant children and families is through collaborating with their immigration lawyer during immigration proceedings. This collaboration can include educating attorneys and the court about the effects of adversity and trauma on memory, preparing the client for testimony, conducting a mental health evaluation of the client and providing expert testimony, and helping attorneys process their own secondary trauma and compassion fatigue (Cartwright et al., 2020).

Providers can engage in advocacy as part of interdisciplinary teams, particularly those involving community health workers (CHWs). CHWs have been shown to support Latinx immigrant families through information exchange and connection to social resources (Albright et al., 2011). CHW interventions are low cost and are considered culturally appropriate because they are based on the development of trust, knowledge of the community, and representation of the community members being served (Albright et al., 2011). In addition to connecting families to resources, CHWs translate mental health constructs into simple, actionable recommendations, which is helpful for families with low literacy (Barnett et al., 2018).

Providers can also partner with families and community organizations in advocacy efforts. In their model for Healing Ethno-Racial Trauma in Latinx Immigrant Communities, Chavez-Dueñas et al. (2019) propose four phases of intervention that providers can employ to mobilize hope, resistance, and action at the individual, family, and community level. These interventions range from implementing safety plans in the event of detainment and deportation, to creating sanctuary spaces, to engaging in some of the advocacy actions previously described.

Parent and Family Interventions to Address Immigration-Related ACEs

Family Ethnic-Racial and Immigration Socialization

Ethnic-racial and immigration socialization is an intervention that providers could use with immigrant Latinx parents and children. Ethnic-racial socialization (ERS) is a process through which parents transmit information, values, and perspectives regarding race or ethnicity to their children (Hughes et al., 2006). Among Latinx families, the most commonly assessed ERS strategies are cultural socialization, preparation for bias, and promotion of mistrust (Ayón et al., 2020). Cultural socialization represents parents' efforts to promote cultural customs, histories, and traditions; examples include cultivating ethnic-specific values such as maintaining strong family bonds, retaining the Spanish language, and eating ethnic foods (Ayón, 2016). Preparation for bias refers to parents' efforts to enable children to recognize and cope with threat posed by racial-ethnic discrimination and prejudice (Hughes et al., 2006). Promotion of mistrust refers to parents' transmission of cautionary messages about members of other ethnic/racial groups. ERS strategies co-occur within the parenting process; for example, in response to an experience with discrimination, parents can build children's ethnic pride and at the same time advise children on what to do when they encounter future discrimination (Ayón, 2016).

Evidence suggests youth of color benefit from ERS messages that aim to foster a positive ethnic identity and prepare youth to cope with racism and discrimination (Umaña-Taylor & Hill, 2020; Ayón et al., 2020). ERS has been associated with a strong sense of ethnic pride (Huguley et al., 2019), improved psychosocial outcomes (Wang et al., 2020a), and improved academic outcomes (Wang et al., 2020b). Recognizing that engaging in conversations about race/ethnicity and discrimination is challenging, scholars have developed interventions aimed at facilitating the ERS process. Initial findings from One Talk at a Time (Stein et al., 2021) reveal that youth developed coping skills to mitigate the effects of racism and discrimination, improved parent–youth communication, and experienced reduced psychological problems.

Emerging research has identified that Latinx families engage in an additional ERS strategy: immigration socialization. The "intersection of race-ethnicity and immigration place Latinx immigrant families in a different space where discussion about race-ethnicity and discrimination are embedded within a political environment that is fueled by anti-immigrant sentiment" (Ayón, 2016, p. 468). Immigration socialization involves discussions about nativity (i.e., where family members were born and what it means to be a US citizen); documentation status (i.e., what it is, why it matters, and which family members have which statuses); and the immigration policy context (i.e., enforcement activity, anti-immigrant rhetoric, contingency planning; Ayón et al., 2020). Beyond conversations with children, parents can engage children in change efforts to support immigrant rights such as canvassing in local communities.

Facilitation of Difficult Conversations Between Parents and Children

Parents vary in the approach they use to engage children in conversations about immigration and related threats (Lykes et al., 2013; Rubio-Hernandez & Ayón, 2016). Some parents elect to protect children as they want their children to enjoy their childhood and deem such topics as issues for adults to contend with. Parents may shield their children from media or limit communication about their immigration status or policy context (Cardoso et al., 2018; Lykes et al., 2013; Rubio-Hernandez & Ayón, 2016). Other parents may elect to prepare their children by engaging in difficult conversations about the political climate including the possibility of parental detention/deportation (Lykes et al., 2013; Rubio-Hernandez & Ayón, 2016). Various factors can inform parents' position such as the age of the child, their developmental capacity for inquiry, parent's own understanding and preparedness to contend with immigration threats, and level of risk to the family. These interactions are complicated by the numerous uncertainties families face including the continuously evolving immigration policy climate; thus, communication often lacks precision and details (Lykes et al., 2013).

Providers can explore with parents the messages they convey to their children in response to the immigration policy context. Parents may (a) emphasize reassuring children of their safety; (b) invalidate negative comments, advise children to focus on other issues, or share children's rights as citizens; (c) encourage children to remain hopeful and have faith in God; (d) offer children "everyday advice" such as what to do when they are near a police car; (e) encourage their children not call attention to themselves or their family; and (f) develop a deportation plan or engage in contingency planning for various possible immigration-related threats (Ayón, 2016; Cardoso et al., 2018; Lykes et al., 2013). Given the distress that these conversations can cause parents (Barajas-Gonzalez et al., 2022), providers can assist parents in preparing these materials while validating their pain and calling out the injustices they are facing.

It is important that providers explore parents' messages with curiosity and humility, and that they honor the cultural wealth underlying these messages. Although they should not persuade parents who may not be ready or willing to have difficult conversations with children about the threat and deprivation posed by immigration-related ACEs, they may support parents' reflection about what questions children may have and provide tools that can help parents respond with confidence and genuine reassurance (Valdez et al., 2021). Children receive information about the immigration policy climate from sources other than their parents (Lykes et al., 2013; Rubio-Hernandez & Ayón, 2016), including their peers, family members, neighbors, teachers, and the media. Families may elect to limit discussions with children about immigration status as a way to protect themselves. Lykes et al. (2013) suggest, "… advocates, service providers, and participatory research collaborators [need] to understand parents' decisions within the context of (a) family and community values, (b) lived and psychological experiences of being criminalized for 'being immigrant' and 'under threat,' and (c) the strategies they have developed to manage the day-to-day challenges of living without documents while parenting U.S. citizen children" (p. 143). Parents need to practice self-determination when engaging in difficult conversations about immigration.

Family-Based Resilience Programs

Children's experiences of threat and deprivation associated with immigration fears and enforcement are intrinsically a family adversity, and as such, family-based resilience programs should be implemented to support affected families. Trauma may manifest in unique ways for immigrant families because the possibility of direct exposure to immigration enforcement is structural, cumulative, and persistent (Finkelhor, 2018). Thus, family interventions should consider culture and the role of oppression in immigrant families. One useful model for intervention for mental health providers is the Multidimensional Ecosystemic Comparative approach (MECA; Falicov, 2014). MECA offers a map to identify and address four key domains of the Latinx immigrant experience: ecological contexts, migration-acculturation, family life cycle, and family organization. The first two domains pertain to sociopolitical factors, while the third and fourth domains pertain to cultural diversity. MECA also accounts for the mental health provider's intersecting identities, privilege, and bias. Family and provider maps allow for the visualization of points of connection and potential bias that can affect the therapeutic encounter. MECA promotes provider cultural humility to break down power differentials and oppression.

Couple and family-focused resilience programs that address cultural diversity and social justice are available. The GenerationPMTO® intervention for Latinx immigrant parents incorporates core elements of the PMTO parenting program (i.e., positive involvement, skills encouragement, limit setting, emotional regulation, monitoring and supervision, and family problem solving) while addressing immigration-related challenges, discrimination, and promotion of biculturalism (Parra-Cardona et al., 2019). This intervention aims to reduce immigrant parents' stress and anxiety so they can help their children who may be afflicted by anticipatory anxiety and worries related to anti-immigrant rhetoric and heightened immigration enforcement themselves. An additional example of a cultural adaptation of a family-based intervention for immigration-related stress is the Mediational Intervention for Sensitizing Caregivers (MISC), an attachment-based intervention that focuses on increasing mothers' sensitivity to their children's developmental capacities and needs to influence child outcomes. Cardoso et al. (2021) have been adapting MISC to be culturally relevant for Central American and Mexican mothers and youth separated through migration. The authors are adapting the MISC to account for inter-generational trauma and multiple separations related to community and state-sponsored violence, deep poverty, and limited pathways to legal migration.

Because parents play an important role in helping children regulate their physical and psychological response to stressors and adversity (Williamson et al., 2017), clinical interventions must focus on helping the caregivers to attend to their own mental health. Valdez et al. (2013) developed *Fortalezas Familiares* (Family Strengths), a culturally and linguistically tailored family-focused resilience intervention for Latinx immigrant mothers with depressive symptoms, other caregivers, and children ages 9–17. The 12-week program consists of concurrent but separate sessions with parents, other caregivers, and children, connecting distress explicitly to family narratives and journeys of hardship, loss of place and relationships, and resistance prior to, during, and post-immigration (Valdez et al., 2013).

Trauma-Informed Programs for Youth in the Context of Prevention

Trauma-informed prevention programs for children in community settings are particularly relevant because they enhance children's coping skills to resist the negative impacts of growing up in an oppressive sociopolitical climate. When children experience psychological distress as they face a threatening environment, they deliberately or unconsciously choose different coping methods to regulate their strong emotions. Disruptions in emotion regulation may lead a child to engage in maladaptive coping styles (e.g., cognitive avoidance, rumination), which, in turn, maintain or exacerbate a child's anxiety and even influence the development of PTSD (Stallard & Smith, 2007). Avoidance, a maladaptive form of emotion regulation, has been associated with internalizing problems among Mexican-origin adolescents (Liu et al., 2011).

Programs designed to increase emotion regulation and decrease maladaptive behaviors often include mindfulness and open discussions about self-care and mental health. Mindfulness programs have been adapted for ethnic minority children, including Latinx adolescents, and implemented as preventive interventions in school settings, reducing barriers to mental health care access in traditional clinical settings (Fung et al., 2019). Preventive interventions also consider the positive influence of social support on child and adolescent overall mental health and well-being, particularly when experiencing adversity (Yosso, 2005). For example, DACA youth often express feeling more empowered to address fear, negative emotions, and a sense of lack of agency when supported by community groups and encouraged to advocate for themselves, their families, and communities (Patler & Laster Pirtle, 2018). Online resources also serve as forums where mental health prevention resources can be provided to normalize strong emotions. One example is the DACA Self-Care Mental Health Series developed by Rojas-Flores and Ramirez (2020).

Trauma-Informed Practices for Children in the Context of Treatment

Trauma-informed treatment seeks to support children experiencing post-traumatic stress symptomatology (SAMHSA, 2014). Evidence suggests that the psychological distress and trauma associated with parental detention or deportation are present to some degree regardless of the age of the child left behind and far exceed those of the general population (MacLean et al., 2020; Rojas-Flores et al., 2017). However, abrupt family separations are particularly detrimental to young and school-aged children due to reliance on caregivers and truncated attachment relationships (Lieberman et al., 2005). Trauma-based interventions such as Child–Parent Psychotherapy (Lieberman et al., 2005) may be warranted for these young children.

Clinical interventions should also be tailored to meet the unique needs of adolescents who have experienced forced family separation. Trauma-Focused Cognitive Behavioral Therapy (TF-CBT; Cohen et al., 2017), an evidence-based therapy, and the Culturally Modified-Trauma-Focused Cognitive Behavioral Therapy (CM-TFT; De Arellano et al., 2012) have proven to be effective for Latinx children and adolescents experiencing traumatic events. Additionally, Cognitive Behavioral Intervention for Trauma in Schools (CBITS) with Latinx youth has been effective at reducing trauma-related symptoms (Kataoka et al., 2003) and stress related to immigration issues (Allison & Ferreira, 2017).

Childhood traumatic grief may be another consequence of experiencing parental detention and deportation. When the loss of a parent or caregiver is coupled with trauma symptoms, children present with other behaviors that are not typically found in normative bereavement (Cohen & Mannarino, 2011). The loss of a parent resulting from prolonged parental detention or deportation may resemble unresolved grief, which is often not fully processed in families due to fear of their safety or the risk of further family separation (Bravo, 2017). Notably, ordinary developmental tasks of childhood are often delayed and subverted by the grief of losing a primary caregiver (Cohen & Mannarino, 2011; Lieberman et al., 2005). The Traumatic Grief-Cognitive Behavioral Therapy (TG-CBT; Cohen et al., 2017) shows promise in alleviating traumatic grief symptoms and assisting in the processing of grief among Latinx children and adolescents. TG-CBT therapy also includes joint sessions for children and caregivers and intentionally focuses on increasing caregivers' support for their children during their grieving process by providing individual caregiver sessions.

The Role of Parents in Trauma-Informed Treatment of Children

Regarding the processing of extreme adversity, parents play a crucial role in predicting adjustment and children's post-traumatic distress. In addition, there is evidence that parents' appraisal in post-trauma periods actively influences children's longer-term adjustment (Hiller et al., 2018). A parent's meaning-making of a situation will significantly impact how children interpret and attach meaning to complex and frightening experiences (Fivush et al., 2008), such as witnessing the arrest of a parent by ICE or experiencing the loss of a parent due to deportation. When parents provide support to talk about trauma, it promotes healing and recovery in children and adolescents (Stallard et al., 2001). Therefore, providers and allies can assist parents in reframing the processing of immigration-related adversity and trauma in ways that could benefit healing and well-being in families.

Conclusion and Future Directions

We have advanced a framework of immigration-related ACEs for Latinx children and their families that accounts for experiences of deprivation and threat associated with marginalization, fear of immigration enforcement, and direct experiences of detention and deportation. In this chapter, we proposed a comprehensive approach to intervening with these children and families that ranges from advocacy and social action, to prevention programs in community and clinical settings, to trauma-informed treatment among those exposed to the most extreme immigration-related threat and deprivation. The tools, programs, and services reviewed are evidence-based and immigration-informed; yet gaps remain in promoting the well-being of Latinx children and their immigrant families.

First, interventions focused on building resilience in the face of adversity cannot be the ultimate goal. Federal and state policy reform is needed to eradicate detention and deportation, decriminalize immigration, and discourage dehumanizing social discourse that emboldens discrimination and marginalization of Latinx children and their immigrant parents. Policy reform must also create opportunities for this population to access social resources, including basic necessities and public health insurance. Healthcare settings should prioritize high-quality, accessible, and culturally grounded mental health services.

Second, mental health interventions are crucial, but they will ultimately fail to address the root cause of distress when such distress is caused by sociopolitical policies and practices. Thus, we call for advocacy to serve as a backdrop to this comprehensive approach, recognizing that mental health providers need training in, support for, and reimbursement models that incentivize it. Simultaneously, it is crucial to elevate the strong advocacy efforts conducted by community and faith-based organizations that many Latinx families have come to depend on. Third, to date there are no interventions exclusively focused on immigration-related adversity. Interventions should be adapted to address experiences of threat and deprivation caused by an anti-immigrant sociopolitical climate, and promising tools, such as the Racial/Ethnic and Immigration Socialization Model (Ayón et al., 2020), should be developed as an intervention and tested.

Finally, at prevention and intervention levels, trauma-informed practices have proven beneficial to children who grapple with trauma, grief, loss, and chronic adversity (Cohen et al., 2017). As a next step, a national plan should disseminate these trauma-informed practices across all states to reduce disparities in state and local implementation. Policy efforts at the state level should advocate for implementing trauma and grief-sensitive services in optimal and accessible settings such as schools and other trusted community settings. Our recommendations for moving forward are not necessarily exhaustive and do not address the unique experiences of unaccompanied migrant children. We encourage advocates, practitioners, and policymakers to continue to expand upon these recommendations to ensure quality interventions for all children of immigrants and achieve health equity and healthy development for children of immigrants.

References

Adames, H. Y., & Chavez-Dueñas, N. Y. (2017). *Cultural foundations and interventions in Latino/a mental health: History, theory and within group differences*. Routledge/Taylor & Francis Group.

Albright, A., Araujo, R., Brownson, C., Heffernan, D., Shield, D. I., Maryniuk, M., Ruggiero, L., Secraw, P., & Ernst, K. (2011). *AADE position statement: Community health workers in diabetes management* *and prevention*. American Association of Diabetes Educators. https://chwcentral.org/wp-content/uploads/2013/10/CHW_Position_Statement_2011.pdf

Allison, A. C., & Ferreira, R. J. (2017). Implementing cognitive behavioral intervention for trauma in schools (CBITS) with Latino youth. *Child and Adolescent Social Work Journal, 34*(2), 181–189.

Androff, D. (2016). The human rights of unaccompanied minors in the USA from Central America. *Journal of Human Rights and Social Work, 1*, 71–77. https://doi.org/10.1007/s41134-016-0011-2

Aranda, E., Menjívar, C., & Donato, K. M. (2014). The spillover consequences of an enforcement-first U.S. immigration regime. *American Behavioral Scientist, 58*, 1687–1695. https://doi.org/10.1177/0002764214537264

Ayón, C. (2016). Talking to children about race, inequality, and discrimination: Raising families in an anti-immigrant political environment. *Journal of the Society for Social Work and Research, 7*(3), 449–477. https://doi.org/10.1086/686929

Ayón, C. (2017). Perceived immigration policy effects scale: Development and validation of a scale on the impact of state-level immigration policies on Latino immigrant families. *Hispanic Journal of Behavioral Sciences, 39*(1), 19–33. https://doi.org/10.1177/0739986316681102

Ayón, C., Nieri, T., & Ruano, E. (2020). Ethnic/racial socialization among Latino immigrant families: A systematic review of the literature. *Social Service Review, 94*(4), 693–747. https://doi.org/10.1086/712413

Bailey, C. D. R., Henderson, S. W., Ricks, A. S., Taub, A. R., & Verdeli, H. (2011). The psychosocial context and mental health needs of unaccompanied children in United States immigration proceedings. *Graduate Student Journal of Psychology, 13*, 4–11.

Barajas-Gonzalez, R. G., Ayón, C., Brabeck, K., Rojas-Flores, L., & Valdez, C. (2021a). An ecological expansion of the adverse childhood experiences (ACEs) framework to include threat and deprivation associated with U.S. immigration policies and enforcement practices: An examination of the Latinx immigrant experience. *Social Science & Medicine, 282*, 114126. https://doi.org/10.1016/j.socscimed.2021.114126

Barajas-Gonzalez, R. G., Ursache, A., Kamboukos, D., Huang, L. Y., Dawson-McClure, S., Urcuyo, A., Huang, T., & Brotman, L. (2021b). Immigration enforcement threat and young children's mental health, self-regulation and executive functioning in pre-kindergarten. *American Journal of Orthopsychiatry, 2*, 1–10. https://doi.org/10.1037/ort0000591

Barajas-Gonzalez, R. G., Linares Torres, H., Urcuyo, A., Salamanca, E., & Kourousias, L. (2022). Racialization, discrimination, and depression: A mixed-method study of the impact of an anti-immigrant climate on Latina immigrant mothers and their children. *SSM - Mental Health, 2*, 100084. https://doi.org/10.1016/j.ssmmh.2022.100084

Barnett, M. L., Gonzalez, A., Miranda, J., Chavira, D. A., & Lau, A. S. (2018). Mobilizing community health workers to address mental health disparities for underserved populations: A systematic review. *Administration and Policy in Mental Health and Mentalh Health Services Research, 45*, 195–211. https://doi.org/10.1007/s10488-017-0815-0

Batalova, J., Hanna, M., & Levesque, C. (2021, February). *Frequently requested statistics on immigrants and immigration in the United States*. Spotlight. Washington, D.C.: Migration Policy Institute. https://www.migrationpolicy.org/article/frequently-requested-statistics-immigrants-and-immigration-united-states-2020

Bravo, V. (2017). Coping with dying and deaths at home: How undocumented migrants in the United States experience the process of transnational grief. *Mortality, 22*(1), 33–44. https://doi.org/10.1080/13576275.2016.1192590

Budiman, A. (2020). *Key facts about U.S. immigrants*. Pew Research Center. https://www.pewresearch.org/fact-tank/2020/08/20/key-findings-about-u-s-immigrants/

Cardoso, J. B., Scott, J. L., Faulkner, M., & Lane, L. B. (2018). Parenting in the context of deportation risk. *Journal of Marriage and Family, 80*, 301–316. https://doi.org/10.1111/jomf.12463

Cardoso, J., Brabeck, K., Bjugstad, A., Hernandez, J., Prosperi, N., Venta, A., & Sharp, C. (2021). Migrant mothers' and youths' experiences of separation and reunification. In J. E. Glick, V. King, & S. M. McHale (Eds.), *Causes and consequences of parent-child separations: Pathways to resilience*. Springer Nature.

Cartwright, H. C., Harris, L. M., Montecinos, L. M., & Rahman, A. (2020). Vicarious trauma and ethical obligations for attorneys representing immigrant clients. *AILA Law Journal, 2*(1), 23–40.

Chavez-Dueñas, N. Y., Adames, H. Y., Perez-Chavez, J. G., & Salas, S. P. (2019). Healing ethno-racial trauma in Latinx immigrant communities: Cultivating hope, resistance, and action. *The American Psychologist, 74*(1), 49–62. https://doi.org/10.1037/amp0000289

Cicchetti, D., & Lynch, M. (1993). Toward an ecological/transactional model of community violence and child maltreatment: Consequences for children's development. *Psychiatry-Interpersonal & Biological Processes, 56*, 96–118. https://doi.org/10.1080/00332747.1993.11024624

Cohen, J. A., & Mannarino, A. P. (2011). Supporting children with traumatic grief: What educators need to know. *School Psychology International, 32*(2), 117–131. https://doi.org/10.1177/0143034311400827

Cohen, J. A., Mannarino, A. P., & Deblinger, E. (2017). *Treating trauma and traumatic grief in children and adolescents* (2nd ed.). Guilford Press.

De Arellano, M. A., Danielson, C. K., & Felton, J. W. (2012). Children of Latino descent: Culturally modified TF-CBT. In J. A. Cohen, A. P. Mannarino, & E. Deblinger (Eds.), *Trauma-focused CBT for children and adolescents: Treatment applications* (pp. 253–279). Guilford Press.

Falicov, C. J. (2014). *Latino families in therapy* (2nd ed.). Guilford Publications.

Finkelhor, D. (2018). Screening for adverse childhood experiences (ACEs): Cautions and suggestions. *Child Abuse & Neglect, 85*, 174–179. https://doi.org/10.1016/j.chiabu.2017.07.016

Fivush, R., McDermott, S. J., & Bohanek, J. G. (2008). Meaning making in mothers' and children's narratives of emotional events. *Memory, 16*, 579–594.

Flores, G., & Salazar, J. C. (2017). Immigrant Latino children and the limits of questionnaires in capturing adverse childhood events. *Pediatrics, 140*(5), e20172842.

Fung, J., Kim, J. J., Jin, J., Chen, G., Bear, L., & Lau, A. S. (2019). A randomized trial evaluating school-based mindfulness intervention for ethnic minority youth: Exploring mediators and moderators of intervention effects. *Journal of Abnormal Child Psychology, 47*(1), 1–19. https://doi.org/10.1007/s10802-018-0425-7

Gonzales, R. G. (2011). Learning to be illegal: Undocumented youth and shifting legal contexts in the transition to adulthood. *American Sociological Review, 76*(4), 602–619. https://doi.org/10.1177/0003122411411901

Hiller, R. M., Meiser-Stedman, R., Lobo, S., Creswell, C., Fearon, P., Ehlers, A., Murray, L., & Halligan, S. L. (2018). A longitudinal investigation of the role of parental responses in predicting children's post-traumatic distress. *Journal of Child Psychology and Psychiatry, 59*, 781–789. https://doi.org/10.1111/jcpp.12846

Hughes, D., Rodriguez, J., Smith, E. P., Johnson, D., Stevenson, H. C., & Spicer, P. (2006). Parents' ethnic-racial socialization practices: A review of research and directions for future study. *Developmental Psychology, 42*(5), 747–770. https://doi.org/10.1037/0012-1649.42.5.747

Huguley, J. P., Wang, M. T., Vasquez, A. C., & Guo, J. (2019). Parental ethnic–racial socialization practices and the construction of children of color's ethnic–racial identity: A research synthesis and meta-analysis. *Psychological Bulletin, 145*(5), 437–458. https://doi.org/10.1037/bul0000187

Kataoka, S. H., Stein, B. D., Jaycox, L. H., Wong, M., Escudero, P., Tu, W., Zaragoza, C., & Fink, A. (2003). A school-based mental health program for traumatized Latino immigrant children. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*(3), 311–318. https://doi.org/10.1097/00004583-200303000-00011

Kullgren, J. T. (2003). Restrictions on undocumented immigrants' access to health services: The public health implications of welfare reform. *American Journal of Public Health, 93*(10), 1630–1633. https://doi.org/10.2105/ajph.93.10.1630

Lieberman, A. F., Van Horn, P., & Ippen, C. G. (2005). Toward evidence-based treatment: Child-parent psychotherapy with preschoolers exposed to marital violence. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*(12), 1241–1248. https://doi.org/10.1097/01.chi.0000181047.59702.58

Liu, F. F., Gonzales, N. A., Fernandez, A. C., Millsap, R. E., & Dumka, L. E. (2011). Family stress and coping for Mexican origin adolescents. *Journal of Clinical Child & Adolescent Psychology, 40*(3), 385–397. https://doi.org/10.1080/15374416.2011.563463

Lykes, M. B., Brabeck, K. M., & Hunter, C. J. (2013). Exploring parent–child communication in the context of threat: Immigrant families facing detention and deportation in post-9/11 USA. *Community, Work & Family, 16*(2), 123–146. https://doi.org/10.1080/13668803.2012.752997

MacLean, S. A., Agyeman, P. O., Walther, J., Singer, E. K., Baranowski, K. A., & Katz, C. L. (2020). Characterization of the mental health of immigrant children separated from their mothers at the U.S.-Mexico border. *Psychiatry Research, 286*, 112555. https://doi.org/10.1016/j.psychres.2019.112555

Massey, D. S., & Pren, K. A. (2012). Unintended consequences of US immigration policy: Explaining the post-1965 surge from Latin America. *Population and Development Review, 38*(1), 1–29. https://doi.org/10.1111/j.1728-4457.2012.00470.x

McGeorge, C., & Carlson, T. S. (2011). Deconstructing heterosexism: Becoming an LGB affirmative heterosexual couple and family therapist. *Journal of Marital and Family Therapy, 37*(1), 14–26. https://doi.org/10.1111/j.1752-0606.2009.00149.x

McLaughlin, K. A., & Sheridan, M. A. (2016). Beyond cumulative risk a dimensional approach to childhood adversity. *Current Directions in Psychological Science, 25*(4), 239–245. https://doi.org/10.1177/0963721416655883

McLaughlin, K., Sheridan, M., Gold, A., et al. (2016). Maltreatment exposure, brain structure, and fear conditioning in children and adolescents. *Neuropsychopharmacology, 41*, 1956–1964. https://doi.org/10.1038/npp.2015.365

National Academies of Sciences, Engineering, and Medicine. (2015). The Integration of Immigrants into American Society. Panel on the integration of immigrants into American Society. In M. C. Waters & M. G. Pineau (Eds.), *Committee on population, division of behavioral and social sciences and education*. https://doi.org/10.17226/21746

Parra-Cardona, R., López-Zerón, G., Leija, S. G., Maas, M. K., Villa, M., Zamudio, E., Arredondo, M., Yeh, H.-H., & Domenech Rodríguez, M. M. (2019). A culturally adapted intervention for Mexican-origin parents of adolescents: The need to overtly address culture and discrimination in evidence-based practice. *Family Process, 58*, 334–352. https://doi.org/10.1111/famp.12381

Patler, C., & Laster Pirtle, W. (2018). From undocumented to lawfully present: Do changes to legal status impact psychological wellbeing among Latino immigrant young adults? *Social Science & Medicine (1982), 199*, 39–48. https://doi.org/10.1016/j.socscimed.2017.03.009

Rodriguez, N., Urrutia-Rojas, X., & Gonzalez, L. R. (2019). Unaccompanied minors from the Northern Central American countries in the migrant stream: Social differentials and institutional contexts. *Journal of Ethnic and Migration Studies, 45*, 218–234. https://doi.org/10.1080/1369183X.2017.1404257

Rojas-Flores, L., & Ramirez, N. (2020). *DACA self-care, mental health series*. Thrive Center for Human Development. https://thethrivecenter.org/resources/daca-self-care-mental-health-series/

Rojas-Flores, L., Clements, M. L., Hwang Koo, J., & London, J. (2017). Trauma and psychological distress in Latino citizen children following parental detention and deportation. *Psychological Trauma: Theory, Research, Practice, and Policy, 9*(3), 352–361. https://doi.org/10.1037/tra0000177

Rubio-Hernandez, S. P., & Ayón, C. (2016). *Pobrecitos los Niños*: The emotional impact of anti-immigration policies on Latino youth. *Children and Youth Services Review, 60*, 20–26. https://doi.org/10.1016/j.childyouth.2015.11.013

Stallard, P., & Smith, E. (2007). Appraisals and cognitive coping styles associated with chronic post-traumatic symptoms in child road traffic accident survivors. *Journal of Child Psychology and Psychiatry, 48*(2), 194–201. https://doi.org/10.1111/j.1469-7610.2006.01692.x

Stallard, P., Velleman, R., & Baldwin, S. (2001). Recovery from post-traumatic stress disorder in children following road traffic accidents: The role of talking and feeling understood. *Journal of Community & Applied Social Psychology, 11*(1), 37–41. https://doi.org/10.1002/casp.610

Stein, G. L., Coard, S. I., Gonzalez, L. M., Kiang, L., & Sircar, J. K. (2021). One talk at a time: Developing an ethnic-racial socialization intervention for Black, Latinx, and Asian American families. *Journal of Social Issues, 77*(4), 1014–1036. https://doi.org/10.1111/josi.12482

Substance Abuse and Mental Health Services Administration (SAMHSA). (2014). *SAMHSA's concept of trauma and guidance for a trauma-informed approach.* Trauma and Justice Strategic Initiative. https://ncsacw.samhsa.gov/userfiles/files/SAMHSA_Trauma.pdf

Umaña-Taylor, A. J., & Hill, N. E. (2020). Ethnic–racial socialization in the family: A decade's advance on precursors and outcomes. *Journal of Marriage and Family, 82*(1), 244–271. https://doi.org/10.1111/jomf.12622

Valdez, C. R., Abegglen, J., & Hauser, C. T. (2013). Fortalezas Familiares program: Building sociocultural and family strengths in Latina women with depression and their families. *Family Process, 52*(3), 378–393. https://doi.org/10.1111/famp.12008

Valdez, C. R., Wagner, K. M., & Minero, L. P. (2021). Emotional reactions and coping of Mexican mixed-status immigrant families in anticipation of the 2016 presidential election. *Family Process, 60*, 623–638. https://doi.org/10.1111/famp.12561

Walsdorf, A. A., Machado, Y., & Bermúdez, J. M. (2019). Undocumented and mixed-status Latinx families: Sociopolitical considerations for systemic practice. *Journal of Family Psychotherapy, 30*(4), 245–271. https://doi.org/10.1080/08975353.2019.1679607

Wang, M. T., Henry, D. A., Smith, L. V., Huguley, J. P., & Guo, J. (2020a). Parental ethnic-racial socialization practices and children of color's psychosocial and behavioral adjustment: A systematic review and meta-analysis. *American Psychologist, 75*(1), 1–22. https://doi.org/10.1037/amp0000464

Wang, M. T., Smith, L. V., Miller-Cotto, D., & Huguley, J. P. (2020b). Parental ethnic-racial socialization and children of color's academic success: A meta-analytic review. *Child Development, 91*(3), e528–e544. https://doi.org/10.1111/cdev.13254

Williamson, V., Creswell, C., Fearon, P., Hiller, R. M., Walker, J., & Halligan, S. L. (2017). The role of parenting behaviors in childhood posttraumatic stress disorder: A meta-analytic review. *Clinical Psychology Review, 53*, 1–13. https://doi.org/10.1016/j.cpr.2017.01.005

Yoshikawa, H. (2011). *Immigrants raising citizens: Undocumented parents and their young children*. Russel Sage Foundation.

Yosso, T. J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race Ethnicity and Education, 8*(1), 69–91. https://doi.org/10.1080/1361332052000341006

11

Historical and Racial Trauma: Adverse Childhood Experiences (ACEs) and Black Americans

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Introduction

This chapter defines and explores the impact of historical and racial trauma, and other adverse childhood experiences (ACEs) on the health and well-being of Black Americans.[1] We begin by defining key concepts, identifying conceptual frameworks, and delineating areas of overlap that include oppression, discrimination, and racism. Given that Black Americans experience disproportionate exposure to ACEs, and in turn, ACEs-related health disparities and negative health outcomes, we explore how this relationship is informed by and compounded by racism. We conclude this chapter with a review of racial socialization, an intervention designed to address ACEs, historical and racial trauma in Black youth, as well as other frameworks that can be implemented to promote healing for Black Americans and their communities.

Historical Trauma, Racial Trauma, and Adverse Childhood Experiences

Historical Trauma

Brave Heart defined historical trauma as the "cumulative emotional and psychological wounding over a lifespan and across generations, emanating from massive group experiences" (Brave Heart, 2003, p. 7). Oppression and institutionalized racism are critical parts of historical trauma for racial and ethnic groups in the United States, many of whom have suffered major intergenerational losses and assaults on their well-being, person, culture, and community. The capture, displacement, and enslavement of Africans and their descendants punctuated by unspeakable acts of violence, degradation, and invalidation continue to live under the skin of generations 400+ years later.

The intergenerational scars indelibly etched by historical trauma for Black Americans, the focus of this chapter, are highly visible. Scholars have documented extensively the profound impact of slavery and its aftermath for

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[1] In this chapter, Black Americans and Americans of African descent are used interchangeably.

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Black Americans and people of African descent in the Americas (Lerner & Hardy, 1995; Pouissant & Alexander, 2000). The legacies of slavery and the demeaning experiences of racism and discrimination that continue to the present day contribute to the pain and suffering that generations of Black Americans have endured (Hampton et al., 2010). In fact, definitions of historical trauma for Black Americans include the "collective spiritual, psychological, emotional, and cognitive distress perpetuated inter-generationally deriving from multiple denigrating experiences originating with slavery and continuing with pattern forms of racism and discrimination to the present day" (Hampton et al., 2010 p. 32).

The intergenerational transmission of trauma is the mechanism by which current members of marginalized groups continue to be affected by past events. This process of passing trauma down from generation-to-generation results in an array of responses (e.g., grief, anxiety, trauma-related disorders and symptoms; substance use; psychological, physiological, and physical symptoms; Brave Heart & DeBruyn, 1998). DeGruy describes these "multi-generational" experiences from the dawn of chattel slavery to the present-day experiences of oppression and injustice on Africans and their descendants and the survival behaviors used to cope with these experiences as culminating in *Post Traumatic Slave Syndrome* (DeGruy-Leary, 2005). Likewise, Carter noted that generations later the persisting injuries and the psychological and social scars of historical trauma often manifest in feelings of powerlessness and inferiority, and problems with self-identity (Carter, 2007). Although slavery legally ended more than a century ago, scholars and clinicians agree that the reverberations on the hearts, minds, spirits, and culture continue to be experienced in the Black community today.

Racial Trauma

Black Americans have and continue to endure immeasurable race-related traumatic events. The term *racial trauma* refers to "reactions to dangerous events and experiences of racial discrimination ..." including "... threats of harm and injury, humiliating and shaming events, and witnessing racial discrimination" toward others (Comas-Diaz et al., 2019, p. 1; Carter, 2007). Racial trauma for Black Americans includes not only individual experiences but also "collective injuries due to exposure and re-exposure to race-based stress" (Comas-Diaz et al., 2019; p. 1). For example, witnessing the murder of George Floyd on May 25, 2020, was experienced as a racial trauma by many Black Americans given the continuous exposure to the video of this heinous act of police brutality. Although there is some overlap between historical and racial trauma, it is clear that colonization and oppression cannot be easily disentangled from everyday acts of discrimination and racism (Carter, 2007; Fast & Collin-Vézina, 2010).

Much of the early empirical work on racism, discrimination, and racial trauma highlighted disparities in access to and quality of services, as well as challenges in our clinical understanding and conceptualization of its impact on Black Americans (Carter, 2007; U.S. Department of Health and Human Services [USDHHS], 2001). The Surgeon General's report "Mental Health Culture, Race, and Ethnicity" (USDHHS, 2001) identified a number of systemic barriers to mental health care for Black Americans, including clinicians' bias and lack of cultural awareness. The report described how disparities often experienced by people of color are the result of historical and present-day challenges with racism and discrimination, which in turn affects their mental health and contributes to their lower economic, social, and political status. As the field continues to evolve, scholars have moved beyond the sociopolitical impact and begun to focus on the psychological, physiological, and physical distress of racial stressors and racial trauma on Black Americans (Bryant-Davis & Ocampo, 2006; Carter, 2007; Daniel, 2000).

Notably the work of scientist practitioners such as Carter demonstrated the psychological and emotional damage of race-based traumatic stressors (Carter, 2007). Carter later proposed a model for understanding how racial discrimination was connected to subsequent stress reactions and trauma (Carter, 2007; Carter et al., 2005). He also underscored the importance of including race-based traumatic stress or racial trauma in our diagnostic systems such as the Diagnostic and Statistical Manual of Mental Disorders fourth edition, text revision (DSM-IV-TR; American Psychiatric Association [APA], 2000). Although recent text revisions in DSM-5-TR (American Psychiatric Association, 2022) recognizes the impact of racism and discrimination on mental health diagnoses, this important step has yet to be truly achieved. Clinicians and researchers, however, have clearly documented the negative psychological consequences of racial trauma for Black Americans.

Researchers are now incorporating the lived experiences of the community to enhance the definition of racial trauma. In a recent study focused on Black students' experiences, the students defined racial trauma as "stress that sticks with them, severely affecting how they think and feel, based on the number of times they experience or the intensity of racist stressors" (Hargons et al., 2022; p. 49). The researchers conclude that centering the lived experience of those most impacted by racial trauma is imperative in best defining, building awareness, recognizing, dismantling, and beginning the journey of healing from racial trauma (Hargons et al., 2022).

Adverse Childhood Experiences (ACEs)

Over the past few decades, we have witnessed another set of cumulative traumas (e.g., child abuse, parental substance use) gain recognition. Adverse childhood experiences (ACEs) are a set of traumatic events and stressors that increase the likelihood of maladaptive coping strategies and an array of negative social, emotional, and physical consequences. The initial study on ACEs (Felitti et al., 1998) was groundbreaking as it highlighted the links between ACEs and later deleterious adult health/mental health outcomes. Despite the notable impact of the ACE studies, there are some caveats and limitations to this approach (Amaya-Jackson et al., 2021) such as the lack of inclusion of some common trauma types (e.g., racial trauma). More recent theories of ACEs include culturally informed adaptations (C-ACE) that extend our understanding of the traumatic effects of racism on Black Americans (Bernard et al., 2020) by including racism as an ACE. Similarly, the Developmental and Ecological Model of Youth Racial Trauma (DEMYth-RT) explicitly focuses on how ecological contexts are both sources of risk for and coping with ACEs (Saleem et al., 2020). One challenge for both of these models is the complexity of oppression and racism across individual, family, and community contexts.

In order to unpack the links between historical and racial trauma and ACEs for Black Americans, it is important to understand how racism and other contextual factors increase the likelihood of exposure and the vulnerability to negative outcomes. Epidemiological studies highlight the prevalence of exposure to ACEs with nearly 61% of adults surveyed across 25 states reporting that they had experienced at least one ACE type before age 18, and 1 in 6 (~17%) reporting that they had experienced 4+ACE types (Centers for Disease Control, 2022). These rates of exposure, however, vary by race/ethnicity, with Black Americans (adults and children) reporting higher levels of exposure compared to their White counterparts (Merrick et al., 2019; Slopen et al., 2016). Other social determinants of health (e.g., poverty) as well as intersecting identities (e.g., gender identity) further exacerbate these elevated rates of exposure.

Conceptual Grounding: Historical and Racial Trauma and ACEs

To provide a more comprehensive analysis of the interplay between historical and racial trauma and ACEs and the experiences of Black Americans, we will link together two conceptual frameworks. The first framework is *Sotero's Conceptual Model of Historical Trauma* and the second framework is *Racing ACEs*. Sotero's Conceptual Model of Historical Trauma posits that historical trauma originates with the successful subjugation of a population by a dominant group through four mechanisms: (1) overwhelming physical and psychological violence, (2) segregation and/or displacement, (3) economic deprivation, and (4) cultural dispossession. Primary generations are the direct victims of subjugation and loss that threaten their population, economic, and cultural survival. The dominant group enforces subjugation through various means (e.g., enslavement, genocide). The overt processes of subjugation may be rescinded, but over time, its legacy remains in the form of racism, racial trauma, discrimination, and social and economic disadvantage. Sotero notes that the pervasive experience of subjugation constitutes physical and psychological trauma for the affected population (e.g., physical injuries, malnutrition, high rates of infectious and chronic diseases, PTSD, depression). Secondary and subsequent generations are affected by the original trauma through various means. For example, extreme trauma may lead to subsequent impairments in the capacity for parenting, impaired genetic function and expression, transmission of mental illness, maternal malnutrition, and diseases like diabetes and hypertension. Historical trauma is said to be a "disease of time" (The Aboriginal Healing Foundation, 2004), indicating that the poor health status of affected populations is the result of accumulation and social distress across multiple generations (Sotero, 2006). Sotero's *Historical Trauma* conceptual model is critical in contextualizing Black American experiences and effects of ACEs, which are significantly different from their White counterparts' experiences. The original ACEs study fails to name racism (i.e., structural, institutional, individual) and historical violence as the root causes of modern trauma (RYSE Center, 2016). The RYSE Center posits "racializing" ACEs, i.e., Racing ACEs (see Fig. 11.1), so that structural inequities, racial oppression and trauma, and the intersections of multiple other oppressions (e.g., gender, sexual orientation) and White supremacy are explicitly stated as the foundational debilitating elements of ACEs. Unlike the left pyramid (reflecting the original ACEs), the right pyramid presents trauma and social location (e.g., historical trauma, racism, White supremacy) as specific, significant, and influencing sets of ACEs that are present before conception of life. The subsequent levels of the right pyramid are different from the left, noting that the processes and effects take on different pathways resulting in different outcomes.

Sotero's comprehensive model provides a roadmap of how to think critically and inclusively about historical trauma in relation to the Racing ACEs model. Without this guidance, the elements that make up historical trauma may be overlooked or misunderstood. Pairing these models can serve as a valuable tool to raise awareness and bring together a wider audience of professionals advocating to shift the paradigm to include the accurate historical and racial trauma (i.e., trauma and social locations) perspectives into the practices of conceptualization, prevention, and interventions for Black Americans enduring ACEs. This could include reducing the occurrence of pathologizing individuals (e.g., misdiagnosis, mistreatment, false assignments that render youth as problematic and risk-laden) amid ongoing trauma, and implementing culturally and structurally responsive policies, practices, and investments to reduce ACEs and disease burden (The RYSE Center, 2016).

Impact of Historical and Racial Trauma and ACEs

Extensive research has revealed that trauma and ACEs have enduring effects on neurological, endocrine, immune, and metabolic functions (Danese & Lewis, 2017; Nemeroff, 2016), likely as a function of the interaction of trauma/ACEs with genes through sequence variation and epigenetic effects (Jiang et al., 2019). Previous studies have found associations between cumulative exposure to ACEs and a broad range of adult physical health outcomes (e.g., ischemic heart disease, cancer, chronic lung disease, skeletal fractures, liver disease autoimmune disorders; Anda et al., 2006; Felitti et al., 1998). Importantly, Black Americans experience disproportionate exposure to ACEs, and in turn, ACEs-related health disparities (Woods-Jaeger et al., 2021).

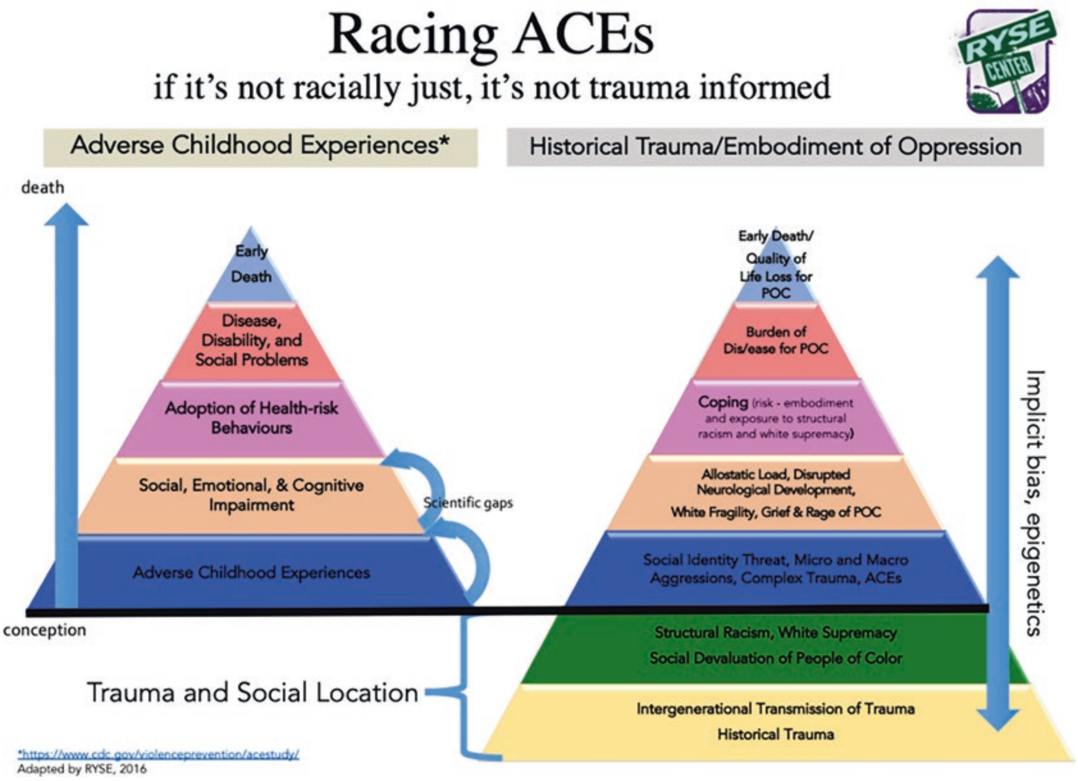

Fig. 11.1 Racing ACEs framework for conceptualizing historical and racial trauma and ACEs

The disparate exposure to ACEs for Black American youth is both informed by and compounded by a history of systematic racism (Hampton-Anderson et al., 2021). Research has shown that populations historically subjected to long-term, mass trauma, like enslavement, exhibit a higher prevalence of disease, even several generations after the original trauma occurred. Accordingly, structural racism and historical and present experiences of racialized traumas have been linked to downstream effects on health (Williams et al., 2003). Historical and racial trauma not only create susceptibility to disease, but act as a direct pathogenic mechanism affecting biological systems (Sotero, 2006). In this way, the amalgamation of historical/systemic (e.g., racialized traumas), community (e.g., poverty), intergenerational, and individual trauma exposures may affect Black Americans' stress-related biology. Consequently, this may heighten vulnerability to the negative long-term health effects of ACEs (Conching & Thayer, 2019; McCrea et al., 2019) and other traumatic events.

Disproportionate exposure to ACEs compounded by pervasive experiences of racism increases the overall risk for subsequent health disparities for Black American youth (Woods-Jaeger et al., 2021). Although most stressful experiences do not increase vulnerability to illness, certain kinds of stressors—those that are uncontrollable and unpredictable—are particularly harmful to health and these characteristics are common to discriminatory experiences (Williams & Mohammed, 2009). Clark et al. (1999) introduced the Biopsychosocial Model of Racism that conceptualizes discrimination as a social stressor that sets into motion a cascade of physiological responses (e.g., elevated blood pressure, heart rate, cortisol secretions), which, over time, can have downstream effects on health.

Allostatic load—reflecting the cumulative "weathering" or "wear and tear" of frequent and/

or incomplete activation of the body's integrated stress responses (McEwen, 1998)—is one conceptualization that is increasingly used to demonstrate the biopsychosocial impact of racial discrimination. Chronic exposure to threat and/or deprivation taxes the physiological stress response systems increasing risk for numerous chronic health conditions over time (McEwen, 1998). Discrimination-related negative affect is associated with allostatic load among Black Americans (Tomfohr et al., 2016) and experiencing ACEs in the context of systemic racism is associated with physiological markers of allostatic load among Black Americans, including levels of cortisol, norepinephrine, epinephrine, and blood pressure (Brody et al., 2014a, b; Danese & McEwen, 2012).

In addition, Thomas Tobin et al. (2022) found that early-life racial discrimination was associated with a 32% increased risk of high adult allostatic load. Notably, racial centrality (i.e., the extent to which race is central to one's identity) was protective against high adult allostatic load for those who experienced racial discrimination as children or adolescents. Furthermore, Brody et al. (2014a) found that racial discrimination experienced at age 16 was related to heightened allostatic load at age 20. In another study examining processes of weathering, Carter et al. (2019) found that early-life stress due to racial discrimination resulted in sustained negative affective states continuing into young adulthood that conferred risk for accelerated aging and possibly premature disease and mortality in Black Americans. In addition, Simons and colleagues (2021) explored how four types of strain often experienced by Black Americans due to historical and contemporary oppression (living in disadvantaged neighborhoods, racial discrimination, limited income, and low education) are related to GrimAge, a novel epigenetic measure of biological aging, considered a robust predictor of morbidity and mortality. This study was consistent with the weathering hypothesis, finding that all four of these measures of racism-laden adversity, as well as an index combining the four, were significant predictors of GrimAge.

Taken together, racial disparities in allostatic load may result in significant physical health disparities experienced by Black Americans compared to other racial groups, including higher rates of chronic conditions such as asthma (Akinbami et al., 2016), hypertension (Chen et al., 2015), obesity (Rossen & Schoendorf, 2012), and diabetes (Borschuk & Everhart, 2015). Importantly, these racial disparities in health begin even before birth (Lu & Halfon, 2003) and persist through childhood (Caprio et al., 2008), with notable examples including greater infant mortality rate (MacDorman, 2011) and higher rates of low birthweight for Black infants compared to other racial groups, independent of SES (Collins & David, 2009). Evidence suggests that greater lifetime exposure to racial discrimination among Black women is one factor that contributes to this racial disparity in low birthweight infants (Collins et al., 2004). Moreover, researchers have also argued that greater rates of low birthweight may result from an intergenerational effect of historical trauma of slavery via physiological and metabolic mechanisms and increased exposure to risk factors, such as poverty (Jasienska, 2009).

Interventions and Black Youth: Racial Socialization

Given the impact of racism on the health outcomes of Black youth, interventions in the home, clinical, and community settings need to protect and prepare them to resist its corrosive effects. Black communities have found ways to cope with systemic oppression and resist its impact over centuries (Brondolo et al., 2009; Lewis-Coles & Constantine, 2006; Utsey et al., 2000). Racial socialization is one of the many strategies the Black community has used to prevent or mitigate the impact of racism (Hughes et al., 2006). Racial socialization is the process of protecting individuals from the impact of racism by fostering cultural pride as well as awareness about the context of oppression for Black people (Coard & Sellers, 2005). The process of racial socialization involves a compilation of messages and practices (e.g., Cultural Coping with Antagonism) that are both proactive in bolstering esteem and knowledge of their culture and protective in helping individuals understand the risk associated with being Black in a country that perpetuates the notion of *White Supremacy* (Stevenson, 1994; Stevenson et al., 2002). These messages and practices are disseminated through oral communication (e.g., storytelling), parental modeling, roleplaying, and exposure to cultural sites and gatherings (Coard & Sellers, 2005).

Racial socialization has resulted in improved outcomes for Black youth, yet it may not produce the same outcomes in all circumstances (Hughes et al., 2006). The racial socialization practice of cultural socialization has been associated with positive ethnic identity, increased self-esteem, improved cognitive processes, and decreased externalizing behaviors among Black youth. The preparation for bias component of racial socialization protects adolescents by helping them understand and cope with discrimination and has been linked to better academic outcomes (Hughes et al., 2006). Cultural pride reinforcement is associated with positive emotional health outcomes among Black youth (Davis & Stevenson, 2006), increased regard that produces positive associations with their Black identity (Davis et al., 2017), and protects them from negative emotional outcomes following racial discrimination (Saleem & Lambert, 2016).

Socialization messages that are extreme, out of context, or overemphasized on one side can disrupt the beneficial products of racial socialization and could potentially lead to detrimental outcomes (Hughes et al., 2006). Excessive messages that raise awareness about racial bias and discrimination alone can lead to a decreased sense of private regard, meaning children may develop a negative appraisal associated with being Black (Davis et al., 2017). The findings suggest that solely attending to awareness and preparation for racism can lead to pathologizing Black youth behaviors and disrupt self-esteem. The authors recommend coupling messages about racist oppression with positive Black identity messages (Davis et al., 2017).

Likewise, children who are primarily socialized to assimilate to mainstream culture may not experience the same positive emotional health outcomes as children who are reinforced in cultural pride (Davis & Stevenson, 2006). Although cultural pride reinforcement has been associated with positive health outcomes, it does not protect Black youth from the impact of institutional racism (Saleem & Lambert, 2016), which highlights the need to incorporate components of racial socialization that will prepare children to process and resist signs of systemic racism. Finally, it is critical that interventions for Black youth come from a strengths-based perspective to promote positive youth development (Nicolas et al., 2008; Onyeka et al., 2022).

Theoretical Frameworks That Inform Healing from Race-Based Trauma

There are multiple theoretical frameworks that inform the process of healing from race-based stress and trauma. The following theories are examples that have been applied to conceptualize anti-Black racism. Liberation psychology is a framework that developed from Latin American decolonial praxis, critical pedagogy, liberation theology, community social psychology, critical social theory, and other liberatory frameworks (Burton & Guzzo, 2020). An essential component of liberation psychology theory is "conscientization" (p. 20) that describes a process of raising critical consciousness that facilitates freedom among oppressed groups (Burton & Guzzo, 2020). Liberation psychology frameworks conceptualize racism as a socially constructed system based on the premise of White supremacy that operates on the individual, interpersonal, institutional, and societal level and produces privilege for White people and disadvantage for people of color (Quiñones-Rosado, 2020). This paradigm posits that the only way to counter the impact of racism is to actively deconstruct the oppressive practices, beliefs, and ideals at every level. To do that, one must use a critical lens to understand race within context and develop a process to facilitate wellness free from oppression (Quiñones-Rosado, 2020). This framework emphasizes the need to engage in antiracist and decolonial practices to promote wellness. Liberation psychology theory addresses the issue of racism by helping Black Americans recognize the origin of oppressive practices, develop a level of critical consciousness, resist the messages of inferiority, and build up messages of cultural identity and strengths (Quiñones-Rosado, 2020).

The psychological framework of radical healing was developed from foundational strengths-based and liberatory theories to conceptualize healing from race-based trauma for people of color and indigenous communities. This theory stems from research in Liberation Psychology, Ethno-political Psychology, Black Psychology, and Intersectional Theory (French et al., 2020). Radical healing involves navigating the dialectic between "resisting oppression and moving toward freedom" (p. 11), in that either overemphasis on the atrocities of reality or imagining the possibilities of a world without oppression are not as effective as engaging both processes dialectically (French et al., 2020). Adames et al. (2022) applied the psychology of radical healing to the therapeutic context by adding a component of resisting self-blame as a buffer for the potential of internalized racism while instead internalizing the components of radical healing, including critical consciousness, cultural authenticity and self-knowledge, radical hope and envisioning possibilities, collectivism, strength, and resistance (Adames et al., 2022). This framework aligns with the messages from racial socialization theories, with the goals of protecting Black Americans from the insidious impact of racism at every level, while also building up the strengths inherent to the community to facilitate movement toward liberation.

Bryant-Davis and Ocampo (2006) developed a thematic approach for addressing race-based trauma. The proposed themes are meant to inform clinical intervention for clinicians using any treatment style. The themes include (a) *Acknowledge* the painful experience as racism through working to decrease avoidance and minimization, and increase psychoeducation about the manifestations of racism; (b) *Share* includes facilitating a safe environment for clients to disclose racist incidents; (c) *Safety and Self-Care* involves helping the client find ways to increase their personal sense of safety as well as safety in their environment to the extent that is possible; (d) *Grieving/Mourning the Losses* is about creating space for survivors of race-based incidents to grieve the losses from their experiences; (e) *Shame and Self-Blame/Internalized Racism* involves helping clients recognize and release shame and self-blame as well as actively challenge thoughts that could contribute to internalized racism; (f) *Anger* involves acknowledging that anger and even rage are valid responses to racism. This includes creating opportunities to express anger in ways that will benefit rather than harm the client such as using their anger to fuel activism efforts; (g) *Coping Strategies* such as cultivating fulfilling hobbies, building social support, and engaging in spirituality are necessary for survivors of race-based trauma to build as they are on their healing journey; and (h) *Resistance Strategies* can be promoted to counter racism at the level and scope that feels reasonable for the client given their position in society and the resources they have available to them (Bryant-Davis & Ocampo, 2006).

Interventions to Address the Impact of Race-Related Stress, ACEs, and Trauma

There are a few interventions designed specifically to address race-based stress, ACEs, and trauma among Black youth. Jones et al. (2020) conducted a review and cultivated a list of interventions for coping with race-based stress. The list of interventions included the Bakari Project; Black Parenting Strengths and Strategies (BPSS); Engaging, Managing, and Bonding Through Race (EMBRace); Preventing Long-term Anger and Aggression in Youth (PLAAY); and Promoting Racial Identity Development in Early Education (PRIDE). While each intervention employed unique strategies to address racism, the themes present across the interventions included racial socialization messages, emphasis on culturally relevant practices, and a focus on youth strengths. The following interventions will be presented in greater detail to show the range of healing processes available to Black individuals in various stages of exposure to race-based ACEs and trauma.

One of the interventions specifically designed to protect Black American youth from the impact of racism is EMBRace. EMBRace is a brief racial socialization intervention for Black adolescents that involves the child and a caregiver (Anderson et al., 2018). The goal of the intervention is to equip Black American families to intervene on racial stress. The intervention includes providing education from the racial socialization literature and facilitation of conversations related to the insights gained from psychoeducation, developing coping strategies to engage in healing from racial stress and trauma, and facilitating effective communication skills to improve the relationship between the child and caregiver. This intervention can be implemented among individuals or for parent and child pairs (Anderson et al., 2018).

Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) adapted for African American youth can be used for children and adolescents who have demonstrated trauma symptoms due to racism (Metzger et al., 2021). TF-CBT is an evidenced-based trauma treatment that has been effective at reducing trauma symptoms and preventing the development of PTSD among children from diverse racial, ethnic, and cultural backgrounds (Chipalo, 2021; Jensen et al., 2014). TF-CBT utilizes the acronym PRACTICE to delineate the steps in the treatment, including psychoeducation, relaxation, affective expression and modulation, cognitive coping, trauma narration and processing, in vivo exposure, conjoint sessions, and enhancing safety (Cohen et al., 2016). Metzger et al. (2021) incorporate racial socialization practices into the TF-CBT PRACTICE framework to make the intervention directly applicable to Black youth in the context of racism. For example, in the affective expression and modulation part of treatment, practitioners may help the child acknowledge, express, and process the emotions related to experiences of racial discrimination (Metzger et al., 2021). The integration of TF-CBT and racial socialization has the potential to address the realities of racism and facilitate adaptive coping within a model that also provides an opportunity to fully process trauma symptoms.

In the case that the child is in an environment where they experience chronic stress due to racism, SPARCS may be an appropriate intervention. SPARCS is a trauma-focused, group-level intervention designed for adolescents in chronic stress environments (DeRosa & Pelcovitz, 2008) and has been adapted to address racial trauma (Woods-Jaeger et al., 2023). The goal of the intervention is to address Complex PTSD symptoms through the “four C’s” (p. 227), including cultivating awareness, helping them cope more effectively with their trauma symptoms, connecting with others to increase support and validation of experiences, and creating meaning of the chronic trauma that they have encountered (DeRosa & Pelcovitz, 2008). This intervention emphasizes youth strengths, validation, and empowerment to help children and adolescents develop the skills necessary to cope effectively with trauma symptoms and adversity while enduring ongoing threat (DeRosa & Pelcovitz, 2008).

Recommendations for Clinicians Working with Black Youth and Adults

Clinicians who work with Black youth must approach the therapeutic context with care to ensure safety and avoid re-traumatization. Providers are encouraged to consider the following recommendations when working with Black Americans:

(a) Acknowledge the heterogeneity within the Black American community and do not assume that all Black people are a monolith (Metzger et al., 2021).

(b) Meet clients where they are and bear witness to their journey as they share it (French et al., 2020; Jones et al., 2020).

(c) Go beyond intervening at the individual level by learning more about the client's relational, community, and cultural context (French et al., 2020).
(d) The clinician should explore their own racial identity, biases, and assumptions (Bryant-Davis & Ocampo, 2006; Metzger et al., 2021).
(e) Understand the historical context of oppression, power, and privilege and how it informs the client's daily experience (Bryant-Davis & Ocampo, 2006).
(f) Know the prevalence and impact of racism for African American youth (Bryant-Davis & Ocampo, 2006).
(g) Take an active stance against racism and oppressive practices (Bryant-Davis & Ocampo, 2006; Jones et al., 2020).
(h) Create space for clients to share their own reflections, coping strategies, and conceptualization of race-based incidents (Jones et al., 2020).
(i) Respond to news of racial violence, locally or nationally, with urgency, accurate attribution of responsibility, and strategies to promote wellness (French et al., 2020).
(j) Engage with transparency and genuineness that allows clients to understand the clinician's decisions and encourage the same from clients (French et al., 2020).
(k) Actively assess and discuss race and power dynamics to reduce the disparities in the therapeutic context (Bryant-Davis & Ocampo, 2006; French et al., 2020; Jones et al., 2020).
(l) Recognize that if the therapist's race matches that of the perpetrator of race-based violence it could influence the therapeutic dynamic and the healing process (Bryant-Davis & Ocampo, 2006).

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References

Adames, H. Y., et al. (2022). Radical healing in psychotherapy: Addressing the wounds of racism-related stress and trauma. *Psychotherapy*.

Akinbami, L. J., Simon, A. E., & Rossen, L. M. (2016). Changing trends in asthma prevalence among children. *Pediatrics, 137*(1), e20152354. https://doi.org/10.1542/peds.2015-2354

Amaya-Jackson, L. M., Absher, L. A., Gerrity, E. T., Layne, C. M., & Halladay Goldman, J. (2021). *Beyond the ACE Score: Perspectives from the NCTSN on child trauma and adversity screening and impact*. National Center for Child Traumatic Stress.

Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., Dube, S. R., & Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. *European Archives of Psychiatry and Clinical Neuroscience, 256*(3), 174–186. https://doi.org/10.1007/s00406-005-0624-4

Anderson, R. E., McKenny, M. C., & Stevenson, H. C. (2018). EMBRace: Developing a racial socialization intervention to reduce racial stress and enhance racial coping among black parents and adolescents. *Family Process, 58*(1), 53–67. https://doi.org/10.1111/famp.12412

American Psychiatric Association (2000). Diagnostic and statistical manual of mental disorders (4th ed., text revised). Washington, DC: Author.

American Psychiatric Association. (2022). Diagnostic and statistical manual of mental disorders (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425787

Bernard, D. L., Calhoun, C. D., Banks, D. E., Halliday, C. A., Hughes-Halbert, C., & Danielson, C. K. (2020). Making the "C-ACE" for a Culturally-Informed Adverse Childhood Experiences Framework to Understand the Pervasive Mental Health Impact of Racism on Black Youth. *Journal of Child & Adolescent Trauma, 14*, 233–247.

Borschuk, A. P., & Everhart, R. S. (2015). Health disparities among youth with type 1 diabetes: A systematic review of the current literature. *Families, Systems & Health, 33*(3), 297–313. https://doi.org/10.1037/fsh0000134

Brave Heart, M. (2003). The historical trauma response among natives and its relationship with substance abuse: A Lakota illustration. *Journal of Psychoactive Drugs, 35*(1), 7–13.

Brave Heart, M., & DeBruyn, L. (1998). The American Indian Holocaust: Healing historical unresolved grief. *American Indian and Alaska Native Mental Health Research, 8*(2), 56–78.

Brody, G. H., Lei, M.-K., Chae, D. H., Yu, T., Kogan, S. M., & Beach, S. R. H. (2014a). Perceived discrimination among African American adolescents and allostatic load: A longitudinal analysis with buffering effects. *Child Development, 85*(3), 989–1002. https://doi.org/10.1111/cdev.12213

Brody, G. H., Lei, M.-K., Chen, E., & Miller, G. E. (2014b). Neighborhood poverty and allostatic load in

African American youth. *Pediatrics, 134*(5), e1362–e1368. https://doi.org/10.1542/peds.2014-1395

Brondolo, E., Brady ver Halen, N., Pencille, M., Beatty, D., & Contrada, R. J. (2009). Coping with racism: A selective review of the literature and a theoretical and methodological critique. *Journal of Behavioral Medicine, 32*(1), 64–88.

Bryant-Davis, T., & Ocampo, C. (2006). A therapeutic approach to the treatment of racist-incident-based trauma. *Journal of Emotional Abuse, 6*(4), 1–22.

Burton, M., & Guzzo, R. (2020). Liberation psychology: Origins and development. In L. E. Comas-Díaz & T. Rivera (Eds.), *Liberation psychology: Theory, method, practice, and social justice* (pp. xx–314). American Psychological Association.

Caprio, S., Daniels, S. R., Drewnowski, A., Kaufman, F. R., Palinkas, L. A., Rosenbloom, A. L., & Schwimmer, J. B. (2008). Influence of race, ethnicity, and culture on childhood obesity: Implications for prevention and treatment: A consensus statement of Shaping America's Health and the Obesity Society. *Diabetes Care, 31*(11), 2211–2221. https://doi.org/10.2337/dc08-9024

Carter, R. T. (2007). Racism and psychological and emotional injury: Recognizing and assessing race-based traumatic stress. *The Counseling Psychologist, 35*, 13–105. https://doi.org/10.1177/0011000006292033

Carter, R. T., Forsyth, J., Mazzula, S., & Williams, B. (2005). Racial discrimination and race-based traumatic stress. In R. T. Carter (Ed.), *Handbook of racial–cultural psychology and counseling: Training and practice* (Vol. 2, pp. 447–476). Wiley.

Carter, S. E., Ong, M. L., Simons, R. L., Gibbons, F. X., Lei, M. K., & Beach, S. R. (2019). The effect of early discrimination on accelerated aging among African Americans. *Health Psychology, 38*(11), 1010.

Centers for Disease Control. (2022). Accessed 08/28/22; available online at Fast Facts: Preventing Adverse Childhood Experiences |Violence Prevention |Injury Center| CDC

Chen, L., Simonsen, N., & Liu, L. (2015). Racial differences of pediatric hypertension in relation to birth weight and body size in the United States. *PLoS One, 10*(7), e0132606. https://doi.org/10.1371/journal.pone.0132606

Chipalo, E. (2021). Is Trauma Focused-Cognitive Behavioral Therapy (TF-CBT) effective in reducing trauma symptoms among traumatized refugee children? A systematic review. *Journal of Child & Adolescent Trauma, 14*(4), 545–558.

Clark, R., Anderson, N. B., Clark, V. R., & Williams, D. R. (1999). Racism as a stressor for African Americans: A biopsychosocial model. *American Psychologist, 54*(10), 805.

Coard, S. I., & Sellers, R. M. (2005). African American families as a context for racial socialization. In V. C. McLoyd, N. E. Hill, & K. A. Dodge (Eds.), *African American family life: Ecological and cultural diversity* (pp. 264–284). Guilford Press.

Cohen, J. A., Mannarino, A. P., & Deblinger, E. (2016). *Treating trauma and traumatic grief in children and adolescents* (2nd ed.). Guilford Publications.

Collins, J. W., & David, R. J. (2009). Racial disparity in low birth weight and infant mortality. *Clinics in Perinatology, 36*(1), 63–73. https://doi.org/10.1016/j.clp.2008.09.004

Collins, J. W., David, R. J., Handler, A., Wall, S., & Andes, S. (2004). Very low birthweight in African American Infants: The role of maternal exposure to interpersonal racial discrimination. *American Journal of Public Health, 94*(12), 2132–2138. https://doi.org/10.2105/AJPH.94.12.2132

Comas-Dias, L., Hall, G. N., & Neville, H. A. (2019). Racial trauma: Theory, research and healing: Introduction to the special issue. *American Psychologist, 74*, 1–5. https://doi.org/10.1037/amp0000442

Conching, A. K. S., & Thayer, Z. (2019). Biological pathways for historical trauma to affect health: A conceptual model focusing on epigenetic modifications. *Social Science & Medicine, 230*, 74–82. https://doi.org/10.1016/j.socscimed.2019.04.001

Danese, A., & Lewis, J. (2017). Psychoneuroimmunology of early-life stress: The hidden wounds of childhood trauma? *Neuropsychopharmacology, 42*(1), 99–114. https://doi.org/10.1038/npp.2016.198

Danese, A., & McEwen, B. S. (2012). Adverse childhood experiences, allostasis, allostatic load, and age-related disease. *Physiology & Behavior, 106*(1), 29–39. https://doi.org/10.1016/j.physbeh.2011.08.019

Daniel, J. H. (2000). The courage to hear: African American women's memories of racial trauma. In L. Jackson & B. Greene (Eds.), Psychotherapy with African American women: Innovations in psychodynamic perspective and practice (pp. 126–144). New York: Guilford.

Davis, G. Y., & Stevenson, H. C. (2006). Racial socialization experiences and symptoms of depression among black youth. *Journal of Child and Family Studies, 15*(3), 293–307. https://doi.org/10.1007/s10826-006-9039-8

Davis, B. L., Smith-Bynum, M. A., Saleem, F. T., Francois, T., & Lambert, S. F. (2017). Racial socialization, private regard, and behavior problems in African American youth: Global self-esteem as a mediator. *Journal of Child and Family Studies, 26*(3), 709–720.

Degruy-Leary, L. (2005). *Post traumatic slave syndrome: America's legacy of enduring injury and healing*. Uptone Press.

DeRosa, R., & Pelcovitz, D. (2008). Group treatment for chronically traumatized adolescents: Igniting SPARCS of change. In *Treating traumatized children* (pp. 243–257). Routledge.

Fast, E., & Collin-Vézina, D. (2010). Historical trauma, race-based trauma and resilience of indigenous peoples: A literature review. *First Peoples Child & Family Review, 5*(1), 126–136. https://doi.org/10.7202/1069069ar

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

French, B. H., Lewis, J. A., Mosley, D. V., Adames, H. Y., Chavez-Dueñas, N. Y., Chen, G. A., & Neville, H. A. (2020). Toward a psychological framework of radical healing in communities of color. *The Counseling Psychologist, 48*(1), 14–46.

Hampton, R. L., Gullotta, T. P., & Crowel, R. L. (Eds.). (2010). Handbook of African American health. New York, NY: Guilford Press.

Hampton-Anderson, J. N., Carter, S., Fani, N., Gillespie, C. F., Henry, T. L., Holmes, E., Lamis, D. A., LoParo, D., Maples-Keller, J. L., Powers, A., Sonu, S., & Kaslow, N. J. (2021). Adverse childhood experiences in African Americans: Framework, practice, and policy. *American Psychologist, 76*(2), 314–325. https://doi.org/10.1037/amp0000767

Hargons, C. N., Malone, N., Montigue, C., Dogan, J., Stuck, J., Meiller, C., Sanchez, A., Sullivan, Q. A., Bohmer, C., Curvey, R., Woods, I., Jr., Tyler, K., Oluokun, J., & Stevens-Watkins, D. (2022). “White people stress me out all the time”: Black students define racial trauma. *Cultural Diversity & Ethnic Minority Psychology, 28*, 49–57. https://doi.org/10.1037/cdp00000351

Hughes, D., Rodriguez, J., Smith, E. P., Johnson, D. J., Stevenson, H. C., & Spicer, P. (2006). Parents’ ethnic-racial socialization practices: A review of research and directions for future study. *Developmental Psychology, 42*(5), 747–770. https://doi.org/10.1037/0012-1649.42.5.747

Jasienska, G. (2009). Low birth weight of contemporary African Americans: An intergenerational effect of slavery? *American Journal of Human Biology, 21*(1), 16–24. https://doi.org/10.1002/ajhb.20824

Jensen, T. K., Holt, T., Ormhaug, S. M., Egeland, K., Granly, L., Hoaas, L. C., Hukkelberg, S. S., Indregard, T., Stormyren, S. D., & Wentzel-Larsen, T. (2014). A randomized effectiveness study comparing trauma-focused cognitive behavioral therapy with therapy as usual for youth. *Journal of Clinical Child & Adolescent Psychology, 43*(3), 356–369.

Jiang, S., Postovit, L., Cattaneo, A., Binder, E. B., & Aitchison, K. J. (2019). Epigenetic modifications in stress response genes associated with childhood trauma. *Frontiers in Psychiatry, 10*, 808. https://www.frontiersin.org/article/10.3389/fpsyt.2019.00808

Jones, S. C., Anderson, R. E., Gaskin-Wasson, A. L., Sawyer, B. A., Applewhite, K., & Metzger, I. W. (2020). From “crib to coffin”: Navigating coping from racism-related stress throughout the lifespan of Black Americans. *American Journal of Orthopsychiatry, 90*(2), 267.

Lerner, S., & Hardy, K. V. (1995). The psychological residuals of slavery [Video]. (Available from Guilford Publications, 72 Spring Street, New York, NY 10012).

Lewis-Coles, M. A. E. L., & Constantine, M. G. (2006). Racism-related stress, Africultural coping, and religious problem-solving among African Americans. *Cultural Diversity and Ethnic Minority Psychology, 12*(3), 433.

Lu, M. C., & Halfon, N. (2003). Racial and ethnic disparities in birth outcomes: A life-course perspective. *Maternal and Child Health Journal, 7*(1), 13–30. https://doi.org/10.1023/A:1022537516969

MacDorman, M. F. (2011). Race and ethnic disparities in fetal mortality, preterm birth, and infant mortality in the United States: An overview. *Seminars in Perinatology, 35*(4), 200–208. https://doi.org/10.1053/j.semperi.2011.02.017

McCrea, K. T., Richards, M., Quimby, D., Scott, D., Davis, L., Hart, S., Thomas, A., & Hopson, S. (2019). Understanding violence and developing resilience with African American youth in high-poverty, high-crime communities. *Children and Youth Services Review, 99*, 296–307. https://doi.org/10.1016/j.childyouth.2018.12.018

McEwen, B. S. (1998). Stress, adaptation, and disease: Allostasis and allostatic load. *Annals of the New York Academy of Sciences, 840*(1), 33–44. https://doi.org/10.1111/j.1749-6632.1998.tb09546.x

Merrick, M. T., Ford, D. C., Ports, K. A., Guinn, A. S., Chen, J., Klevens, J., Metzler, M., Jones, C. M., Simon, T. R., Daniel, V. M., Ottley, P., Mercy, J. A. (2019). Vital signs: Estimated proportion of adult health problems attributable to adverse childhood experiences and implications for prevention – 25 states, 2015–2017. *Morbidity and Mortality Weekly Report, 68*(44), 999–1005.

Metzger, I. W., Anderson, R. E., Are, F., & Ritchwood, T. (2021). Healing interpersonal and racial trauma: Integrating racial socialization into trauma-focused cognitive behavioral therapy for African American youth. *Child Maltreatment, 26*(1), 17–27.

Nemeroff, C. B. (2016). Paradise lost: The neurobiological and clinical consequences of child abuse and neglect. *Neuron, 89*(5), 892–909. https://doi.org/10.1016/j.neuron.2016.01.019

Nicolas, G., Helms, J. E., Jernigan, M. M., Sass, T., Skrzypek, A., & DeSilva, A. M. (2008). A conceptual framework for understanding the strengths of Black youths. *Journal of Black Psychology, 34*(3), 261–280.

Onyeka, O., Richards, M., Tyson McCrea, K., Miller, K., Matthews, C., Donnelly, W., Sarna, V., Kessler, J., & Swint, K. (2022). The role of positive youth development on mental health for youth of color living in high-stress communities: A strengths-based approach. *Psychological Services, 19*(Suppl 1), 72–83. https://doi.org/10.1037/ser0000593

Pouissant, A. F., & Alexander, A. (2000). *Lay my burdens down*. Beacon Press.

Quiñones-Rosado, R. (2020). Liberation psychology and racism. In L. E. Comas-Díaz & T. Rivera (Eds.), *Liberation psychology: Theory, method, practice, and social justice* (pp. xx–314). American Psychological Association.

Rossen, L. M., & Schoendorf, K. C. (2012). Measuring health disparities: Trends in racial–ethnic and socioeconomic disparities in obesity among 2- to 18-year old youth in the United States, 2001–2010. *Annals of Epidemiology, 22*(10), 698–704. https://doi.org/10.1016/j.annepidem.2012.07.005

RYSE Center. (2016). https://acestoohigh.com/2016/10/24/racing-aces-gathering-and-reflection-if-its-not-racially-just-its-not-trauma-informed/

Saleem, F. T., & Lambert, S. F. (2016). Differential effects of racial socialization messages for African American adolescents: Personal versus institutional racial discrimination. *Journal of Child and Family Studies, 25*(5), 1385–1396.

Saleem, F. T., Anderson, R. E., Williams, M. (2020). Addressing the "Myth" of Racial Trauma: Developmental and Ecological Considerations for Youth of Color. *Clinical Child and Family Psychology Review 23*(1), 1–14. https://doi.org/10.1007/s10567-019-00304-1. PMID: 31641920; PMCID: PMC8845073.

Simons, R. L., Lei, M.-K., Klopack, E., Beach, S. R. H., Gibbons, F. X., & Philibert, R. A. (2021). The effects of social adversity, discrimination, and health risk behaviors on the accelerated aging of African Americans: Further support for the weathering hypothesis. *Social Science & Medicine, 282*, 113169. https://doi.org/10.1016/j.socscimed.2020.113169

Slopen, N., Shonkoff, J. P., Albert, M. A., Yoshikawa, H., Jacobs, A., Stoltz, R., & Williams, D. R. (2016). Racial disparities in child adversity in the U.S.: Interactions with family immigration history and income. *American Journal of Preventive Medicine, 50*(1), 47–56. https://doi.org/10.1016/j.amepre.2015.06.013

Sotero, M. M. (2006). A conceptual model of historical trauma: Implications for public health practice and research. *Journal of Health Disparities Research and Practice, 1*(1), 15.

Stevenson, H. C., Jr. (1994). Validation of the scale of racial socialization for African American adolescents: Steps toward multidimensionality. *Journal of Black Psychology, 20*(4), 445–468.

Stevenson, H. C., Cameron, R., Herrero-Taylor, T., & Davis, G. Y. (2002). Development of the teenager experience of racial socialization scale: Correlates of race-related socialization frequency from the perspective of black youth. *Journal of Black Psychology, 28*(2), 84–106. https://doi.org/10.1177/0095798402028002002

The Aboriginal Healing Foundation. (2004). *Historic trauma and aboriginal healing*. Anishinabe Printing. Accessed 09/30/05. Available at http://www.ahf.ca

Thomas Tobin, C. S., Gutiérrez, Á., Bell, C. N., & Thorpe, R. J. (2022). Early life racial discrimination, racial centrality, and allostatic load among African American older adults. *The Gerontologist, 62*(5), 721–731. https://doi.org/10.1093/geront/gnab185

Tomfohr, L. M., Pung, M. A., & Dimsdale, J. E. (2016). Mediators of the relationship between race and allostatic load in African and White Americans. *Health Psychology, 35*(4), 322–332. https://doi.org/10.1037/hea0000251

U.S. Department of Health and Human Services. (2001). Mental health: Culture, race, ethnicity. A report of the Surgeon General. Rockville, MD: Author.

Utsey, S. O., Ponterotto, J. G., Reynolds, A. L., & Cancelli, A. A. (2000). Racial discrimination, coping, life satisfaction, and self-esteem among African Americans. *Journal of Counseling & Development, 78*(1), 72–80.

Williams, D. R., & Mohammed, S. A. (2009). Discrimination and racial disparities in health: Evidence and needed research. *Journal of Behavioral Medicine, 32*(1), 20–47. https://doi.org/10.1007/s10865-008-9185-0

Williams, D. R., Neighbors, H. W., & Jackson, J. S. (2003). Racial/ethnic discrimination and health: Findings from community studies. *American Journal of Public Health, 93*(2), 200–208. https://doi.org/10.2105/AJPH.93.2.200

Woods-Jaeger, B., Briggs, E. C., Gaylord-Harden, N., Cho, B., & Lemon, E. (2021). Translating cultural assets research into action to mitigate adverse childhood experience–related health disparities among African American youth. *American Psychologist, 76*(2), 326–336. https://doi.org/10.1037/amp0000779

Woods-Jaeger, B., Gaylord-Harden, N., Dinizulu, S. M., Elder, A., Jahangir, T., & Smith, R. N. (2023). Developing practices for hospital-based violence intervention programs to address anti-Black racism and historical trauma. *American Psychologist, 78*(2), 199–210.

12

Historical and Racial Trauma: Adverse Childhood Experiences (ACEs) and Native Americans

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Introduction

Historically, research focused on identifying the prevalence and impact of adverse childhood experiences (ACEs) across racial and ethnic categories has been sparse. Moreover, even in studies that recognize differences across racial categories, the examined categories have been extremely coarse, failing to recognize the importance of examining the differential concentration of adversity among more specific groups. This oversight is concerning as it limits overall understanding of the extent to which marginalized groups—for example, Native Americans—are exposed to ACEs, potentially masking important sources of concentrated adversity among this group as well as any differential needs for prevention and intervention programming.

While the research examining the concentration of ACEs among Native Americans and their consequences is scant, there is reason to believe that childhood adversity is differentially concentrated among Native persons. Native American communities have experienced historical trauma and extensive structural inequality for hundreds of years, and such experiences likely contribute to adversity that spans multiple life-course stages, including childhood over generations of families (Brave Heart, 2003).

This chapter first reviews the historical trauma and oppression experienced by Native Americans and the associated, lasting impacts. Next, we frame these experiences as ACEs for Native people. Then, the existing research regarding ACEs among Native Americans is presented, and limitations are outlined. Finally, a discussion of evidence-based strategies for preventing and intervening on ACEs among Native American people and Native communities is provided.

Historical and Racial Trauma Among Native Americans

Colonization

To understand the lives of Native Americans, it is necessary to look at their existence through a historical framework, including settler colonialism (i.e., colonization). Colonization—or the erasure of another society, including their values, norms, culture, beliefs, and traditions by outsiders (Weaver, 2009)—has had a profound and lasting impact on Native Americans and Native American communities. Having been removed from their communities, relocated across the United States, and forced to assimilate to Western culture resulted in many Native Americans losing their

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traditions, culture, family, and community support. In addition, the forcible removal of Native Americans from their homes and communities disrupted their family environments, restricted their economic opportunities, disconnected them from their culture, and severed ties with other Native American persons (Deer, 2015; Weaver, 2009; see also Richards et al., 2021a).

The primary purpose of colonization was to assimilate Native Americans into the dominant culture and eradicate Native culture. Assimilating into the patriarchal Western culture meant dismantling the egalitarian structure in Native American communities (Weaver, 2009), resulting in Native men gaining more power and control over Native women and adopting sexist attitudes toward Native women such as the belief that Native women were subordinate to them (Kuokkanen, 2008; Weaver, 2009). In addition, the destruction of traditional matriarchal roles for Native women made them more vulnerable to violence, victimization, and marginalization (Kuokkanen, 2008).

Boarding Schools

A key tool to Native assimilation in the United States was Indian boarding schools. At least 300 Indian boarding schools were established in the late 1800s to force Native American children to embrace the European American way as described in the often-cited motto, "Kill the Indian, save the man" (Trafzer et al., 2006). For example, administrators and teachers cut Native children's hair, changed how they dressed, changed their diets, changed their names, and subjected them to militaristic regimens and discipline (Adams, 1995). For many Native children in boarding schools, the experience led to confusion, alienation, homesickness, and resentment. Because Native children were denied engagement in cultural healings and practices, Native children also experienced a loss of ethnic identity (Brown-Rice, 2014). In addition, Native children were physically and sexually abused and, as a result, developed harmful coping mechanisms (e.g., manipulation, substance abuse, suicide) (Olson & Dombrowski, 2020).

In a review of the impact of boarding schools on attachment among Native American children, Olson and Dombrowski (2020) state that while in boarding schools Native children lost the cultural dynamics that defined identity and well-being, which ultimately affected their ability to cope with trauma. In addition, due to their "dual loss – identity and family connection" (p. 62), many boarding school attendees may be unable to form secure attachments in their interpersonal relationships (including lack of trust and poor communication), thus continuing the intergenerational transmission of trauma. To this end, a recent Canadian study examining ACEs among a convenience sample of 114 Indigenous adults whose parents had and had not attended government-run boarding schools found that participants whose mother or father attended residential school had significantly higher ACE scores ($M = 5$ ACEs) than participants whose mother or father did not attend residential school ($M = 3$ ACEs) (Moon-Riley et al., 2019).

Rape/Sexual Assault

These lasting impacts of colonization, and continued racism and marginalization provide further important context for the high rates of violence against Native Americans (Deer, 2015; Weaver, 2009). Colonization has been proffered as a driving force of violence aimed at Native Americans, specifically Native women (Deer, 2009, Kuokkanen, 2008; Weaver, 2009). Native Americans have the highest rate of sexual violence of any racial group (Deer, 2005, 2009, 2015; Rosay, 2016), and according to Deer (2009, 2015), rape was used as a weapon to control Native women. The use of rape prevented Native women from fulfilling their traditional roles (e.g., food gathering) within the community out of fear of being attacked by outsiders. The inability to fulfill their roles forced them into risky situations or situations that made them vulnerable to violence (e.g., living in poverty, being homeless, prostitution) (Kuokkanen, 2008). Overall, the undermining of Native women's roles was part of conquering and colonizing Native women (Deer, 2015; Weaver, 2009).

Rape does far more than just physical damage; it also shows disrespect for physical boundaries and disregard for humanity and leaves many who survive with feelings of "shame, fear, self-hatred, and depression" (Deer, 2015, p. 51). Furthermore, because of the history of Native people, a Native American survivor of rape may have difficulty separating their direct experience of rape from the larger experiences of Native people (e.g., forced removal, assimilation) (Deer, 2005). Finally, the overall experience of violence against Native Americans, specifically women, has been described as a tool to destroy Native culture and result in spiritual death that is hard to recover from.

Lastly, we must acknowledge that throughout history Native women's bodies have been commoditized—"bought and sold for sexual gratification" and eroticized and hypersexualized (e.g., "Poca-hottie" Halloween costumes) (Deer, 2015, p. 62). Doing so promotes a message that Native women are sexually available. In addition, history also shows how Native women are devalued compared to White women. Historically, according to the "colonizer's legal system," only a White woman could be raped (Deer, 2009, p. 151), thus leaving Native women unprotected from sexual violence. Moreover, even into the late 1960s, the federal appellate court case *Gray v. US.* (1968) sustained the precedent of lesser punishment for rape against Native women: if a Native American man raped a Native woman, the punishment would be less severe than if the victim was a White woman (Weaver, 2009).

Legacy of Colonization

Historical Trauma

The study of ACEs among Native Americans must be understood within the context of historical trauma or the "cumulative emotional and psychological wounding over the lifetime and across generations, emanating from massive group trauma experiences" (Brave Heart, 2003, p. 7; see also Burnette & Figley, 2016), and historical oppression or the "chronic, pervasive, and intergenerational experiences of oppression" (Burnette & Figley, 2016, p. 38). Historical trauma among Natives is a result of *historical losses* of their people, land, families, and culture and can be (and is) passed down through generations biologically, psychologically, environmentally, and socially, thus creating a cycle of trauma and/or violence for subsequent generations (Brown-Rice, 2014). Additionally, historical trauma focuses on the larger atrocities (e.g., genocide, forced relocation, boarding school experiences, and assimilation) that have impacted Native American communities. In contrast, historical oppression focuses more on the factors correlated with discrimination, microaggressions, and marginalization that help maintain oppression (Burnette & Figley, 2016).

Throughout history, Native Americans have been impacted by the behaviors and policies of the dominant culture that were purposefully and systematically destructive of their people (Brown-Rice, 2014; Kirmayer et al., 2014; Struthers & Lowe, 2003). First was the deliberate killing (i.e., genocide) of Native Americans and the killing of Natives through exposure to outside diseases (e.g., smallpox, measles, diphtheria, cholera). Because Native Americans were living among themselves, they did not have the immunity to fight outside diseases, resulting in many Natives dying. Furthermore, the trauma from the decimation of Native American people was made worse by the lack of acknowledgment from the dominant culture and the inability of Natives to mourn the loss of their people (Brown-Rice, 2014; see also Evans-Campbell, 2008).

The second comprised the taking of Native land and the forced relocation of Native people (Brown-Rice, 2014; Kirmayer et al., 2014; Struthers & Lowe, 2003). As the federal government acquired more land, Natives were forced to live on reservations or in urban areas. The uprooting of Native people from their families and their lives resulted in more deaths of Native people and a decline into poverty (Brown-Rice, 2014; Evans-Campbell, 2008). As discussed earlier, boarding schools were detrimental to Native American people and communities. Removing children from their homes and their communities is considered one of the most harmful traumas because it severed the family structure, forced Native children to assimilate into "mainstream" culture, and disrupted many Native communities. This kind of destruction to a population is a critical antecedent to many of the problems that exist for Native Americans.

In many ways, the experience of historical trauma (e.g., assimilation, boarding school experiences, relocation, genocide) and historical oppression (e.g., discrimination, microaggressions, and marginalization that help maintain oppression) underpin the experiences with ACEs that Native Americans encounter. It is likely that many Native Americans have experienced forms of ACEs—psychological, social, economic, and physical suffering—due to historical oppression, either directly or indirectly. We also suggest further below that historical trauma and oppression themselves are forms of ACEs that are culturally specific to Native Americans (as well as, in different contexts, for other marginalized groups).

Some psychological impacts of ACEs among Natives include high rates of substance abuse and mental health disorders (e.g., depression, suicide, PTSD) (see Evans-Campbell, 2008). As noted above, these problems likely arose as maladaptive coping strategies by Natives who were removed from their homelands, forced into boarding schools, exposed to violence, and denied cultural reintegrative treatments (Olson & Dombrowski, 2020). Indeed, Native Americans have a higher rate of substance abuse than any other racial/ethnic group (Substance Abuse and Mental Health Services Administration, 2019), and their suicide rate is higher than the national average (Centers for Disease Control and Prevention [CDC], 2021; Suicide Prevention Resource Center, 2013). Research also shows that Native Americans have higher rates of victimization (Rosay, 2016), poverty (Sapra et al., 2014; U.S. Census Bureau, 2019), and unemployment (Brown-Rice, 2014; Sapra et al., 2014) than other racial/ethnic groups. Removal from their Native homelands to reservations (devoid of their natural habitats to grow and sustain food, engage in traditional work roles, etc.) and forced reliance on the federal government for food, services, and so forth likely contributed to Natives' decline into poverty and low health status. Further, severing Native Americans from their cultural values also meant exposing them to more violence, both within and outside the home as the matriarchal structure was eroded. Lastly, ACEs manifest as physical ailments with Native Americans experiencing high rates of hypertension, heart disease, sexually transmitted infections (STIs), obesity, and type 2 diabetes (Brown-Rice, 2014; Struthers & Lowe, 2003), as well as lower life expectancy compared to other racial/ethnic groups in the United States (Arias et al., 2021; Brown-Rice, 2014).

The larger society may perceive these negative consequences relating to historical trauma as a racial problem, and Natives may be seen as "less capable, less desirable, and more troubled," leading to societal marginalization (Struthers & Lowe, 2003, p. 260). Thus, the racial oppression that Natives face continues their marginalization in mainstream society. Despite these negative consequences, not *all* Native Americans experience these signs and symptoms related to historical trauma, which explains, at least in part, why rates of psychological, social, economic, and physical effects vary among tribes (Brown-Rice, 2014; Evans-Campbell, 2008).

Social and Health Disparities, Including ACEs

Native American persons suffer from many social and health problems at higher rates than other ethnic/racial groups, and this often holds for both youth and adults, as well as across gender categories. According to the U.S. Census, Native Americans have lower rates of education, higher rates of poverty, and poorer health indicators than other racial groups. For instance, according to the U.S. Census Bureau (2019), 81% of Native Americans have graduated high school compared to 93% of Whites and 87% of African Americans, and only 16% of Native Americans have received a bachelor's degree or higher compared to 36% of Whites and 22% of African Americans. Further, more Native Americans live at or below the poverty level (23%) than Whites (10%) or African Americans (21%).

Other indicators suggest that Native American families experience state system involvement at high rates, with Native children being placed in child welfare, child protection, and/or foster care settings at disproportionately higher rates (Woods & Summers, 2016; Austin et al., 2019). Recent evidence suggests that while under system involvement (e.g., foster care, adopted care), Native children also experience more physical, sexual, and spiritual abuse than White children in similar custody situations (Landers et al., 2021). Wildeman and colleagues (2020) report that about 1 in 7 Native American children will have a confirmed case of maltreatment reported before they are 18 years old.

Many Native Americans live in rural areas—on or near tribal lands (also known as Indian country, Indian reservations, Indian allotments; see 18 U.S. Code § 1151). The forced removal of tribes to new reservation land had many detrimental impacts, in this case, cutting them off from the land and traditional sources of strength and support they had utilized in the past. Today, this rurality might also lead to limited access to important health and social resources or support services (Gillespie et al., 2021; Grossman et al., 2005). When combined with other indicators, such as a higher rate of uninsured Native persons compared to other races/ethnicities (U.S. Census Bureau, 2019), a picture of potential unaddressed needs and/or gaps in services becomes apparent.

Native American adolescents report significantly greater drug and alcohol use rates than adolescents of other racial and ethnic groups, too (Wu et al., 2011; Yu & Stiffman, 2010). Relatedly, Native American adults report significant levels of psychological distress and are more likely to have poorer overall physical and mental health and greater levels of unmet health needs than persons of other races/ethnicities (Barnes et al., 2010). Native American adults and youth also suffer from suicide rates that are higher than the national average, with suicide being the second leading cause of death for Native Americans from 10 to 24 years of age (Suicide Prevention Resource Center, 2013). Potentially related to these problems, Native Americans also "go missing" at higher rates than other racial and ethnic categories (Richards et al., 2021b). Again, many of these maladies can be traced to the historical treatment of Native Americans, who may have engaged in substance use or developed mental health problems due to traumatic experiences.

Health disparities coupled with gaps in services and resources might be significant for Native Americans because they also report experiencing high rates of victimization (Rosay, 2016). Native Americans have higher crime victimization rates than non-Natives (Bachman et al., 2008; Richards et al., 2021a; Rosay, 2016). For example, Rosay (2016) found that over 80 percent of Native women and Native men had been victims of violence in their lifetime. Native American women suffer higher lifetime rates of rape and stalking than women of other races/ethnicities (Rosay, 2016; Tjaden & Thoennes, 2000) and experience intimate partner violence victimization over two times more often than African American women and three times more often than White women (Catalano, 2007). Relatedly, Native persons are incarcerated at rates nearly 40% above the national average (Bureau Justice Statistics, 1999).

Research on ACEs Among Native Americans

State-Based Studies, Including Native Americans

In addition to studies suggesting differential exposure to various forms of adversity among Native Americans, a limited number of studies have specifically examined ACEs among Natives. For example, Warne et al. (2017) administered a statewide health survey to more than 16,000 South Dakota households to compare the prevalence of 10 adverse events commonly examined in the ACEs literature (Dube et al., 2003) and identified in the original ACEs study by Felitti and colleagues (1998) between Native and non-Native youth. Collectively, the results revealed that Native youth reported a greater overall prevalence of individual ACEs, including emotional abuse (30.10% compared to 17.41%), physical abuse (24.51% compared to 12.31%), sexual abuse (15.53% compared to 9.60%), emotional neglect (25.87% compared to 14.00%), and physical neglect (15.89% compared to 2.78%). Native youth also reported significantly greater exposure to multiple forms of household dysfunction relative to non-Native youth, including witnessing their mother being treated violently (23.76% compared to 5.31%); household substance abuse (50.04% compared to 21.49%); household mental illness (24.36% compared to 13.89%); parental separation or divorce (39.34% compared to 20.17%); and the incarceration of a household member (22.57% compared to 3.73%). Native youth also reported a greater overall number of ACEs than non-Native youth, with approximately 17% of Native youth reporting zero ACEs compared to approximately 50% of non-Native youth. Finally, among all youth (i.e., Native and non-Native) reporting exposure to six or more ACEs, the odds of experiencing depression (*OR* = 6.35), anxiety (*OR* = 4.39), and post-traumatic stress disorder (*OR* = 4.85) were significantly greater relative to those youth who reported zero ACEs. These findings suggest that Native youth may be differentially exposed to ACEs and that exposure to such experiences may increase the odds of deleterious health and behavioral outcomes. However, these findings are limited to a convenience sample of Native and non-Native youth from one state and may not extend to other populations.

Similarly, a more recent study (Muir & Viljoen, 2022) examined a sample of 187 justice-involved adolescents from a single province in Canada and also employed the classic 10-item measure of ACEs popularized by Felitti et al. (1998). The study compared Indigenous ($n = 97$) and White ($n = 90$) youth, specifically identifying differences in ACEs exposure and differences in the association between ACEs exposure and reoffending between Indigenous and White youth. Overall, Indigenous youth experienced greater overall exposure to ACEs than White youth, with Indigenous females reporting an average of 3.72 ACEs compared to an average of 2.40 among White females. A similar pattern was observed among males, in which Indigenous youth reported significantly greater average exposure relative to White youth ($M = 3.62$ compared to $M = 2.52$). In addition, to the average number of adverse events reported, Indigenous females (59.6%) and males (52.0%) were significantly more likely than White females (25.0%) and males (24.0%) to experience four or more ACEs during childhood. The results also indicated that Indigenous youth had significantly higher rates of recidivism relative to White youth and that the increased prevalence of ACEs among the former compared to the latter mediated the association. In other words, part of the reason that Native youth experience greater recidivism relative to White youth is because Native youth also experience significantly greater levels of ACEs.

Nationally Representative Samples, Including Native Americans

In addition to studies relying on geographically restricted samples to examine the prevalence of ACEs among Native peoples, and the implications of exposure to ACEs, a limited number of studies have also employed nationally representative samples that include a subsample of Native Americans. For example, Kenney and Singh (2016) examined the prevalence of parent-reported ACEs in a subsample of Native Americans from a population-based nationally representative sample of youth from the 2011–2012 National Survey of Children's Health (NSCH). The examined ACEs were based on the classic measure developed by Felitti and colleagues (1998) and included 9 items tapping economic disadvantage, parental divorce, parental death, parental incarceration, exposure to violence, victimization, and family mental health problems, as well as racial prejudice. Directly in line with other studies, the results revealed that Native children were between two and three times more likely to have sustained multiple ACEs compared to non-Hispanic White children depending on the number of ACEs examined. Native children were also significantly more likely to have experienced more specific sources of adversity compared to their counterparts, including being a victim of violence, witnessing violence in their neighborhood, living with a caregiver with an alcohol problem, witnessing violence between parents, and experiencing race-based discrimination. Importantly, however, it is worth noting that the employed ACEs measure excluded physical and sexual violence exposure, typically included in other operationalizations of ACEs. Finally, while using parental reports is beneficial in some ways, this measurement strategy also introduces important limitations, in that parents may not be aware of some adverse experiences that their children experience.

More recently, Richards et al. (2021a) examined the prevalence of ACEs among White, Black, Asian, Hispanic, and Native American persons using a nationally representative sample of adults from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). The employed ACEs measure included 10 items and directly aligned with the classic measure developed by Felitti et al. (1998). Consistent with the other studies summarized above, the results of this research revealed that even compared to multiple different racial and ethnic groups—including other marginalized groups—Native Americans reported a significantly greater number of ACEs ($M = 2.15$) than any other group. Among the 10 ACEs examined in the study, Native persons reported the greatest overall prevalence of physical abuse (28.54%), emotional abuse (32.05%), sexual abuse (17.96%), physical neglect (32.05%), witnessing violence (17.17%), parental substance abuse (33.43%), parental incarceration (10.24%), and parental mental illness (9.84%). A similar pattern was observed when examining differences across both race/ethnicity and sex, with Native females ($M = 2.24$) and Native males ($M = 2.03$) reporting the greatest number of ACEs followed by Black females ($M = 1.63$) and Black males ($M = 1.54$). In addition, the findings revealed that Native females and males reported the greatest prevalence of nearly all examined ACEs. Also, Native females reported the highest prevalence of sexual abuse (24.25%) of all the examined groups. Finally, even after adjusting for other demographic characteristics (e.g., socioeconomic status), Native American persons experienced a significantly greater number of ACEs than their White counterparts, in which Native American participants reported a 46% increase in ACEs compared to White participants.

Limitations of Existing Research and Future Research Needs

Despite the consistency in these findings, the study results reported above remain incomplete. Data specifically focused on Native American populations, which is generalizable to larger populations of Native peoples, is sparse. The majority of studies summarized above have relied on samples that include Native American subsamples, but most were not specifically aimed at collecting data from Native populations (for notable exceptions, see Muir & Viljoen, 2022; Roh et al., 2015; Warne et al., 2017). This oversight is important as existing studies focused on non-Native populations do not sufficiently account for cultural context and largely ignore the historical trauma experienced by Native Americans, historical trauma that likely constitutes unique ACEs. The burden of colonialization, forced migration, racism, and other sources of trauma persist and continue to impact Native American persons and the communities in which they reside. Further, there are more than 570 federally recognized tribes in the United States (Bureau of Indian Affairs, 2022), and thus, differences likely exist among Native Americans across tribal affiliations. Based on these observations, future research aimed at more directly examining childhood adversity while considering cultural context is needed to fully understand the scope of ACEs among Native American populations—or any other marginalized group.

Culturally Informed and Evidence-Based Practices and Policies

Need for Culturally Based ACEs Risk Measures

Given the history of Native Americans, it seems that a culturally specific approach to ACEs for Natives would need to incorporate measures of historical traumas experienced by tribes (Deer, 2015; Churchill, 2004), including, for instance, historical racism, family histories, and/or intimate knowledge of forced removal from tribal homelands, boarding school experiences, and negative experiences related to racial identity such as their background, skin color, language, and spiritual beliefs. Relatedly, system involvement might also be additional adverse events to consider—specifically, removal of children into state care systems, involvement with child protective services, and/or foster care settings. Finally, other system involvement, such as contact with the youth justice system, criminal justice system, or tribal justice system, might also be culturally centered measures of adverse events.

Certainly, exposure to violence—much like what is measured in the "mainstream" ACEs literature (e.g., the 10-item measure popularized by Felitti et al., 1998)—such as domestic/intimate partner violence, rape/sexual assault, and child abuse—should also be considered in any culturally specific ACEs measure. For example, a child abuse measure might include both physical abuse and maltreatment and neglect since many Native American families are investigated primarily for maltreatment and neglect rather than physical abuse (Wildeman et al., 2020). In addition, some scholars believe that Native women remain particularly vulnerable to gender-based violence because these crimes are largely unprotected by federal law (see Deer, 2015; Gilbert et al., 2021). This means that many Native females may be particularly vulnerable to gender-based violence, and a culturally specific measure of adverse events should capture these forms of violence. Additionally, an expansion of victimization indicators is also warranted, perhaps to include the experience of stalking and human trafficking, as well as whether Native persons know someone personally who has gone missing. Since Native Americans are disproportionately represented among missing person cases, and there is some anecdotal evidence that human trafficking and family violence (e.g., domestic violence) are linked to the issue of missingness in this population (Richards et al., 2021b), expanding the concept to include these measures might be more culturally inclusive.

Similarly, given the high rates of suicide among this group, suicide indicators such as attempted suicide or knowing someone who has attempted or completed suicide could be considered a measure of an adverse event for Native Americans. Likewise, since Native American groups face high rates of substance use and abuse, additional indicators of substance use, such as a family history of substance use or maternal use of substances (Austin et al., 2019), could be considered culturally necessary measures of ACEs for Native Americans. Finally, measures of unmet needs might also be considered forms of adverse childhood events for Native Americans. Research shows that this group tends to have lower access to support services and healthcare resources, which could compound their experiences with these problems, especially if they remain untreated.

Need for Culturally Based ACEs Protective Measures

A culturally responsive approach to Native Americans' experiences should also consider protective variables. While a full discussion of these measures goes beyond the scope of this chapter, we would be remiss to exclude protective factors entirely. Given the high rates of exposure to the many social and historical maladies mentioned above, we emphasize that Native American peoples are resilient and have a long history of overcoming many hardships due to colonization. Some culturally inclusive resiliency measures among Native Americans might include indicators of cultural beliefs and traditions, such as how closely the Native person is to their cultural identity. Measures of social ties that offer support and assistance might also be considered, specifically those that measure ties to tribal elders. Elders are particularly important and revered in Native cultures because they often teach the tribal members about their traditions and ideology. In addition, traditions related to language, food preparation, spiritual and mental health, and even approaches to physical health and family integration are important pieces of cultural identity that elders tend to foster and infuse into the fabric of the tribe. Thus, ties to elders, in particular, might be considered culturally centered protective factors.

Finally, knowledge of and experience of cultural responses to trauma could be considered protective factors for Native Americans. These might include sweat lodges, meditational guidance, art, dances, traditional means of recreation, traditional expressions of spirituality, and so forth—direct experiences or even simply knowledge/exposure might alleviate adverse experiences or serve as protective and preventative measures against the impacts of adverse experiences. Engaging in spiritual practices is part of Native traditions to create harmony and balance, or wellness, of the individual, the family, and/or the community (Portman & Garrett, 2006). Practicing spirituality can aid in healing the wounds related to trauma as this focuses on relationships, unity, honor, balance, and healing. A study involving Native elders asked for recommendations on healing from historical trauma, and two prominent themes included returning to cultural and spiritual ways of life and learning the traditional language (Grayshield et al., 2015). For example, one participant said, “We have thousands of years of generational experience on how to be healthy. Once we can tap into that … life becomes a whole lot easier” (p. 303). One participant discussed how language keeps them strong, and another stated that relearning their language healed them. As mentioned earlier, Native Americans are resilient, and it appears that utilizing a resilience counter-narrative that promotes the strengths and positive qualities of Native Americans is necessary to heal from trauma.

Reducing ACEs by Increasing Tribal Sovereignty

Reducing ACEs among Native American persons will require direct action to address the lasting impacts of colonialism, structural racism, and state violence. To begin, federal legislation must continue to work to restore tribal sovereignty so that tribes have the resources and authority to combat violence against Native people. For example, the Tribal Law and Order Act (TLOA; 2010) aimed to address crime in Indian country, especially violence against Native women, by empowering tribal law enforcement agencies and tribal governments. In particular, the TLOA increased tribal court’s sentencing authority to sentences of up to three years imprisonment and/or a $15,000 fine per offense for a combined maximum sentence of nine years per criminal proceeding. It also established new guidelines for handling domestic violence and sexual assault crimes, provided law enforcement and court officials training, and gave tribes access to national criminal databases. It also encouraged tribes to develop drug and alcohol prevention programs, especially for tribal youth, to better combat substance use on tribal lands.

At the same time, the TLOA requires tribes to make a range of changes and/or have resources to implement these new provisions. For example, before utilizing enhanced sentencing authority, tribes must amend their tribal codes to align with federal mandates, ensure that tribal judges meet training and licensing requirements, and develop and/or sustain indigent council programs (Folsom-Smith, 2015). While these requirements are all necessary to fulfill defendants’ rights under the U.S. Constitution, this list of *unfunded* mandates also highlights the difficulties tribes experience in exercising the provisions outlined in the TLOA. Indeed, according to the National Congress of American Indians (2021), fewer than ten tribes are exercising enhanced sentencing authority. Further, tribes require resources to access and use national criminal justice databases, including computing, staffing, and training, as well as access to internet service, which may not be routinely reliable in Indian country.

In addition, the 2013 reauthorization of the Violence Against Women Act (VAWA) restored tribal governments' jurisdiction over domestic violence and dating violence committed by non-Native persons against Natives through the creation of Special Domestic Violence Criminal Jurisdiction (SDVCJ; Gilbert et al., 2021). At the same time, the SDVCJ allowed by VAWA (2013) was quite narrow: non-Native offenders must live on the Indian reservation, work for the tribe, or have a current or former intimate relationship with an enrolled Native of the tribe or a Native who resides on the Indian reservation (Castillo, 2015; Deer, 2015; Gilbert et al., 2021). This is problematic as prior research shows that most perpetrators of violence against Native women are non-Native (Rosay, 2016), and VAWA's 2013 extension of tribal jurisdiction did not extend to crimes perpetrated by non-Native acquaintances or strangers, including physical violence, sexual assault, rape, or stalking, crimes that all disproportionately impact Native women and girls (Richards et al., 2021a; Rosay, 2016).

In 2022, a further reauthorization of VAWA replaced the SDVCJ with special Tribal criminal jurisdiction (STCJ) that expanded tribal jurisdiction to include non-Native perpetrators of child violence, dating and domestic violence, sexual violence, sex trafficking, stalking, and violations of protection orders, among other crimes in Indian country. It also broadened the definition of domestic violence covered by the STCJ to include

> any violation of the criminal law of the Indian tribe that has jurisdiction over the Indian country where the violation occurs that is committed by— "(A) a current or former spouse or intimate partner of the victim; "(B) a person with whom the victim shares a child in common; "(C) a person who is cohabitating with or who has cohabitated with the victim as a spouse or intimate partner; or "(D) a person similarly situated to a spouse of the victim under the domestic- or family-violence laws of the Indian tribe that has jurisdiction over the Indian country where the violation occurs." (p. 852)

Further, VAWA 2022 required that non-Native defendants exhaust all tribal court remedies before appealing to federal courts and stipulated that tribal nations may use federal Bureau of Prison facilities to house inmates who are sentenced to a year or more, thereby reducing a significant barrier many tribes face in exercising enhanced sentencing authority: adequate housing for inmates (see Folsom-Smith, 2015). Further provisions increased funding, training, and technical assistance to tribes regarding access to national crime data, which is often critical to investigating violent crime cases. The VAWA 2022 reauthorization was a significant step in restoring tribal sovereignty and tribal government's power to protect Native people, especially, Native women and children (See also Gilbert et al., 2021).

Reducing ACEs by Supporting Tribal Institutions

The federal government must also work to adequately support essential Native American institutions such as the Indian Health Service and Tribal colleges and universities, as well as tribal victim service agencies. Most Native American persons living in Indian country and many urban Indians receive medical care from the Indian Health Service (IHS) (IHS, 2022a). The IHS is an agency within the Department of Health and Human Services and is funded as a part of the congressional budget; IHS' strategic goals include "ensuring that comprehensive, culturally appropriate personal and public health services are available and accessible to American Indian and Alaska Native people" (IHS, para 3, 2022b). IHS facilities provide essential medical care, mental health and substance use treatment, suicide prevention services, and domestic violence and sexual assault screenings. The IHS also provides funding to 12 Youth Regional Treatment Centers (YRTCs) to address the ongoing issues of substance abuse and co-occurring disorders among Native youth. Substance use is addressed through a substance-free residential environment that integrates evidence-based and practice-based models of treatment, traditional healing, spiritual values, and affirming cultural norms (e.g., sobriety, responsibility to the tribe, village, band, and/or clan) (IHS, 2022c).

Similarly, Tribal colleges and universities (TCUs) provide a nexus for education and employment development for Native Americans, especially in Indian country. TCUs serve a significant number of Native people seeking higher education and technical training, aim to strengthen Indian culture without obligated assimilation (Boyer, 1997), and are most often located on remote reservations where residents have little access to other educational institutions (O'Brien, 1992; Boyer, 1997; Pavel, 1995). Unlike state and private educational institutions, TCUs depend on federal funding to maintain operations.

Finally, Native victim service agencies provide safety planning, legal services, counseling, and advocacy services in Native communities (Office of Victims of Crime, 2013). However, Native victim service agencies are often underfunded and understaffed. In addition, given the rurality and isolation of most Native communities, there are often no accessible resources beyond what is offered on tribal land (Office of Victims of Crime, 2013), and cultural barriers may prevent some Native victims and their families from seeking services outside of their community (Bachman et al., 2008). Thus, funding for tribal victim service providers is essential to serving Native victims of violence and stemming the transmission of trauma/impacts of trauma to future generations.

Reducing ACEs by Using Culturally Informed Responses

Interventions for Native persons (i.e., including adults) and prevention efforts to reduce ACEs among Native American children and youth must offer culturally specific programming. Native American persons may prefer interventions that incorporate traditional beliefs and practices (e.g., music, dance, sweat lodges), and evidence suggests that Western treatment models may not be effective in Native communities (see Attorney General's Advisory Committee on American Indian/Alaska Native Children Exposed to Violence, 2014). For example, home visitation programs designed for Native American mothers and their children—such as the Safe Care and Family Spirit programs—use culturally specific modalities to "promote mothers' parenting, coping, and problem-solving skills to address demographic challenges, family-of-origin problems, and personal stressors" (p.95). The Family Spirit curriculum incorporates traditional tribal teachings into "lessons on prenatal care, child development, toddler care, life skills, and healthy living" while the Safe Care curriculum addresses the "dynamics of child abuse and domestic violence and provides referrals to services available in the community" (p. 95). Finally, the Native American Fatherhood and Families Association (NAFFA) provides programming to Native families through three signature curricula: (1) Fatherhood Is Sacred®, and Motherhood Is Sacred®, (2) Linking Generations By Strengthening Relationships®, and (3) Addressing Family Violence & Abuse®. NAFFA programs aim to "strengthen families through responsible fatherhood and motherhood … creating a real passion in parents to take a leadership role in keeping families together and growing healthy children" (NAFFA, 2022, para 2–3).

Reducing ACEs by Training Non-Tribal Stakeholders/Responders

Finally, non-Tribal practitioners must be trained to be culturally competent in their work with Native children, families, and communities. For example, the Tribal Law and Policy Institute has developed best practices for developing culturally relevant social service departments and working with Native children who have experienced abuse (Yurok, 2006). Further, the National Child Traumatic Stress Network (NCTSN) Trauma-Informed Child Welfare training toolkit has been adapted for state child welfare workers who work with minority populations (Attorney General's Advisory Committee on American Indian/Alaska Native Children Exposed to Violence, 2014). This toolkit includes training modules on the impacts of historical and intergenerational trauma on Native families, a reframing of Secondary Traumatic Stress from a tribal perspective, information on pertinent laws, for example, Indian Child Welfare Act, and case studies of Native children. In addition, the Substance Abuse and Mental Health Services Administration (SAMHSA) has developed a "CultureCard: A Guide to Build Cultural Awareness: American Indian and Alaska Native" for use by practitioners serving Native clients and/or in Tribal communities (SAMHSA, 2009). The Culture Card provides summaries of customs, beliefs, and social norms. In sum, culturally specific prevention and intervention techniques are critical to serving the unique needs of Native people and families.

Conclusion

Reducing ACEs among Native Americans calls for a multipronged approach. First, we must better understand the prevalence and context of ACEs by expanding the scope of measures to include culturally informed ACEs and protective measures. Second, tribal communities must be empowered to stop the perpetration of violence and victimization against Native people through federal legislation that returns the power to police and punish perpetrators of violence to tribes and supports Native-serving victim organizations. Third, regarding ACEs prevention, we must focus resources on tribal institutions that support the health and well-being of Native people and communities, such as the Indian Health Service and Tribal colleges and universities, and support research and evaluation of culturally informed, evidence-based violence prevention strategies. Similarly, resources must be allocated to expand interventions for substance use, mental health challenges, and violence that pair evidenced-based strategies with cultural values and traditional practices. Finally, we must make a specific and sustained effort to train non-Native researchers and practitioners on Native history and culture so that we prevent adverse experiences—even unintentional ones—from "benevolent" system actors.

References

Adams, D. W. (1995). *Education for extinction: American Indians and the boarding school experience, 1875-1928*. University Press of Kansas.

Arias, E., Xu, J., Curtin, S., Bastian, B., & Tejada-Vera, B. (2021). Mortality profile of the non-Hispanic American Indian or Alaska Native population, 2019. *Centers for Disease Control and Prevention*. https://www.cdc.gov/nchs/data/nvsr/nvsr70/NVSR70-12.pdf

Attorney General's Advisory Committee on American Indian/Alaska Native Children Exposed to Violence. (2014). *Ending violence so children can thrive*. https://www.justice.gov/sites/default/files/defendingchildhood/pages/attachments/2015/03/23/ending_violence_so_children_can_thrive.pdf

Austin, A. E., Gottfredson, N. C., Zolotor, A. J., Halpern, C. T., Marshall, S. W., Naumann, R. B., & Shanahan, M. E. (2019). Trajectories of child protective services contact among Alaska native/American Indian and non-native children. *Child Abuse & Neglect, 95*, 1–11. https://doi.org/10.1016/j.chiabu.2019.104044

Bachman, R., Zaykowski, H., Kallymyer, R., Poteyeva, M., & Lanier, C. (2008). *Violence against American Indian and Alaska Native women and the criminal justice response: What is known*. (Report No. 223691). https://www.ncjrs.gov/pdffiles1/nij/grants/223691.pdf

Barnes, P. M., Adams, P. F., & Powell-Griner, E. (2010). Health characteristics of the American Indian or Alaska Native adult population: United States, 2004-2008. *National Health Statistics Report, 9*(20), 1–22. https://stacks.cdc.gov/view/cdc/5540/cdc_5540_DS1.pdf

Boyer, P. (1997). *Native American colleges: Progress and prospects*. The Carnegie Foundation for the Advancement of Teaching.

Brave Heart, M. Y. H. (2003). The historical trauma response among Natives and its relationship with substance abuse: A Lakota illustration. *Journal of Psychoactive Drugs, 35*, 7–13. https://doi.org/10.1080/02791072.2003.10399988

Brown-Rice, K. (2014). Examining the theory of historical trauma among native Americans. *The Professional Counselor, 3*(3), 117–130. https://doi.org/10.15241/kbr.3.3.117

Bureau of Indian Affairs. (2022, January 28). Indian entities recognized by and eligible to receive services from the United States Bureau of Indian Affairs. *Federal Register, 87*(19). https://www.govinfo.gov/content/pkg/FR-2021-01-29/pdf/2021-01606.pdf

Bureau of Justice Statistics. (1999). *American Indians and Crime* (No. 173386). U.S. Department of Justice. https://www.bjs.gov/content/pub/pdf/aic.pdf

Burnette, C. E., & Figley, C. R. (2016). Historical oppression, resilience, and transcendence: Can a holistic framework help explain violence experienced by indigenous people? *Social Work, 62*(1), 37–44. https://doi.org/10.1093/sw/sww065

Castillo, C. (2015). Tribal courts, non-Indians, and the right to an impartial jury after the 2013 reauthorization of VAWA. *American Indian Law Review, 39*(1), 311–336. https://digitalcommons.law.ou.edu/ailr/vol39/iss1/8

Catalano, S. (2007). *Intimate partner violence in the United States*. U.S. Department of Justice. https://bjs.ojp.gov/content/pub/pdf/ipvus.pdf

Centers for Disease Control and Prevention. (2021, February 24). *Tribal suicide prevention*. https://www.cdc.gov/suicide/programs/tribal/index.html

Churchill, W. (2004). *Kill the Indian, save the man: The genocidal impact of American Indian residential schools*. City Lights Books.

Deer, S. (2005). Sovereignty of the soul: Exploring the intersection of rape law reform and federal Indian law. *Suffolk University Law Review, 38*(2), 455–466. https://heinonline.org/HOL/P?h=hein.journals/sufflr38 & i=471

Deer, S. (2009). Decolonizing rape law: A native feminist synthesis of safety and sovereignty. *Wicazo Sa Review, 24*(2), 149–167. https://www.jstor.org/stable/40587785

Deer, S. (2015). *The beginning and end of rape: Confronting sexual violence in Native America*. University of Minnesota Press.

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

Evans-Campbell, T. (2008). Historical trauma in American Indian/Native Alaska communities: A multilevel framework for exploring impacts on individuals, families, and communities. *Journal of Interpersonal Violence, 23*(3), 316–338. https://doi.org/10.1177/0886260507312290

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Folsom-Smith, C. (2015, January). *Enhanced sentencing in tribal court: Lessons learned from tribes*. The National Tribal Judicial Center. https://bja.ojp.gov/sites/g/files/xyckuh186/files/media/document/tloatribalctssentencing.pdf

Gilbert, S. L., Wright, E. M., & Richards, T. N. (2021). Decolonizing VAWA 2021: A step in the right direction for protecting Native American women. *Feminist Criminology, 16*(4), 447–460. https://doi.org/10.1177/15570851211016044

Gillespie, L. K., King, L. L., Bostaph, L. G., & Goodson, A. (2021). Crime victim service providers' needs and barriers: Rurality and "high need". *Journal of Interpersonal Violence, 36*(15–16), 7274–7297. https://doi.org/10.1177/0886260519834100

Gray v US, 394 F.2d 96, 98 (9th Cir. 1968).

Grayshield, L., Rutherford, J. J., Salazar, S. B., Mihecoby, A. L., & Luna, L. L. (2015). Understanding and healing historical trauma: The perspectives of native American elders. *Journal of Mental Health Counseling, 37*(4), 295–307. https://doi.org/10.17744/mehc.37.4.02

Grossman, S. F., Hinkley, S., Kawalski, A., & Margrave, C. (2005). Rural versus urban victims of violence: The interplay of race and region. *Journal of Family Violence, 20*(2), 71–81. https://doi.org/10.1007/s10896-005-3170-y

Indian Country Defined, 18 U.S.C. § 1151 (1948 & rev. 1949). https://www.govinfo.gov/content/pkg/USCODE-2012-title18/pdf/USCODE-2012-title18-partI-chap53-sec1151.pdf

Indian Health Service. (2022a). *IHS profile*. https://www.ihs.gov/newsroom/factsheets/ihsprofile/

Indian Health Service. (2022b). *About IHS*. https://www.ihs.gov/aboutihs/.

Indian Health Service. (2022c). *Youth Regional Treatment Centers (YRTC)*. https://www.ihs.gov/yrtc/

Kenney, M. K., & Singh, G. K. (2016). Adverse childhood experiences among American Indian/Alaska Native children: The 2011-2012 National Survey of Children's Health. *Scientifica, 2016*, e7424239. https://doi.org/10.1155/2016/7424239

Kirmayer, L. J., Gone, J. P., & Moses, J. (2014). Rethinking historical trauma. *Transcultural Psychiatry, 51*(3), 299–319. https://doi.org/10.1177/1363461514536358

Kuokkanen, R. (2008). Globalization as racialized, sexualized violence. *International Feminist Journal of Politics, 10*(2), 216–233. https://doi.org/10.1080/14616740801957554

Landers, A. L., Danes, S. M., Campbell, A. R., & White Hawk, S. (2021). Abuse after abuse: The recurrent maltreatment of American Indian children in foster care and adoption. *Child Abuse & Neglect, 111*, 104805. https://doi.org/10.1016/j.chiabu.2020.104805

Moon-Riley, K. C., Copeland, J. L., Metz, G. A. S., & Currie, C. L. (2019). The biological impacts of indigenous residential school attendance on the next generation. *SSM - Population Health, 7*, 1–8. https://doi.org/10.1016/j.ssmph.2018.100343

Muir, N. M., & Viljoen, J. L. (2022). Adverse childhood experiences and recidivism in Indigenous and white female and male adolescents on probation. *Child Abuse & Neglect, 126*, 105512. https://doi.org/10.1016/j.chiabu.2022.105512

National Congress of American Indians. (2021). *Tribal Law and Order Act*. https://www.ncai.org/tribal-vawa/resources/tribal-law-order-act

Native American Fatherhood and Families Association (NAFFA). (2022). *Our story*. https://www.nativeamericanfathers.org/about

O'Brien, E. M. (1992). American Indians in higher education. *Research Briefs, 3*(3), 1–13. https://files.eric.ed.gov/fulltext/ED387291.pdf

Office for Victims of Crime. (2013). *Vision 21: Transforming victim services final report*. (NCJ 239957). Office for Victims of Crime. https://ovc.ojp.gov/library/publications/vision-21-transforming-victim-services-final-report

Olson, M. D. Z., & Dombrowski, K. (2020). A review of Indian boarding schools and attachment in the context of substance use studies of native Americans. *Journal of Racial and Ethnic Health Disparities, 7*, 62–71. https://doi.org/10.1007/s40615-019-00634-4

Pavel, D. M. (1995). Comparing BIA and Tribal schools with public schools: A look at the year 1990-91. *Journal of American Indian Education, 35*(1), 10–15. https://www.jstor.org/stable/24398374

Portman, T. A. A., & Garrett, M. T. (2006). Native American healing traditions. *International Journal of Disability, Development, and Education, 53*(4), 453–469. https://doi.org/10.1080/10349120601008647

Richards, T. N., Schwartz, J. A., & Wright, E. (2021a). Examining adverse childhood experiences among Native American persons in a nationally representative sample: Differences among racial/ethnic groups and race/ethnicity-sex dyads. *Child Abuse & Neglect, 111*, 104812. https://doi.org/10.1016/j.chiabu.2020.104812

Richards, T. N., Wright, E. M., Nystrom, A., Gilbert, S. L., & Branscum, C. (2021b). On assessing the scope of missing native Americans in Nebraska: Results from a state-wide study and recommendations for future research. *Race and Justice*. https://doi.org/10.1177/21533687211047933

Roh, S., Burnette, C. E., Lee, K. H., Lee, Y.-S., Easton, S. D., & Lawler, M. J. (2015). Risk and protective factors for depressive symptoms among American Indian older adults: Adverse childhood experiences and social support. *Aging & Mental Health, 19*(4), 371–380. https://doi.org/10.1080/13607863.2014.938603

Rosay, A. B. (2016). *Violence against American Indian and Alaska Native women and men: 2010 findings from the National Intimate Partner and Sexual Violence Survey* (No. 249736). U.S. Department of Justice. https://www.ojp.gov/pdffiles1/nij/249736.pdf

Sapra, K. J., Jubinski, S. M., Tanaka, M. F., & Gershon, R. R. M. (2014). Family and partner interpersonal violence among American Indians/Alaska Natives. *Injury Epidemiology, 1*(7), 1–14. https://doi.org/10.1186/2197-1714-1-7

Struthers, R., & Lowe, J. (2003). Nursing in the Native American culture and historical trauma. *Issues in Mental Health Nursing, 24*, 257–272. https://doi.org/10.1080/01612840305275

Substance Abuse and Mental Health Services Administration (SAMHSA). (2009). *American Indian and Alaska Native culture card: A guide to build cultural awareness.* https://store.samhsa.gov/sites/default/files/d7/priv/sma08-4354.pdf

Substance Abuse and Mental Health Services Administration (SAMHSA). (2019). *2018 National Survey on Drug Use and Health detailed tables.* U.S. Department of Health and Human Services. https://www.samhsa.gov/data/report/2018-nsduh-detailed-tables

Suicide Prevention Resource Center. (2013). *Suicide among racial/ethnic populations in the U.S.: American Indians/Alaska Natives*. Education Development Center. https://mnprc.org/wp-content/uploads/2019/01/suicide-ethnic-populations-1.pdf

The Tribal Law and Order Act of 2010, Public Law 111–211, H.R. 725, 124 Stat. 2258.

Tjaden, P., & Thoennes, N. (2000). Prevalence and consequences of male-to-female and female-to-male intimate partner violence as measured by the national violence against women survey. *Violence Against Women, 6*(2), 142–161. https://doi.org/10.1177/10778010022181769

Trafzer, C. E., Keller, J. A., & Sisquoc, L. (2006). *Boarding school blues: Revisiting American Indian educational experiences*. University of Nebraska Press.

U.S. Census Bureau. (2019). *American Community Survey*. https://www.census.gov/programs-surveys/acs/data.html

Violence Against Women Reauthorization Act of 2013, Public Law 113–4, 127 Stat. 54.

Violence Against Women Reauthorization Act of 2022, Public Law 117-103.

Warne, D., Dulacki, K., Spurlock, M., Meath, T., Davis, M. M., Wright, B., & McConnell, K. J. (2017). Adverse childhood experiences (ACE) among American Indians in South Dakota and associations with mental health conditions, alcohol use, and smoking. *Journal of Health Care for the Poor and Underserved, 28*, 1559–1577. https://doi.org/10.1353/hpu.2017.0133

Weaver, H. N. (2009). The colonial context of violence: Reflections on violence in the lives of Native American women. *Journal of Interpersonal Violence, 24*, 1552–1563. https://doi.org/10.1177/0886260508323665

Wildeman, C., Edwards, F. R., & Wakefield, S. (2020). The cumulative prevalence of termination of parental rights for U.S. children, 2000–2016. *Child Maltreatment, 25*, 32–42. https://doi.org/10.1177/1077559519848499

Woods, S., & Summers, A. (2016). *Technical assistance bulletin: Disproportionality rates for children of color in foster care (fiscal year 2014)*. National Council of Juvenile and Family Court Judges.

Wu, L.-T., Woody, G. E., Yang, C., Pan, J.-J., & Blazer, D. G. (2011). Racial/ethnic variations in substance-related disorders among adolescents in the United States. *Archives of General Psychiatry, 68*, 1176–1185. https://doi.org/10.1001/archgenpsychiatry.2011.120

Yu, M., & Stiffman, A. R. (2010). Positive family relationships and religious affiliation as mediators between negative environment and illicit drug symptoms in American Indian adolescents. *Addictive Behaviors, 35*, 694–699. https://doi.org/10.1016/j.addbeh.2010.03.005

Yurok, A. A. (2006). A *best practice approach for tribal advocates working with native children who have suffered abuse*. Passports for Native Children, Tribal Law and Policy Institute. http://www.tribal-institute.org/download/Passports_for_Native_Children.pdf

13

Adverse Childhood Experiences (ACEs) and the COVID-19 Pandemic

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ACEs and COVID-19

On March 11, 2020, the World Health Organization declared the Coronavirus Disease 2019 (COVID-19), which had swept its way through parts of China and Italy, a pandemic. The global impact of the pandemic has been staggering. As of the writing of this chapter, more than 6.6 million people have died due to the virus, economies across the world have crashed, and material conditions for people the world over have shifted dramatically (WHO, 2022; Laborde et al., 2021). The impacts of COVID-19, from lockdowns to job loss to death, have been felt to some degree by everyone on the planet with a multitude of factors mediating the severity of those impacts. While these impacts are well documented, their role in childhood and child development has been less well explored. The purpose of this chapter is to explore these varying impacts on children and the way they act as and exacerbate adverse childhood experiences.

COVID-19 as an Adverse Childhood Experience

Individual experiences of the COVID-19 pandemic have been significantly varied. Americans experienced changes to their personal relationships, how they spend their free time, their physical and mental health, jobs, and financial situations all due to COVID-19. At the same time, many US adults mentioned the positive impacts in their lives, such as being able to spend more time with their families and children. However, evidence is clear that the negative impacts far outweigh the positive (Kessel et al., 2021), especially for more vulnerable populations. Disparities between groups in the United States played an enormous role in how the pandemic was experienced, leaving those with the least financial resources the most affected. ACEs research has explored the ways in which experiences beyond the original ten adverse childhood experiences have similar impacts on health such as interactions with law enforcement, being displaced by war, or experiencing racism (Merritt et al., 2013; Pace et al., 2022). Although different groups experienced the impacts of COVID-

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19 differently, the early years of the COVID-19 pandemic have been shown to create significant additional familial stress, stress specific to the pandemic, and increases in verbal and emotional abuse (Calvano et al., 2021). These familial stressors, which are separate from currently identified ACEs, may create a specific set of experienced adversities that may have similar impacts on the broader list of identified ACEs.

Beyond an individual's social determinants of health, federal and state government responses to COVID-19 may also result in the increase in some ACEs. COVID-19 measures such as social isolation, quarantine, and shelter-in-place order may help limit the spread of COVID-19, but these measures can increase emotional distress during this difficult time, especially among people who lack social supports (Calvano et al., 2021). The virus itself and enforcement of COVID-19 measures may negatively impact social and mental well-being, resulting in an increased risk of suicides (John et al., 2020), leading to an increase in children who have parents with mental illness or who attempt suicide. The impacts of COVID-19 on families and children can be both direct and indirect. People, including children, will not simply "bounce back" from the COVID-19 pandemic, and the financial and social impacts are likely to be long-lasting, further increasing the odds of COVID-19 behaving similarly to other ACEs. Adopting COVID-19 into ACEs framework can help encourage medical/behavioral health providers to consider the diversity of impacts that COVID-19 had on their patients to help them feel safe and provide them with support.

Correlation Between Economic Down Turns and Child Maltreatment

ACEs are a major public health concern, and the COVID-19 pandemic is certain to make them much worse (Bryant et al., 2020; Centers for Disease Control and Prevention, 2021a). In particular, the COVID-19 pandemic has resulted in unprecedented economic disruption, which is strongly correlated with increases in child maltreatment (Bryant et al., 2020). Historically, child maltreatment rises with crises and economic downturns (Schneider et al., 2017) and multiple studies have found a positive correlation between parental economic hardship and child maltreatment (Frank et al., 2010; McLoyd, 1998). Parental economic hardship has been associated with increased substance use and mental illness, in addition to the financial challenges of living in poor and inadequate housing, and increased risk of physical abuse (Hart & Han, 2021), all of which are ACEs. Despite all this, the impact of the COVID-19 pandemic on child maltreatment is not completely understood due to the lack of literature around the topic (Wong et al., 2021) and the ongoing pandemic.

Similarly, concerns about mental health, substance use, and intimate partner violence have grown since the pandemic (Panchal et al., 2020). In June 2020, a full 40% of US adults reported struggling with mental health or substance use (Czeisler, 2020). According to the Centers for Disease Control and Prevention, approximately 1 in 4 women and nearly 1 in 10 men experience intimate partner violence (Centers for Disease Control and Prevention, 2021b). However, the number of calls to domestic-violence hotlines dropped by more than 50% during the pandemic due to victims' inability to safely connect with services, forcing them to stay with their abusers (Evans et al., 2020).

The pandemic has also increased exposure to risk factors for ACEs. COVID-19 will have devastating economic consequences as 22 million unemployment claims were filed in just a month at the beginning of the pandemic (United States Department of Labor, 2021), which could potentially result in more child abuse and neglect (Lawson et al., 2020). Similarly, COVID-19 has exacerbated housing insecurity. In 2020, over 2 million households have reported being behind on housing mortgage payments, a 250 percent increase since the 2010 Great Recession. Moreover, 8 million rental households were behind in their rent (Consumer Financial Protection Bureau, 2021). Despite a recent decline in the unemployment rate compared to the beginning of the pandemic, many households are still facing economic challenges due to the ongoing pandemic (Bureau of Labor Statistics, U. S. Department of Labor, 2021).

Increases in Child Abuse

At the beginning of the pandemic, physical/social distancing policies were introduced by state and local governments to slow the spread of COVID-19. Although they helped reduce the morbidity and mortality of the virus (Siedner et al., 2020), numerous societal consequences such as job insecurity, financial instability, remote work, school/child care, and business closures arose from these policies (Karpman et al., 2020). School/child care closure put more burdens on parents/caregivers, resulting in more stress and anxiety on top of the fear of recession and job loss. This increases the risk factors for family violence. However, previous research found a significant decrease in child abuse reporting during early pandemic months due to physical/social distancing policy (Rapoport et al., 2021). The negative trend in reported cases of child maltreatment is suspected to be a result of limited social connection between children and mandated reporters (e.g., teachers, social workers, and healthcare providers) during the pandemic (Bryant et al., 2020; Swedo et al., 2020). In general, child abuse reporting tends to increase following national emergencies (Seddighi et al., 2021). Despite the drop in reporting, there has been an increase in the number of hospitalizations related to child abuse during the COVID-19 pandemic (Schmidt & Natanson, 2020). Despite the decrease in abuse reports, the incidents of skeletal fractures in children were seen to go up during the year between 2020 and 2021 compared to previous years and were more likely to happen at home than at school or sporting events (Malige et al., 2022), indicating a likely increase in physical abuse. COVID-19 has created conditions for a rise in child abuse as children are locked in the same home as the people most likely to be their abusers (Bryant et al., 2020). Given the shift to remote learning and telehealth, educating mandatory reporters on how best to assess for abuse and neglect remotely could make a significant impact in improving how reporters identify abuse in the new digital landscape.

The Traumatic Death of 6.6 Million People and Counting

As previously noted, more than 6 million people have died as a direct result of COVID-19 worldwide. A study by Susan Hillis and colleagues estimated that one in every four US COVID-19 deaths results in a child being orphaned, defined as the child experiencing the death of one or both parents or the death of a custodial grandparent (2021). A study by Unwin and colleagues estimated that the number of global orphans created by COVID-19 as of October 31, 2021, was an estimated 5.2 million (2022). ACEs research has long established the loss of a parent as an adverse experience and parental divorce has been a part of the ACEs framework since the first studies done in conjunction with the CDC. Additional studies included parental loss by death or involvement in the foster care system and, across all studies, the loss of a parent has a negative impact similar to other ACEs (Merritt et al., 2013).

With deaths being unequal across demographic groups in the United States, it is clear that more American Indian/Alaskan Native and Black children have lost parents relative to their proportion of the population (Maness et al., 2021; Musshafen et al., 2022). The pandemic has exposed and exacerbated inequity, but the impact is compounded by adding the loss of a parent to the collective grief some groups are feeling disproportionately to others.

In addition to the ACE that this loss can introduce for many children, it should also be noted that these losses in many cases further the loss of resilience that many children need to adapt effectively to any adversity they experience. It is well documented that having a healthy, stable, and supportive relationship with an adult has a positive impact on children developing resilience even in environments with significant adversity

(Wolff, 1995). Some number of these adults – parents, grandparents, aunts, uncles, teachers, coaches, and mentors – would have helped children develop resilience to the adversity they are facing; and that adversity has increased as a result of the pandemic.

The Loss of Resilience: How COVID-19 Has Stripped Ritual and Resilience from Individuals, Families, and Communities

As ACEs research has examined the impact of childhood trauma, research on resilience has examined the ways in which humans can tolerate and endure trauma. Individuals, families, and communities all possess resilience and that resilience is influenced by external forces and social connections. Landau (2007) defines community resilience as "the community's inherent capacity, hope, and faith to withstand major trauma, overcome adversity, and to prevail, with increased resources, competence, and connectedness" (p. 352). Inherent in resilience to trauma is the process of "meaning making," developing a shared understanding of trauma within the context of a shared sense of the world (Park & Folkman, 1997). Communities and individuals who are able to create meaning around the trauma they experience are more likely to experience posttraumatic growth (Michael & Cooper, 2013). However, the qualities that help people to create meaning and understanding have been impacted by the very nature of the pandemic that people are living through, particularly in the early stages of the pandemic. Seeing the crisis as manageable and time limited, something that society is in together, and avoiding catastrophizing or seeing the worst-case scenario are all qualities that allow people to find meaning and be more resilient to the pandemic (Beck, 2008; Linley & Joseph, 2004; Walsh, 2020). All of these qualities are eroded by the nature of this pandemic, reducing resilience in individuals, families, and communities. While the pandemic was originally pitched as time limited (six weeks to flatten the curve), the prediction now is that COVID-19 will eventually become endemic and this process could take years (Adam, 2022). This long and uncertain timeline makes it all but impossible to look forward to an end of COVID-19 as one might the process of rebuilding after a hurricane or migrating away from a warzone. The necessary view that people are struggling together against this adversity is also fractured as the pandemic drags on. Early social distancing and isolation limited social interaction and, as the pandemic continues, changes in people's social behavior continue to evolve. For children, losing access to classmates for much of the first year of the pandemic stripped them of vital social supports who could share in their emotional experience of the pandemic. For parents, loss of social supports in the form of friends, extended family, and coworkers erodes their resilience, which in turn makes them less effective supports for children.

Indeed, this is one of the primary feedback loops of crumbling resilience that impacts children. Children draw their support and learn resilience from adult social relationships, primarily, family members (Wolff, 1995). As parents struggle with the pandemic's primary and secondary consequences, unemployment, poverty, food insecurity, illness, loss of social supports, decreased sense of safety, loss of loved ones, political unrest, and more, their capacity to provide support for children decreases (Prime et al., 2020). It is well documented that children can build and develop resilience, even in the face of unhealthy parent relationships, if they have secure and positive attachments with other adults such as a grandparent (Wolff, 1995). But with social distancing keeping children isolated from those outside their families and the pandemic affecting everyone, there are fewer and fewer healthy adults for children to relate to and help them build resilience. The pandemic then creates a "perfect storm" of adversity for adults who become inadequate supports for children, which in turn increases the adversity faced by children. Resilience erodes at each step.

Other aspects of individual meaning making are lost as well. Spirituality and religion are routine pieces of how many people make meaning (Michael & Cooper, 2013). A key part of many people's spiritual or religious practice are the rituals involved. These are often communal activities such as song, prayer, communion, or movement. Rituals are often specific to events such as marriage and death (Fulghum, 1997). When rituals are disrupted by circumstances, such as the death of a loved one in another country for an immigrant living abroad, resilience is shown to decrease (Nesteruk, 2018). Rituals are broadly social while also creating resilience and meaning making, and the social distance imposed by the pandemic has restricted society's capacity for ritual and in turn eroded individuals' resilience.

The End of Support: The Adversity of Ending Financial Support and Eviction Protection

Repeated studies have shown the impact of how cash assistance to parents positively impacts child development (Troller-Renfree et al., 2022; Noble et al., 2015). A significant impact of the COVID-19 pandemic has been the cash assistance available to parents and families across the country. Millions of Americans were eligible for some form of financial assistance as a result of the CARES Act and the American Rescue Plan with many families receiving thousands of dollars in direct cash aid. Additionally, the American Rescue Plan provided ongoing monthly support to families with children. But as of this writing, the US Government has failed to continue any of these programs or make any of them permanent. When the child tax credit expired in December of 2021, child poverty rose 41% in a single month (Parolin et al., 2022). For families with the lowest incomes, those below $35,000 a year, 91% reported spending the money on basic necessities such as rent, utilities, food, and educational costs.

While the impact of any one ACE might not be enough to predict negative outcomes, COVID and the collective responses to it have shown both the vulnerability of those with less income to the economic consequences of a global pandemic and governments' capacity to help those most in need. This can help reduce exposure to the ACE of physical neglect that will have positive impacts on individuals, societies, and economies.

Overview of Syndemics

A growing number of scholars in the field that are calling attention to the need to examine ACEs in the context of communal trauma given that ACEs do not solely affect individuals, but rather, affect whole populations. There is a strong body of literature pointing to the link between ACEs and adverse community environments such as discrimination, lack of opportunity, economic mobility, and social capital, among others, which predisposes children from marginalized communities to ACEs, as described by Ellis and Dietz (Fig. 13.1).

As noted in the authors' previous work, ACEs have significantly increased during the COVID-19 pandemic (Bryant et al., 2020), while resources to support persons experiencing ACEs have decreased, largely due to necessary safety precautions and public health measures. Nonetheless, the authors also recognize that there are other co-occurring major public health challenges during the current COVID-19 pandemic; thus, it is important to understand and address ACEs and COVID-19 in the context of *time* and *space*.

The syndemics framework looks at synergistic epidemics, and therefore, allows us to examine public health challenges that are happening simultaneously. Syndemics was first described in the literature in the early 1990s by an American medical anthropologist, Merrill Singer, to highlight the convergence of substance use disorders, violence, and AIDS (Shim & Starks, 2021). Syndemics involves three key principles: first, political-economic forces with historical depth lead to entrenched social, economic, and power inequities; second, those inequities shape the distribution of risks and resources for health, leading to the concentration of disease in specific parts of a population; and third, some overlapping diseases make one another worse because of biological interactions (Mendenhall & Singer, 2020). In other words, the syndemics framework helps understand the social, political, and histori-

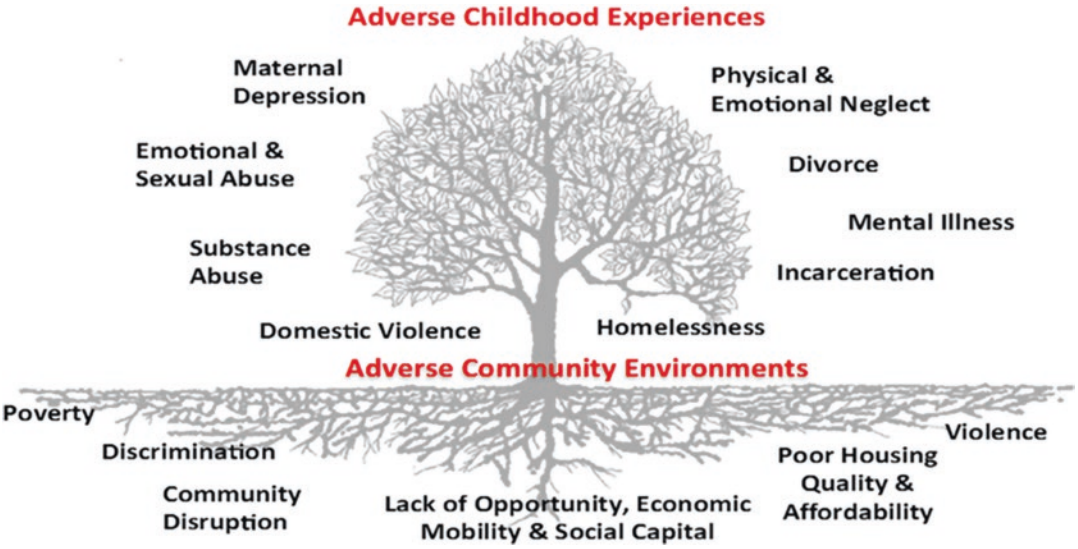

Fig. 13.1 The Pair of ACEs Tree indicating multiple types of ACEs and the relationship to adverse community environments (Ellis and Dietz (2017))

cal context in which diseases and other public health challenges occur and interact, and why certain populations experience worse conditions and outcomes than others. This framework clearly shows that populations disproportionately impacted by ACEs and COVID-19 are also facing disparities in co-occurring public health challenges relating to and stemming from racism.

Racism as a Public Health Crisis

International recognition of, and attention to, the murders of Ahmaud Arbury (February 23, 2020), Breonna Taylor (March 13, 2020), and George Floyd (May 25, 2020) in the same time period as the COVID-19 pandemic ensued, heightened attention to the 400-year-old problem of American racism as a public health crisis. Subsequently, major national health associations in the United States have now recognized the presence of “racism in its systemic, structural, institutional, and interpersonal forms” as an urgent threat to public health and health equity, and have subsequently pledged to confront systemic racism and police brutality (Sabatello et al., 2021, p. 66). There is a growing body of literature suggesting the profound intergenerational and biopsychosocial impacts of racism, from slavery, Jim Crow laws, and forced displacement of indigenous communities, to more modern forms of structural racism, including mass incarceration, forced separation of families at the US southern border, and voter suppression. Such studies have pointed to how the effects of racial trauma can be inherited across generations and measured through changes in the epigenome (Sonu et al., 2021; Babenko et al., 2015; Franklin et al., 2010; Vick & Burris, 2017). Childhood adversity, including but not limited to the established ACEs, is often the by-product of these experiences as they adversely impact behavior and health that so often negatively impacts families.

How Racism Explains and Exacerbates the ACEs/COVID Picture

Racism, historical and present-day, both explains and exacerbates the ACEs/COVID dilemma and its associated disparities. The interconnectedness of ACEs, COVID, and racism, can be examined in three categories: (1) barriers to accessing health and social services; (2) unequal health outcomes; and (3) social and economic challenges.

Barriers to Accessing Health and Social Services

There is a strong body of evidence pointing to the barriers to accessing health and social services among low-income communities of color, which has worsened during the pandemic. As noted by the authors in a prior study and by others, racial/ethnic minority populations often rely on government-funded healthcare facilities such as community health centers (Damian et al., 2021a). Such systems lacked the infrastructure and resources to mobilize and respond to both the immediate needs related to addressing and slowing the spread of COVID while simultaneously addressing the preexisting chronic health challenges facing their patient populations. For example, the American Indian/Alaskan Native (AI/AN) population, who rely heavily on the Indian Health Service (IHS), were heavily impacted by COVID-19. However, IHS had limited hospital beds and ICUs to respond in an adequate, timely manner (Xian et al., 2021). Moreover, once COVID-19 testing began to be provided for free, testing locations were disproportionately placed in affluent neighborhoods and in contrast, largely absent in AI/ANs tribal communities (Xian et al., 2021).

Unequal Health Outcomes

In addition to disparities in mortality that were discussed in the prior section, the enduring impact of structural racism manifests in infections and hospitalizations. The Hispanic population had a median of 158% higher COVID-19 infection relative to their percent of the population; this was followed by African Americans, with 50% higher COVID-19 infection relative to their population proportion. Disproportionate impact of COVID-19 was also seen in AI/AN and Asian populations, with 100% excess infections than the percent of the population seen in nine states for AI/AN and seven states for Asian populations. Similarly, among AI/ANs, COVID-19 incidents and hospitalization are 3.5 and 5.7 times higher, respectively, than among Whites (Xian et al., 2021).

It is important to note that there is likely an underreporting of infections, hospitalizations, and deaths, and that the current data does not completely reflect the severity of disparities. For example, several studies have pointed out the lack of data on COVID-related morbidity and mortality from jails/prisons and other closed employment environments (e.g., meat packing industry) that are overrepresented by Black, Indigenous, People of Color (BIPOC) populations (Cunneen & Tauri, 2019; Dyal et al., 2020; Waltenburg et al., 2021). Similarly, our surveillance systems do not capture persons who experienced barriers to accessing COVID testing, and may have died at home without a clear cause of death being clearly determined. Months into the pandemic, civil rights leaders called attention to the lack of race/ethnicity data being collected during the pandemic, and the bias in healthcare as African Americans were told to stay at home rather than seek testing at disproportionately higher rates in spite of reporting COVID-related symptoms to their providers (Williams, 2020).

Social and Economic Challenges

As has been discussed, there are a host of social and economic repercussions resulting from the COVID-19 pandemic. While this public health emergency is a traumatic *event* for society as a whole, there are variations in the traumatic *experiences* of subgroups within society based on differences in opportunities and resources. Using a syndemics framework to understand ACEs and COVID in the context of systemic racism, we can see that BIPOC communities disproportionately occupy built environments that put them at greater risk for both ACEs and COVID. Due in part to the legacy of redlining and other discriminatory practices in housing in the United States, racial/ethnic minorities and low-income populations are more likely to live in densely populated neighborhoods that not only lack access to critical medical and behavioral health services, but also make safety precaution efforts such as social distancing nearly impossible to comply with (Sonu et al., 2021). Similarly, BIPOC communities disproportionately occupy low-waged, high-risk occupations (e.g., grocery clerks, public transportation operators, sanitation workers) deemed essential during the pandemic (Damian, Armah, & Lee-Winn, 2021). Such essential workers often lack basic workplace benefits such as paid sick leave, which puts pressure on them to continue to work in order to survive and provide their families, even if they develop COVID-related symptoms. Lastly, it is important to note the devastating impact that COVID has had on safety-net health and social systems. In a recent national study of community health centers, which serve as the backbone of primary care and provider of care for a significant number of low-income persons of color in the United States, we found that the surge in demand on these systems to respond to COVID has significantly impeded their capacity to respond to and address other pressing issues, including ACEs, that disproportionately impact marginalized communities (Damian et al., 2021a).

In sum, the constellation of challenges that have come with COVID, including caregiver and household stress, unemployment, food insecurity, and overall significant social and economic disorder, have all increased the risk for ACEs. Moreover, given that BIPOC communities have been disproportionately impacted by these challenges secondary to the ongoing legacy of structural racism, the current state further exacerbates disparities in ACEs experienced by BIPOC populations (Fig. 13.2).

Public Health Interventions and ACEs

Pandemics cannot be solved except through significant public health interventions. Interventions such as mass vaccination, social distancing, mask mandates, and quarantines have been employed by governments and localities across the planet with varying degrees of severity and success. Recent research from Wales, however, shows that ACEs are positively correlated with distrust of these public health interventions. Researchers

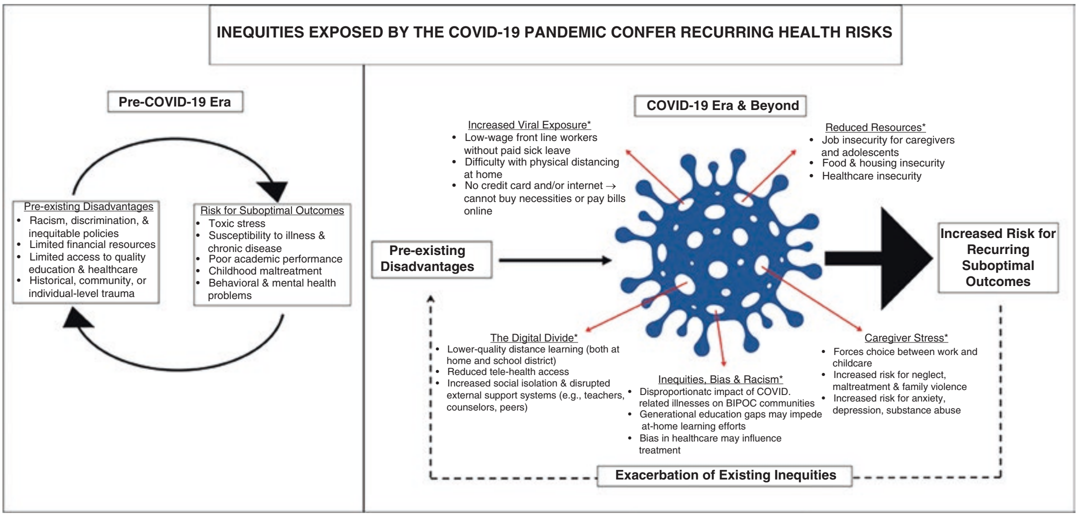

Fig. 13.2 The COVID-19 pandemic magnifies and exacerbates existing inequities (left) for disadvantaged children and families in the United States (indicated by thicker arrows on right), thereby placing them at greater risk for recurring suboptimal health outcomes and exacerbation of existing inequities. The asterisks (*) denote increased risk factors for disadvantaged children and families that are not mutually exclusive. These are also potential points for intervention (Condon et al., 2020)

conducted a survey of 2285 Welsh citizens 18 and over about their exposure to ACEs in childhood and their attitudes about public health restrictions, vaccinations, social distancing, masking, and their trust in the national health system or NHS (Bellis et al., 2022).

The results are shocking and concerning. For every measure, participants with 4 or more ACEs were more likely to oppose public health measures or feel distrust of the public health system and interventions. Respondents with an ACE score of four or higher were four times more likely to report vaccine hesitancy, four times more likely to support the ending of mandatory masking, twice as likely to have broken COVID restrictions, and three times as likely to believe social distancing should end. The result is a frightening feedback loop making solutions to the pandemic all the more challenging to identify and implement. If the pandemic increases ACEs, as we have concluded, and ACEs increase distrust in the public health solutions capable of curving the pandemic, more and more people will become resistant to the things most likely to help them.

While Bellis et al.'s research is correlational, many of the potential other explanations for these beliefs such as lower educational achievement or income level are correlated with ACEs. Additionally, the investigators controlled for multiple demographic variables that may contribute to these beliefs as well including experiential variables such as preexisting health conditions and having had COVID-19. While more research is warranted to better understand the connection between ACEs and opposition to public health interventions, this information has to be taken into consideration as professionals begin to plan for solutions to the dual problems of ACEs and the COVID-19 pandemic.

School-Based Health Centers

School-Based Health Centers (SBHCs) can play a critical role in identifying and treating ACEs in students, particularly during the COVID-19 pandemic era. They are well positioned to address the unmet physical and mental health needs of underserved youth populations by increasing accessibility and continuity of healthcare directly on the school campus (Keeton et al., 2012). SBHCs bring critical, developmentally appropriate services to children and adolescents where they spend most of their time – at school.

The convenience of accessing care at school was upended by the COVID-19 pandemic when schools closed down in spring 2020 and SBHCs closed with them. Due to the challenges of accessing care elsewhere, including lack of transportation, many students risked not getting the care they needed (Torres-Pagán & Terepka, 2020). This added another layer to the discussions of opening schools for in-person learning and ensuring that students could access the services offered by being on campus, including SBHC services.

Many of the students that SBHCs serve have unaddressed physical and mental health needs and are less likely to have and utilize a routine place for preventative care (Black et al., 2016). Furthermore, these youth and their families are more likely to be food insecure, live in low-quality or unstable housing, and other social and economic factors that lead to negative health outcome (Knopf et al., 2016). These disparities have been further exacerbated by the COVID-19 pandemic (Love, 2019).

SBHCs are positioned to act as a medical home, where staff can meet the physical and/or mental needs to students by providing developmentally and culturally appropriate care, and provide referrals to outside organizations, which work to address the other social determinants of health impacting students (Keeton et al., 2012). Especially given the trauma many students faced during the COVID-19 pandemic, SBHCs will be critical in providing accessible and constituent care to those who may not otherwise receive it (Torres-Pagán & Terepka, 2020).

Within the context of ACEs, SBHCs serve a vital function of being able to offer care where the child is. As COVID has made obtaining care harder and ACEs more prevalent, SBHCs are available to the entire student population of a school served by them. Given the propensity of SBHCs to be located in Title I schools, this access point was vital before the COVID-19 pandemic and has become even more so now. For children with unstable, neglectful, or abusive home lives, schools with SBHCs can be a safe place not just away from trauma, but to access care for the adversity children are facing and address or prevent the negative health outcomes associated with ACEs.

COVID-19 and Disaster Response

Implementing solutions to a problem the scale of the COVID-19 pandemic is an enormous task. Nations around the world marshalled resources to isolate, treat, test, and economically support their citizens to varying degrees of success. These large-scale implementations required a disaster response framework like what was brought to bear on the public health crisis of COVID-19. The disaster response framework is a cycle of mitigation, preparation, event response, and recovery (MacDonald et al., 2022).

The disaster framework looks locally; can the affected community respond to the crisis with its available resources after the crisis ends? But in a global pandemic, the nature of a community and the impacts of the disease are incredibly diverse. In early 2020, New York City had problems with supplies including N95 masks and other PPE, ventilators, and medical staffing for the emergent care of tens of thousands of sick New Yorkers (Madad et al., 2020). The disaster was at that time local; COVID-19 cases had been identified everywhere but only New York was seeing large-scale infections that were overburdening the healthcare system. The event response was federal, providing PPE, ventilators, a Navy vessel, and medical professionals to help meet the needs of New York City.

As new variants arise, the cycle has to be repeated with new lessons learned, preparations made, and responses to specific regions and communities where those preparations like masking and vaccination are less robust. But as society has, in some ways, improved the disaster response to the ongoing pandemic, there is an evolving disaster that is not being given the disaster framework. The cycle of mitigation has never been applied to ACEs, and there is an opportunity to treat it as such due to the dual crises of COVID-19 and ACEs. Mitigation strategies for both COVID-related ACEs and ACEs in general could help to dramatically reduce the prevalence of ACEs and improve resilience to them. We have outlined several potential responses to deploy in communities most impacted by ACEs and a lot could be learned by observing their impact. The final piece of the mitigation cycle of preparation is hard to aim specifically at ACEs but every natural disaster, including and perhaps especially COVID-19, is apt to bring adversity to children in its wake and preparing for the disaster will help to reduce their exposure to ACEs.

Trauma-Informed Interventions

Without adequate investments in mental health services and policy advocacy to mitigate ACEs and their impact, children from minority households will have compounded impacts from COVID-19 and ACEs, both of which they have experienced at disproportionate rates due to long-standing historical inequities (Artiga et al., 2021; Sacks & Murphey, 2018). One potential response to this disaster that can help to mitigate some of the impact of the COVID-19 pandemic is moving increasingly to trauma-informed care. Having equity-focused, trauma-informed policy and practice may help mitigate the effects of childhood trauma and reduce health inequities by race/ethnicity and socioeconomic status both during the COVID-19 pandemic and beyond (Champine et al., 2021).

While trauma-informed care can strengthen and improve the care people receive for their ACEs, it is vital to engage in efforts to build and strengthen the resilience of children, families, and communities vulnerable to traumatic experiences (Melz et al., 2019). There are four key components in building community resilience (Fig. 13.3) based on a continuous quality improvement model: creating a shared understanding of childhood and community adversity, assessing system readiness to respond and build

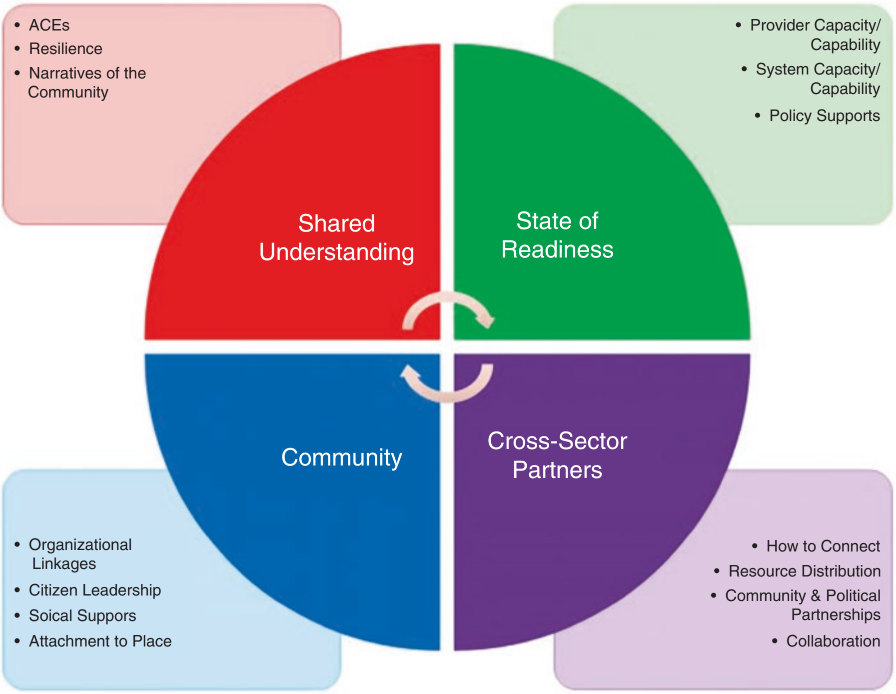

Fig. 13.3 Building community resilience: process of assessment and readiness (Ellis & Dietz, 2017)

supports, developing cross-sector partnerships to align services and resources, and connecting children and families to community-based services and resources (Ellis & Dietz, 2017).

The Need for Future Research

While the authors and many others have made informed predictions about the impacts of the COVID-19 pandemic on children and how that will increase their exposure to ACEs, a great deal is required of current and future researchers to assure we are prepared to both treat and understand the impact of the pandemic. Multiple different research frameworks can be applied to help understand the syndemics at work between COVID-19, poverty, childhood adversity, racism, and other external forces acting on children coming of age during these years.

Cohort studies represent a significant and important set of potential research studies stemming from the pandemic. Once the pandemic generation has finished coming of age, something that may not be the case until 2044, comparing the experiences and outcomes of this generation to generations past will present significant opportunities for comparing the impact of the COVID-19. Multiple generational cohort studies have been done and have had mixed conclusions on whether the impact of ACEs is stable across generations. Damian et al. (2021b) found that there were significant differences in the impact of ACEs on suicidal ideation while Dube et al. (2001) found no significant differences between cohorts in terms of how ACEs impacted them. Cohort studies like these may show potential increases in average ACEs for this generation as well as ways that the pandemic acts as an adverse childhood experience in its own right if there are similar total ACEs but with worse health outcomes. While different generations have always had different defining moments and shared experiences, codified ACEs research began in the 1990s with likely very few participants who had lived through the similar 1918 Spanish Flu pandemic.

Research on the impacts of the pandemic should be of significant interest to future researchers as well. While the pandemic may have unique impacts on future health outcomes as a result of increased ACEs or of the virus itself, there is also an unprecedented opportunity for research to examine the results of the natural experiments created by differing policies across different cities, states, and countries. Governments that provided more or less aid may have citizens that experiences more or less ACEs, governments that locked down more or less aggressively may see higher or lower levels of child abuse, and governments that provided effective safety nets for families may see no changes in ACEs data between pandemic children and others in the literature. The movement of ACEs research is a global one and the pandemic responses have been dramatically different across the globe. Researchers have a duty to use this opportunity to inform public policy around the globe moving forward on everything from social assistance to pandemic preparedness. It is rare that something happens so universally to everyone regardless of location or privilege.

Lastly, research must be conducted on what is to be done about the sequelae of the pandemic and the adverse childhood experiences it inevitably creates. In the United States, there is already a growing mental health need and a deeply inadequate pool of clinicians that were already too few before the pandemic (HRSA, 2022). The simple law of supply and demand means that only so many outcomes are possible. Either care will shift to those with the means to afford it as prices increase with the growing demands, care will erode in quality as a system without adequate resources attempts to meet everyone's needs, or some innovation will be created that allows for the large-scale needs this pandemic creates to be adequately addressed. These interventions will need to be at scale; not just group models of care but community and even cultural models of care. Models large enough to help not just individuals heal but whole communities who experienced this pandemic together. This area is ripe for research between groups, cultures, and nationalities. What helps create cultural resilience in South Korea may not work in Argentina, but there are likely applications to be applied if researchers can ask this question with humility and curiosity. Given the predicted impact of this pandemic, indeed the syndemics the authors have discussed here, finding the answer to this research question is our most urgent priority and we must begin the task as soon as we are able.

References

Adam, D. (2022). Will Omicron end the pandemic? Here's what experts say. *Nature, 602*(7895), 20–21. https://doi.org/10.1038/d41586-022-00210-7

Artiga, S., Hill, L., & Ndugga, N. (2021). *Racial disparities in COVID-19 impacts and vaccinations for children*. Racial Equity and Health Policy. Retrieved from https://www.kff.org/racial-equity-and-health-policy/issue-brief/racial-disparities-in-covid-19-impacts-and-vaccinations-for-children/

Babenko, O., Kovalchuk, I., & Metz, G. A. S. (2015). Stress-induced perinatal and transgenerational epigenetic programming of brain development and mental health. *Neuroscience & Biobehavioral Reviews, 48*, 70–91. https://doi.org/10.1016/j.neubiorev.2014.11.013

Beck, A.T. (2008) The evolution of the cognitive model of depression and its neurobiological correlates *American Journal of Psychiatry, 165*(8), 969–977. https://doi.org/10.1176/appi.ajp.2008.08050721

Bellis, M., Hughes, K., Ford, K., Madden, H., Glendinning, F., & Wood, S. (2022). Associations between adverse childhood experiences, attitudes towards COVID-19 restrictions and vaccine hesitancy: A cross-sectional study. *BMJ Open, 12*, 53915. https://doi.org/10.1136/bmjopen-2021-053915

Black, L. I., Nugent, C. N., & Vahratian, A. (2016). *Access and utilization of selected preventive health services among adolescents aged 10-17*. US Department of Health and Human Services, Centers for Disease Control and Prevention.

Bryant, D. J., Oo, M., & Damian, A. J. (2020). The rise of adverse childhood experiences during the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy, 12*(S1), S193. https://doi.org/10.1037/tra0000711

Bureau of Labor Statistics, U. S. Department of Labor. (2021). The employment situation - November 2021. Retrieved from https://www.bls.gov/news.release/pdf/empsit.pdf

Calvano, C., Engelke, L., Di Bella, J., Kindermann, J., Renneberg, B., & Winter, S. M. (2021). Families in the COVID-19 pandemic: Parental stress, parent mental health and the occurrence of adverse childhood experiences—Results of a representative survey in Germany. *European Child & Adolescent Psychiatry*. https://doi.org/10.1007/s00787-021-01739-0

Centers for Disease Control and Prevention. (2021a). *Preventing adverse childhood experiences*. Retrieved from https://www.cdc.gov/violenceprevention/aces/fastfact.html

Centers for Disease Control and Prevention. (2021b). *Preventing intimate partner violence*. Retrieved from https://www.cdc.gov/violenceprevention/intimatepartnerviolence/index.html

Champine, R. B., Lang, J. M., & Mamidipaka, A. (2021). Equity-focused, trauma-informed policy can mitigate COVID-19's risks to children's behavioral health. *Policy Insights From the Behavioral and Brain Sciences, 8*(2), 103–110.

Condon, E. M., Dettmer, A. M., Gee, D. G., Hagan, C., Lee, K. S., Mayes, L. C., Stover, C. S., & Tseng, W.-L. (2020). Commentary: COVID-19 and mental health equity in the United States. *Frontiers in Sociology, 5*, 584390. https://doi.org/10.3389/fsoc.2020.584390

Consumer Financial Protection Bureau. (2021). *Housing insecurity and the COVID-19 pandemic*. Retrieved from https://files.consumerfinance.gov/f/documents/cfpb_Housing_insecurity_and_the_COVID-19_pandemic.pdf

Cunneen, C., & Tauri, J. M. (2019). Indigenous Peoples, Criminology, and Criminal Justice. *Annual Review of Criminology, 2*(1), 359–381. https://doi.org/10.1146/annurev-criminol-011518-024630

Czeisler, M. É., Lane, R. I., Petrosky, E., Wiley, J. F., Christensen, A., Njai, R., et al. (2020). Mental health, substance use, and suicidal ideation during the COVID-19 pandemic—United States, June 24–30, 2020. *Morbidity and Mortality Weekly Report, 69*(32), 1049.

Damian, A. J., Armah, T., & Lee-Winn, A. E. (2021, Feb. 17). An intersectional approach to understanding the mentalhealth challenges of America's essential workers. Harvard Medical School Primary Care Review. http://info.primarycare.hms.harvard.edu/review/mental-health-essential-workers

Damian, A. J., Gonzalez, M., Oo, M., & Anderson, D. (2021a). A National Study of Community Health Centers' readiness to address COVID-19. *The Journal of the American Board of Family Medicine, 34*(Supplement), S85–S94. https://doi.org/10.3122/jabfm.2021.S1.200167

Damian, A. J., Oo, M., Bryant, D., & Gallo, J. J. (2021b). Evaluating the association of adverse childhood experiences, mood and anxiety disorders, and suicidal ideation among behavioral health patients at a large federally qualified health center. *PLoS One, 16*(7), e0254385. https://doi.org/10.1371/journal.pone.0254385

Dyal, J. W., Grant, M. P., Broadwater, K., Bjork, A., Waltenburg, M. A., Gibbins, J. D., et al. (2020). COVID-19 Among Workers in Meat and Poultry Processing Facilities—19 States, April 2020. MMWR. *Morbidity and Mortality Weekly Report, 69*(18). https://doi.org/10.15585/mmwr.mm6918e3

Dube, S. R., Anda, R. F., Felitti, V. J., Chapman, D. P., Williamson, D. F., & Giles, W. H. (2001). Childhood abuse, household dysfunction, and the risk of attempted suicide throughout the life span: Findings from the adverse childhood experiences study. *JAMA, 286*(24), 3089. https://doi.org/10.1001/jama.286.24.3089

Ellis, W. R., & Dietz, W. H. (2017). A new framework for addressing adverse childhood and community experiences: The building community resilience model. *Academic Pediatrics, 17*(7), S86–S93.

Evans, M. L., Lindauer, M., & Farrell, M. E. (2020). A pandemic within a pandemic—Intimate partner violence during covid-19. *New England Journal of Medicine, 383*(24), 2302–2304.

Frank, D. A., Casey, P. H., Black, M. M., Rose-Jacobs, R., Chilton, M., Cutts, D., et al. (2010). Cumulative hardship and wellness of low-income, young children: Multisite surveillance study. *Pediatrics, 125*(5), e1115–e1123.

Franklin, T. B., Russig, H., Weiss, I. C., Gräff, J., Linder, N., Michalon, A., Vizi, S., & Mansuy, I. M. (2010). Epigenetic Transmission of the Impact of Early Stress Across Generations. *Biological Psychiatry, 68*(5), 408–415. https://doi.org/10.1016/j.biopsych.2010.05.036

Fulghum, R. (1997). *From beginning to end: The rituals of our lives*. Fawcett Columbine.

Hart, J., & Han, W. (2021). COVID-19 experiences and parental mental health. *Journal of the Society for Social Work and Research, 12*(2), 283–302.

Hillis, S. D., Blenkinsop, A., Villaveces, A., Annor, F. B., Liburd, L., Massetti, G. M., Demissie, Z., Mercy, J. A., Nelson, C. A., III, Cluver, L., Flaxman, S., Sherr, L., Donnelly, C. A., Ratmann, O., & Unwin, H. J. T. (2021). COVID-19–associated Orphanhood and caregiver death in the United States. *Pediatrics, 148*(6), e2021053760. https://doi.org/10.1542/peds.2021-053760

How NYC Health + Hospitals Protected Its Workforce in the Face of Shortage | Health Affairs Forefront. (n.d.). Retrieved February 28, 2022, from https://www.healthaffairs.org/doi/10.1377/forefront.20200709.32035/full/

John, A., Pirkis, J., Gunnell, D., Appleby, L., & Morrissey, J. (2020). Trends in suicide during the covid-19 pandemic. *BMJ, 371*.

Karpman, M., Gonzalez, D., & Kenney, G. M. (2020). *Parents are struggling to provide for their families during the pandemic*. Urban Institute.

Keeton, V., Soleimanpour, S., & Brindis, C. D. (2012). School-based health centers in an era of health care reform: Building on history. *Current Problems in Pediatric and Adolescent Health Care, 42*(6), 132–156.

Kessel, P., Baronavski, C., Scheller, A., & Smith, A. (2021). *In their own words, americans describe the struggles and silver linings of the COVID-19 pandemic*. Pew Research Center, 5.

Knopf, J. A., Finnie, R. K., Peng, Y., Hahn, R. A., Truman, B. I., Vernon-Smiley, M., et al. (2016). School-based health centers to advance health equity: A community guide systematic review. *American Journal of Preventive Medicine, 51*(1), 114–126.

Laborde, D., Martin, W., & Vos, R. (2021). Impacts of COVID-19 on global poverty, food security, and diets: Insights from global model scenario analysis.

Agricultural Economics, 52(3), 375–390. https://doi.org/10.1111/agec.12624

Landau, J. (2007). Enhancing resilience: Families and communities as agents for change. *Family Process, 46*(3), 351–365. https://doi.org/10.1111/j.1545-5300.2007.00216.x

Lawson, M., Piel, M. H., & Simon, M. (2020). Child maltreatment during the COVID-19 pandemic: Consequences of parental job loss on psychological and physical abuse towards children. *Child Abuse & Neglect, 110*, 104709.

Linley, P. A., & Joseph, S. (2004). Positive change following trauma and adversity: A review. *Journal of Traumatic Stress, 17*(1), 11–21. https://doi.org/10.1023/B:JOTS.0000014671.27856.7e

Love, H. E. (2019). Twenty years of school-based health care growth and expansion health affairs *38*((5), 755–764. https://doi.org/10.377/hlthaff.2018.05472

MacDonald, A. U., Harahus, J. M., Hall, E., Reed, M. J., & Baldisseri, M. R. (2022). COVID-19 disaster preparedness. *COVID-19 Pandemic*, 23–34. https://doi.org/10.1016/B978-0-323-82860-4.00007-0

Malige, A., Deemer, A., & Sobel, A. D. (2022). The effect of COVID-19 on pediatric traumatic orthopaedic injuries: A database study. *JAAOS Global Research & Reviews, 6*(2), e22.00012. https://doi.org/10.5435/JAAOSGlobal-D-22-00012

Maness, S. B., Merrell, L., Thompson, E. L., Griner, S. B., Kline, N., & Wheldon, C. (2021). Social determinants of health and health disparities: COVID-19 exposures and mortality among African American people in the United States. *Public Health Reports, 136*(1), 18–22. https://doi.org/10.1177/0033354920969169

McLoyd, V. C. (1998). Socioeconomic disadvantage and child development. *American Psychologist, 53*(2), 185.

Melz, H., Morrison, C., & Ingoldsby, E. (2019). Review of trauma-informed initiatives at the systems level. *Trauma-informed approaches: Connecting research, policy, and practice to build resilience in children and families*. Retrieved from https://aspe.hhs.gov/sites/default/files/private/pdf/262051/TI_Approaches_Research_Review.pdf

Mendenhall, E., & Singer, M. (2020). What constitutes a syndemic? Methods, contexts, and framing from 2019. Current Opinion in HIV and AIDS, 15, 1. https://doi.org/10.1097/COH.0000000000000628

Merritt, M. B., Cronholm, P., Davis, M., Dempsey, S., Fein, J., Kuykendall, S. A., & Wade, R. (2013). *Findings from the Philadelphia urban ACE survey*. Institute for Safe Families. Retrieved from www.rwjf.org/en/library/research/2013/09/findings-from-thephiladelphia-urban-ace-survey.html

Michael, C., & Cooper, M. (2013). Post-traumatic growth following bereavement: A systematic review of the literature. *Counselling Psychology Review, 28*, 18–33.

Musshafen, L. A., El-Sadek, L., Lirette, S. T., Summers, R. L., Compretta, C., & Dobbs, T. E., III. (2022). In-hospital mortality disparities among American Indian and Alaska Native, Black, and White patients with COVID-19. *JAMA Network Open, 5*(3), e224822. https://doi.org/10.1001/jamanetworkopen.2022.4822

Nesteruk, O. (2018). Immigrants coping with transnational deaths and bereavement: The influence of migratory loss and anticipatory grief. *Family Process, 57*(4), 1012–1028. https://doi.org/10.1111/famp.12336

Noble, K. G., Engelhardt, L. E., Brito, N. H., Mack, L. J., Nail, E. J., Angal, J., Barr, R., Fifer, W. P., & Elliott, A. J. (2015). Socioeconomic disparities in neurocognitive development in the first two years of life. *Developmental Psychobiology, 57*(5), 535–551. https://doi.org/10.1002/dev.21303

Pace, C. S., Muzi, S., Rogier, G., Meinero, L. L., & Marcenaro, S. (2022). The Adverse Childhood Experiences – International Questionnaire (ACE-IQ) in community samples around the world: A systematic review (part I). *Child Abuse & Neglect, 129*, 105640. https://doi.org/10.1016/j.chiabu.2022.105640

Panchal, N., Kamal, R., Orgera, K., Cox, C., Garfield, R., Hamel, L., & Chidambaram, P. (2020). *The implications of COVID-19 for mental health and substance use*. Kaiser Family Foundation, 21.

Park, C. L., & Folkman, S. (1997). Meaning in the Context of Stress and Coping. *Review of General Psychology, 1*(2), 115–144. https://doi.org/10.1037/1089-2680.1.2.115

Parolin, Z., Collyer, S., & Curran, M. A. (2022). Child poverty rises from 12.1% to 17%, highest rate since December 2020. 5.

Prime, H., Wade, M., & Browne, D. T. (2020). Risk and resilience in family well-being during the COVID-19 pandemic. *American Psychologist, 75*(5), 631–643. https://doi.org/10.1037/amp0000660

Rapoport, E., Reisert, H., Schoeman, E., & Adesman, A. (2021). Reporting of child maltreatment during the SARS-CoV-2 pandemic in New York city from march to may 2020. *Child Abuse & Neglect, 116*, 104719.

Sabatello, M., Jackson Scroggins, M., Goto, G., Santiago, A., McCormick, A., Morris, K. J., et al. (2021). Structural Racism in the COVID-19 Pandemic: Moving Forward. *The American Journal of Bioethics, 21*(3), 56–74. https://doi.org/10.1080/15265161.2020.1851808

Sacks, V., & Murphey, D. (2018). The prevalence of adverse childhood experiences, nationally, by state, and by race or ethnicity. *Child Trends*. Retrieved from https://www.childtrends.org/publications/prevalence-adverse-childhood-experiences-nationally-state-race-ethnicity

Schmidt, S., & Natanson, H. (2020). With kids stuck at home, ER doctors see more severe cases of child abuse. *Washington Post*.

Schneider, W., Waldfogel, J., & Brooks-Gunn, J. (2017). The great recession and risk for child abuse and neglect. *Children and Youth Services Review, 72*, 71–81.

Seddighi, H., Salmani, I., Javadi, M. H., & Seddighi, S. (2021). Child abuse in natural disasters and conflicts: A systematic review. *Trauma, Violence, & Abuse, 22*(1), 176–185.

Shim, R. S. & Starks, S. M. (2021). COVID-19 Structural Racism and Mental Health Inequities: Policy Implications for an Emerging Syndemic Psychiatric Services *72*(10), 1193–1198. https://doi.org/10.1176/appi.ps.202000725

Shortage Areas. (2022). Retrieved February 28, 2022, from https://data.hrsa.gov/topics/health-workforce/shortage-areas

Siedner, M. J., Harling, G., Reynolds, Z., Gilbert, R. F., Haneuse, S., Venkataramani, A. S., & Tsai, A. C. (2020). Social distancing to slow the US COVID-19 epidemic: Longitudinal pretest–posttest comparison group study. *PLoS Medicine, 17*(8), e1003244.

Sonu, S., Marvin, D., & Moore, C. (2021). The Intersection and Dynamics between COVID-19, Health Disparities, and Adverse Childhood Experiences. *Journal of Child & Adolescent Trauma, 14*(4), 517–526. https://doi.org/10.1007/s40653-021-00363-z

Swedo, E., Idaikkadar, N., Leemis, R., Dias, T., Radhakrishnan, L., Stein, Z., et al. (2020). Trends in US emergency department visits related to suspected or confirmed child abuse and neglect among children and adolescents aged< 18 years before and during the COVID-19 pandemic—United States, January 2019–September 2020. *Morbidity and Mortality Weekly Report, 69*(49), 1841.

Torres-Pagán, L., & Terepka, A. (2020). School-based health centers during academic disruption: Challenges and opportunity in urban mental health. *Psychological Trauma: Theory, Research, Practice, and Policy, 12*(S1), S276.

Troller-Renfree, S. V., Costanzo, M. A., Duncan, G. J., Magnuson, K., Gennetian, L. A., Yoshikawa, H., Halpern-Meekin, S., Fox, N. A., & Noble, K. G. (2022). The impact of a poverty reduction intervention on infant brain activity. *Proceedings of the National Academy of Sciences, 119*(5). https://doi.org/10.1073/pnas.2115649119

United States Department of Labor. (2021). *New release: Unemployment insurance weekly claims*. Retrieved from https://www.dol.gov/ui/data.pdf

Unwin, H. J. T., Hillis, S., Cluver, L., Flaxman, S., Goldman, P. S., Butchart, A., Bachman, G., Rawlings, L., Donnelly, C. A., Ratmann, O., Green, P., Nelson, C. A., Blenkinsop, A., Bhatt, S., Desmond, C., Villaveces, A., & Sherr, L. (2022). Global, regional, and national minimum estimates of children affected by COVID-19-associated orphanhood and caregiver death, by age and family circumstance up to Oct 31, 2021: An updated modelling study. *The Lancet Child & Adolescent Health*, S2352464222000050. https://doi.org/10.1016/S2352-4642(22)00005-0

Vick, A. D., & Burris, H. H. (2017). Epigenetics and Health Disparities. *Current Epidemiology Reports, 4*(1), 31–37. https://doi.org/10.1007/s40471-017-0096-x

Walsh, F. (2020). Loss and resilience in the time of COVID-19: Meaning making, hope, and transcendence. *Family Process, 59*(3), 898–911. https://doi.org/10.1111/famp.12588

Waltenburg, M. A., Rose, C. E., Victoroff, T., Butterfield, M., Dillaha, J. A., Heinzerling, A., et al. (2021). Coronavirus Disease among Workers in Food Processing, Food Manufacturing, and Agriculture Workplaces. *Emerging Infectious Diseases, 27*(1), 243–249. https://doi.org/10.3201/eid2701.203821

WHO Coronavirus (COVID-19) Dashboard. (n.d.). Retrieved March 1, 2022, from https://covid19.who.int

Williams, L. B. (2020). COVID-19 disparity among Black Americans: A call to action for nurse scientists. *Research in Nursing & Health, 43*(5), 440–441. https://doi.org/10.1002/nur.22056

Wolff, S. (1995). The concept of resilience. *Australian & New Zealand Journal of Psychiatry, 29*(4), 565–584.

Wong, J. Y., Wai, A. K., Wang, M. P., Lee, J. J., Li, M., Kwok, J. Y., et al. (2021). Impact of CoViD-19 on child maltreatment: Income instability and parenting issues. *International Journal of Environmental Research and Public Health, 18*(4), 1501.

Xian, Z., Saxena, A., Javed, Z., Jordan, J. E., Alkarawi, S., Khan, S. U., et al. (2021). COVID-19-related state-wise racial and ethnic disparities across the USA: An observational study based on publicly available data from The COVID Tracking Project. *BMJ Open, 11*(6), e048006. https://doi.org/10.1136/bmjopen-2020-048006

Part V

Prevention, Policy, and Future Directions

14

Understanding Social and Structural Determinants of Health and the Primary Prevention of Adverse Childhood Experiences (ACEs)

Christopher R. Harper, Sarah Treves-Kagan, and Katrina S. Kennedy

Children need safe, stable, and nurturing relationships and environments to thrive and set the stage for lifelong wellness (CDC, 2019). However, social, economic, and historical inequities have denied some families and children safety and equal opportunities to thrive (Klevens & Metzler, 2019). Adverse childhood experiences (ACEs) are potentially traumatic experiences that occur during childhood (0–17 years), such as experiencing or witnessing violence or abuse, having an incarcerated family member, or growing up in a household with substance use or mental health problems (CDC, 2019). ACEs are relatively common among US adults. In a survey of adults in 25 states, about 61% reported that they had experienced at least one ACE; 1 in 6 adults reported that they had experienced four or more ACEs (Merrick et al., 2019).

Historically economically and socially marginalized groups, including racial and ethnic minorities, women, and sexual and gender minorities, experience more ACEs than their White, male, and heterosexual or cisgender peers (Giano et al., 2020). Moreover, children from socioeconomically disadvantaged backgrounds are more likely to experience severe and often lethal forms of abuse (Niederkrotenthaler et al., 2013), suggesting that lower-income and inequitable access to resources may explain, in part, some of the disparities in ACEs prevalence. This chapter will highlight the World Health Organization (WHO) social determinants of health (SDOH) framework (Solar & Irwin, 2010), federal and state policies that may address inequities in ACEs and improve community-level factors like education and neighborhood investment, the utilization of health systems, and strategies for increasing support for primary prevention efforts such as community organizing and transformational narrative change.

Social Determinants of Health (SDOH)

SDOH are the conditions (e.g., economic stability, education access and quality, social and community context) in which people live, learn,

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work, and play that influence their health and quality of life (CDC, 2021). Healthy People 2030 specifically calls for "creating social, physical, and economic environments that promote attaining the full potential for health and well-being for all" (HHS, 2022, para. 5). Strategies that directly address SDOH to create equitable conditions for children, youth, and families are essential to preventing ACEs. To achieve this, a comprehensive public health approach to ACEs is needed. However, tertiary interventions to address ACEs have predominantly focused on individual-level approaches—such as punitive measures (e.g., child removal) or therapeutic measures (e.g., building resilience and strengthening coping strategies). While these strategies are critical for supporting children and families that experienced adversity, there has been less attention paid to the primary prevention of ACEs, including addressing the historical inequities that have created disparities. Furthermore, the efficacy of individual, familial, and school-based programs to prevent or respond to violence may be compromised by the social conditions in which they are delivered. There is an opportunity to shift the focus from solely individual-level interventions to include upstream, structural, and comprehensive prevention strategies (CDC, 2019).

Figure 14.1 shows an adaptation of the WHO SDOH Framework (Solar & Irwin, 2010) for the purpose of examining factors that create inequities in and exacerbate ACEs. The first element includes the processes by which factors such as poverty and inequitable access to economic resources can influence social class and social stratification. Moreover, discrimination, including classism, racism, sexism, ableism, xenophobia, transphobia, and homophobia/biphobia, can influence access to socioeconomic resources. The second element of the SDOH framework is socioeconomic policies and context. The socioeconomic and political context are features of the social environment that create and maintain social hierarchies through the interactions of governance, macroeconomic policies, institutions that implement social and public policies (e.g., the labor market, educational systems, healthcare, or even the welfare state), and cultural values or norms. The third element includes intermediary ACEs risk factors that directly influence health, including the home, community, and physical environment; systems that directly interact with individuals (e.g., schools and child protective services, and individual or relational-level risk factors, such as family stress), including the biological, psychological, and material circumstances that create disease and the differential exposure and risk for disease.

The framework in Fig. 14.1 explicitly includes racism, colonialism, homophobia, transphobia, classism, sexism, ableism, xenophobia, and other forms of oppression that directs who benefits or is harmed by the SDOH as they currently exist. For example, racism is a social system in which a dominant social group organizes groups around "race" to systematically devalue, exclude, and jeopardize access to resources (Williams et al., 2019). A few examples of this process include historical housing discrimination, the over-policing of communities of color, and the school-to-prison pipeline (Lynch et al., 2021; McCarter, 2017). These discriminatory policies not only impacted health historically, but the repercussions have also lasted for decades. For example, researchers found that 1930s racially discriminatory housing in New York City was associated with risk for preterm births in 2013–2017 (Krieger et al., 2020).

Policy Approaches to Preventing ACEs and Their Sequalae

Applying an SDOH framework can help researchers, policymakers, and community members better understand solutions that can help mitigate the past harms of discriminatory policies and create more equitable communities. Polices that reduce poverty and economic inequality can help prevent ACEs, reduce other forms of violence, and reduce risk factors for ACEs (CDC, 2019). Recent research has suggested that polices that strengthen household family security, ensure adequate family support, and address the risk factors for the intergenerational transmission of

Fig. 14.1 Adapted SDOH framework (Solar & Irwin, 2010) that highlights the importance of social and structural factors on ACEs outcomes

ACEs may help reduce ACEs such as neglect, family violence, and family stress (CDC, 2019).

Strengthening Household Financial Security

The Impact of Tax Credits and Economic Supports on Families Tax credits, such as the Earned Income Tax Credit (EITC) and Child Tax Credit (CTC), can provide families a direct economic benefit with the potential to prevent ACEs and other harms. The EITC is a federal tax credit whereby low- to moderate-income working individuals receive a refundable tax credit as a percentage of their earnings (IRS, 2022b). The size of the EITC credits varies by earnings and family size, with larger families receiving more of a credit. In 2021, the maximum benefit with one child was $3618, the maximum credit for families with three or more children was $6728, and $1502 for childless workers. Twenty-eight states and the District of Columbia have also adopted EITC benefits to complement the Federal EITC (IRS, 2022b). The CTC similarly works to help offset the cost of family building through direct economic assistance. The CTC is available to tax filers below certain income limits with children under the age of 18 years (IRS, 2022a). Families that do not owe any taxes cannot claim the CTC; however, families with a tax liability less than the CTC can apply for a partial refund. Beginning in the summer of 2021, half the creditable amount was to be paid in advance monthly payments with families able to claim the other half with their 2021 tax return. Seven states have adopted their own CTC.

Both the EITC and CTC have been shown to prevent ACEs and their risk factors. In 2018, it is estimated that the EITC lifted 5.6 million people, including nearly 3 million children, out of poverty (CBPP, 2019; Hoynes, 2014). A state refundable EITC has been linked with lower rates of abusive head trauma, fewer reports of neglect, reduced mental distress, lower risk of intimate partner violence, and improved self-rated physical health (Berger et al., 2017; Klevens et al., 2017; Kovski et al., 2021). A refundable CTC has been associated with reduced injuries requiring medical attention and fewer behavior problems (Rostad et al., 2020). Furthermore, preliminary analyses of 2021 efforts to transform the CTC into a more generous, monthly payment show effects on food insufficiency among low-income families, an important risk factor for neglect (Shafer et al., 2022).

Cash Assistance and Unemployment Benefits Generous and unrestrictive forms of economic supports, such as some forms of Temporary Assistance for Needy Families (TANF) and unemployment insurance, can also increase familial stability. TANF is a block grant program in which states are given a set amount of funds for programs, services, and activities to address poverty, including cash welfare for low-income families (*Temporary Assistance for Needy Families (TANF)*, 2020). Higher pass-through rates of child support payments to TANF recipients (as opposed to the state keeping the child support payments) have been shown to reduce child abuse and neglect, whereas restricting access to benefits has been shown to increase child abuse/neglect (Spencer et al., 2021). Analysis of child abuse/neglect rates in Arizona suggested that restricting benefits to 36 months resulted in nearly 200 more cases of substantiated neglect and 24 months limits increased the number of substantiated neglect cases to 500 (Albert & King, 2017). Other TANF restrictions that have been shown to increase child abuse/neglect include sanctioning benefits for noncompliance with work requirements, requiring beneficiaries to return to work with an infant less than 12 months old, and increasing the amount of family earnings that are considered in determining assistance (Ginther & Johnson-Motoyama, 2017; Spencer et al., 2021).

Like TANF benefits, less generous or reductions in unemployment benefits have also been linked to child neglect. Generally, unemployment benefits provide a percentage of the employee's salary if an individual loses their job through no fault of their own. Unemployment benefits are managed by states with variability in terms of both generosity and length of benefit. In an analysis of 2004–2012 data from the National Child Abuse and Neglect Data System (NCANDS), there was evidence that during the 2007–2008 Financial Crisis, states with longer-lasting benefits saw smaller increases in child neglect rates (Brown & De Cao, 2018).

Two programs exist to help families offset the cost of buying groceries: the Supplemental Nutrition Assistance Program (SNAP; formerly Food Stamps) and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). SNAP benefits are administered by the federal government with families receiving a set amount based on income, family size, and expenses. SNAP is one of the largest federal antipoverty programs. In 2018, approximately 40 million Americans received SNAP benefits (Watson, 2019). WIC is specifically for pregnant women, breastfeeding women, and children under the age of 5 years determined to have medical risks (e.g., anemia) or dietary risks (e.g., failure to meet current dietary guidelines) and fall at or below 185% of the federal poverty limit. It is estimated that 53% of children born in the United States benefit from the WIC program (USDA, 2022).

Research on the effects of WIC and SNAP suggests that these programs not only decrease ACEs, such as abuse and neglect, but they improve other child health outcomes as well. Data from Illinois suggest that participation in WIC or SNAP was associated with decreased risk for child abuse/neglect and nutrition-related health problems (Lee & Mackey-Bilaver, 2007). Analysis of data from the 1997 and 2002 Child Development Supplement (CDS) of the Panel Study of Income Dynamics found that WIC participation was associated with lowered risk of preterm birth and increased birthweight; with analyses of the 1998 National Maternal and Infant Health Survey demonstrating that WIC participation was associated with reduced infant death during the first year (Foster et al., 2010; Moss & Carver, 1998).

Minimum Wage and Family Friendly Work Minimum wage laws establish the lowest possible hourly rate that certain employers can pay. The US federal government established the current (2022) minimum wage of $7.25 per hour in 2009. Many states and localities have established their own minimum wage laws, increasing the minimum wage to more than $15 per hour in some localities. Data from the 2020 Current Population Survey show that women and racial/ethnic minorities are approximately twice as likely to make the minimum wage compared to their male and white counterparts, respectively (USBLS, 2022). These wage inequities are important contributors to the disproportionate risk for ACEs experienced by women and racial and ethnic minorities and their children.

There is growing evidence that increasing the minimum wage can help to improve health behaviors that lead to ACEs, prevent ACEs such as child neglect, and decrease child mortality. Data from NCANDS suggest that increasing the minimum wage by $1 could potentially decrease child neglect by 9.6%, especially for school-age and younger children (Raissian & Bullinger, 2017). Policy evaluations have also found that a dollar increase in the minimum wage is associated with the 1–2% decrease in low birth weights and 4% decline in post-neonatal mortality (Komro et al., 2016).

Paid leave provides income replacement to workers on leave for family caregiving, bonding with a new child (paid parental leave), or personal leave taken to recover from a serious health condition (paid sick leave) or get rested and re-energized (paid vacation). Paid leave can reduce the risk factors for child abuse and neglect (e.g., parental stress). Empirical evidence documents that paid family leave is associated with decreased hospital admissions for abusive head trauma for children under 2 years old (Klevens et al., 2017).

Flexible and consistent work schedules are also critical in allowing families to secure work-associated benefits, establish reliable childcare, and balance work and family responsibilities (NWLC, 2015). Similarly, paid sick leave is critical in allowing families to provide for their families financially while also keeping them healthy (Klevens & Metzler, 2019). The inequities in who has access to flexibilities in the workplace (e.g., ability to telework) and to paid sick leave were highlighted during the COVID-19 pandemic, with low-wage workers at the highest risk for exposure to coronavirus and fewer protections compared to higher-wage workers (Lynch, 2020; Raifman et al., 2021).

Housing Assistance and Supports

Housing stress—defined as housing instability, insecurity, and insufficiency, including homelessness, eviction, overcrowding, poor housing condition, frequent moves, and high housing costs relative to income—is also associated with self-reported abuse/neglect, child protective service reports, foster care entry, and child death (Chandler et al., 2022). Tenant-based voucher programs help families with very low income afford safe and quality housing in the private market with the voucher tied to the household rather than the housing unit. A systematic review of seven studies across 20 publications found that households that used housing vouchers showed improvements in SDOH, including education, employment, and income (CPSTF, 2021). Additionally, Permanent Supportive Housing with Housing First (Housing First) may help prevent and mitigate housing stress, especially for individuals or families with a head of household with a disabling condition. Housing First provides unlimited, subsidized housing for individuals experiencing homelessness with a disabling condition, such as mental health or substance use disorders, difficulties with independent living or HIV. Housing First has been shown to decrease homelessness, increase housing stability, and improve quality of life for people with disabling conditions (CPSTF, 2019).

High-Quality Childcare and Early Education

Highly scalable early childcare and education programs offer some of the strongest evidence to prevent and reduce inequities in ACEs. Data from three longitudinal studies—the Abecedarian, Perry Preschool, and Chicago Child-Parent Centers—demonstrated reductions in child maltreatment and neglect, adolescent delinquency, and adult incarceration (Parks, 2000; Ramey, 2018; Reynolds & Robertson, 2003; Temple & Reynolds, 2007). A cost–benefit analysis of the long-term impacts of the Abecedarian Project found that the program "paid for itself" when considering the lifelong improvements seen in children's attainment of education and employment (Ramey, 2018). Head Start and Early Head Start are government-funded programs to support school readiness for children in low-income families by offering both educational opportunities as well as nutritional, health, and social services; Head Start has served over 37 million children and their families (HHS, 2019). Head Start, which serves pre-school-age children, has been associated with decreased child mortality rates, and early Head Start, which serves infants, toddlers, and pregnant women, has been associated with reduced entries into child welfare and reductions in substantiated cases of physical and sexual abuse (Green et al., 2014; Ludwig & Miller, 2007).

Education and Juvenile Justice Policies

Broader education and criminal justice policies are also important for creating safe environments for families. For example, funding for schools is often deeply inequitable and schools remain deeply segregated. School segregation is associated with increasing racial achievement gaps, dropout rates, and incarceration rates (Nordstronm, 2018; Reardon, 2016). School disciplinary policies are another structural-level policy that inequitably influences childhood outcomes. The school-to-prison pipeline has become a codifier for the funneling of disadvantaged children, youth, and young adults into the criminal justice system via punitive education policies that increasingly treat behavioral problems—which may be manifestations of trauma or lack of equitable opportunity—as criminal behavior (McCarter, 2017). The school-to-prison pipeline further destabilizes entire communities and exacerbates already existing educational inequities. In response, there has been increased attention on implementing policies, both within schools and broader criminal justice settings, to break that "pipeline," mitigate the harms caused by it, and decrease disparities in the criminal justice system (Latimer et al., 2005).

Research suggests that harsh disciplinary measures, including suspensions and expulsions, zero-tolerance discipline policies, and the presence of school resource officers in schools (SROs), perpetuate the school-to-prison pipeline (Redfield & Nance, 2016). Recommendations from the American Bar Association (ABA) include (a) removing zero-tolerance policies from schools; (b) eliminating the criminalization of student behavior that does not endanger other students or staff; (c) providing model agreements between schools and law enforcement that specify the differences between educator and law enforcement discipline; (d) appropriate training for school resource officers' support, including implicit bias training; (e) strengthening reporting on disproportionality of school discipline and juvenile detention; and (f) supporting demonstrated alternative strategies to address student behavior, including restorative justice practices.

For example, restorative justice in schools provides alternatives to exclusionary discipline strategies (e.g., expulsion). The programs and policies not only focus on student behavior but can include changing school climate, building socioemotional competencies, and staff training. Outside of schools, restorative justice policies focus on alternatives to incarceration, particularly for nonviolent offenses, to prevent family separation due to incarceration. Restorative justice policies and programs can identify alternatives to incarceration that incorporate the needs of the community, victim, and opportunities for the offender to repair harm. Evidence for restorative justice in schools suggests that these policies and programs help to reduce exclusionary discipline practices and narrow disparities in discipline referrals (Gregory & Evans, 2020).

Access to Social Services

States have begun innovating through Medicaid 1115 waivers to strengthen programs, services, and efforts to address SDOH and ACEs (Davis et al., 2021). Medicaid 1115 waivers allow states to expand the eligibility of services, provide nontraditional services, and attempt new service delivery models. Illinois and North Carolina are using waivers to strengthen supports for families most at risk for ACEs (Davis et al., 2021). For example, North Carolina is funding the Health Opportunities Pilot to pay for nonmedical services, including housing, food, transportation, and interpersonal safety, as well as integrating these services into healthcare services for beneficiaries. Illinois' waiver program focuses on providing housing supports for low-income individuals, people with behavioral health needs, and individuals at risk for homelessness and/or frequent emergency department utilization. The waivers allow states the flexibility to innovate in addressing the structural risk factors for ACEs and promote more holistic healthcare systems.

The Family First Prevention Services Act (FFPSA) was enacted to increase the number of children that can safely stay at home, instead of being removed by the child welfare system—which can be a traumatic event for both children and parents (Garcia, 2019). FFPSA gives states the flexibility to increase supports for parents and children in homes at risk for involvement in the child welfare system and signifies a shift to preventative approaches (Lindell et al., 2020). These supports may include access to behavioral health services, substance use treatment, mental health support, parenting classes, and other services aimed to maintain family integrity.

Community-Organizing Strategies to Create Social Change

Addressing inequities in income, housing, education, healthcare, and incarceration requires societal and community-level prevention efforts. Community organizing connects individuals to collective efforts and builds residential or community power to achieve community-level changes (Minkler et al., 2019). The approach uses base-building activities, leadership development, "relational organizing," and collective action to build power and social influence. Embedded in these strategies are participatory research and listening sessions (e.g., one on one's, phone banking, etc.) to identify the problems, barriers to power and health equity, and potential solutions. Critical to organizing is partnering with other community organizations and connecting with other invested partners (e.g., public health departments; (Christens, 2010)).

Solutions for ACEs prevention are strengthened by leadership from communities most impacted by ACEs. This is particularly important to avoid "solutions" that may inadvertently exacerbate the problem or create new harm (e.g., zero-tolerance school policies that exacerbate the school-to-prison pipeline; (Redfield & Nance, 2016)). For example, successful community-organizing efforts have seen changes in housing, transportation, and public education that contribute to creating healthier and safer environments for children and families (Christens & Speer, 2015).

Transformational Narrative Change as a Strategy to Increase Support for Social Change

Transformational narrative change is proposed as a critical strategy in garnering support for policies that enable safe, stable, and nurturing relationships and environments for children and families. Narratives are built from a set of values and beliefs, and norms and assumptions that shape how we understand why a phenomenon occurs and how to address it. Narratives develop over time, are woven into legal codes, the arts, mass media, and corporate discourse, and serve to help people interpret situations and other people (Metzler et al., 2021; NACCHO, 2018; Wainwright, 2019). Multiple narratives coexist in social spaces but "dominant public narratives are those that eclipse others and have the most power to shape public consciousness, including society's collective senses of both responsibility and possibility" (Metzler et al., 2021, p. S35). Dominant narratives will often reflect the views of those with social and economic power and reinforce power structures that harm socially and economically marginalized groups (Sidanius & Pratto, 2011). This is the process of symbolic violence where these narratives and dominant ideologies aim to normalize hierarchies and oppression.

In the context of ACEs, the dominant narrative frames "bad parenting" as the overarching cause of childhood adversity (this is described more fully below; Klevens & Metzler, 2019). This, and other dominant narratives, reinforces the blame on individuals, largely from marginalized groups, without acknowledging how hierarchical power structures have created disparities in risk for early adversity (Klevens et al., 2022). They also provide "moral justification" for inequities in society, for example, allowing society to be comfortable with the fact that children live in extreme poverty because it must somehow be the fault of their parents (Sidanius & Pratto, 2011).

Transformational narratives offer a different framework to understand how the world works, allowing support for more equitable solutions to societal challenges (Ganz, 2011). While communities that are traditionally marginalized are often ignored or vilified in dominant narratives, transformational narratives are derived from the lived experiences and values of those who have historically been denied power. Transformational narratives explicitly value those who have been devalued previously, elevate urgent needs and opportunities, and provide strategies and calls for collective action to achieve an equitable society.

Reframing an issue can demonstrate the power of narrative in how we understand and respond to social challenges. The "bad parenting" narrative identifies punishing the parent and/or removing the child (which in it itself is a punishment to parents and an adversity to children in some cases) as the appropriate response to childhood adversity. While removing a child is sometimes the only option to keep them safe, this narrative has also created a foundation for some of the most egregious examples of racism, classism, and colonialism faced by children and families (Pon et al., 2011). The history of the child welfare system exemplifies this. Children of American Indian/Alaska Native, low-income, or racial and ethnic minority parents were removed from their homes "for their own good," even when their safety or well-being was not at risk (Pon et al., 2011). This legacy remains today with the overrepresentation of families from ethnic and minority groups, economically disadvantaged, and American Indian/Alaska Native tribes in the child welfare system (Pon et al., 2011). These practices were, and continue to be, deemed acceptable because of the "bad parenting" narrative coupled with the cornerstone American mythos that success and position are built by hard work and "pulling oneself up by their bootstraps," without recognition of the systemic privileges some groups are provided.

An alternative narrative around childhood adversity is a "trauma-informed" narrative, stating that "hurt people hurt people." This recognizes that a driving factor behind abusive or harmful behavior is the experience of previous traumatic events (CDC, 2019). This framework prioritizes mitigating harm after it happened (e.g., providing therapy); increasing resilience for when adversity occurs; preventing intergenerational trauma (e.g., providing trauma-informed parenting classes to parents who have experienced previous trauma); and incorporating trauma-informed policies at schools, in court systems, and other environments (SAMHSA, 2022). Trauma-informed policies explicitly recognize that people, in particular children, who have experienced trauma may act out in ways that are traditionally considered "deviant" and institutions may need to provide specific kinds of non-punitive supports to heal and change behavior. Furthermore, these policies actively try to prevent re-traumatizing people (Dierkhising & Branson, 2016; SAMHSA, 2022). Trauma-informed social policies have gained traction; a 2017 study found that between 2010 and 2015, the number of trauma-informed bills in the US Congress introduced annually increased from 0 to 28 (Purtle & Lewis, 2017).

An alternative aspirational narrative moves away from deficit-thinking and focuses on what children need to thrive—safe, stable, and nurturing relationships and environments (Klevens & Metzler, 2019). This narrative refocuses attention to creating the conditions where parents and children can thrive to prevent adversity. For example, instead of looking at poverty as a reason to remove a child, poverty is an issue that society must address to ensure families are economically stable. This creates space for policies such as tax credits, food and nutritional programs, paid family leave, and living wages—all of which have been demonstrated to reduce child abuse and neglect (as described above). The introduction of the FFPSA also follows this example—placing a heavy emphasis on keeping families together by providing as much support as possible to families whose children are at risk of being removed (Garcia, 2019).

The Race-Class narrative that has emerged over the last few years, while not explicitly focused on ACEs, provides another narrative framework. This narrative both names the aspirations of achieving equity while also naming the existing inequities and the structures in place that benefit from these inequities (LRP, 2018). By explicitly naming the inequities and drivers, there is greater emphasis on allocating resources to address the inequities, change the systems, and support the communities that have been historically and currently harmed by those systems.

Of course, addressing childhood adversity requires a combination of approaches. There is, and always will be, a need for society to maintain mechanisms to protect children when they are not safe in their homes; and people who experience adversity should always receive appropriate support and care. These aspirational narratives create avenues to invest heavily in the primary prevention of childhood adversity and to address the root causes of the deep inequities children and communities experience today.

Enacting Narrative Change

Community organizers, through relational organizing and base-building activities, can create narratives that build power for those most marginalized and offer solutions to childhood adversity. Using a critical social lens, organizers weave together a broader community story that values community members' lives, experiences, and needs, builds community cohesion, and compels collective action (Christens, 2010; Minkler et al., 2019).

Narrative change is not only a tool for community organizers; public health and other sectors can assess their own narratives and promote new narratives. For example, this was done at CDC's Division of Violence Prevention (Klevens & Metzler, 2019). By first identifying the dominant narrative of "bad parenting" and how that contributed to increased inequities in the field of child welfare, CDC adopted a narrative uplifting the importance of safe, stable, and nurturing relationship and environments for children and families (CDC, 2019). Over the course of a decade, this led to dramatic changes in how the agency discussed and wrote about the issue, as well as restructuring of investments into programming and research that address SDOHs. In another example, several local public health departments identified the existing dominant narrative in their communities by conducting focus groups, policy reviews, and listening sessions and testimonials; created a new narrative; and translated the narrative into trainings, strategic plans, programming, communications, and partner engagement (NNPHI, 2022).

Conclusion

Prior research demonstrates that improving household financial security (tax credits, economic supports, housing, minimum wage), implementing family-friendly work policies, supporting high-quality early childcare and education, and enacting social policies have the potential to impact structural determinants that shape the physical and social experience of health. By addressing SDOH, communities can improve the risk factors for ACEs and prevent ACEs before they occur. Strategies to achieve these structural-level changes include community organizing and transformational narrative change efforts that employ base-building and power shifting to help create change in the social and structural issues communities face to ensure that all children have access to a world free of early adversity and trauma.

This chapter presents the evidence that currently exists for structural prevention strategies to prevent ACEs and promote equity, yet there are still major gaps in the evidence base that warrant further exploration. This research would benefit from exploring structural interventions as they differentially impact economically and socially marginalized groups, including tribal nations, racial and ethnic minorities, sexual and gender minorities, people of low socioeconomic position, people who have immigrated to the United States, and people with disabilities. It is also important to recognize how people with multiple intersecting identities have unique experiences may be impacted differently by structural prevention strategies. Intervention strategies that emphasize the primary prevention of ACEs are most likely to achieve population-level reduction in ACEs and undo existing disparities.

Disclaimer The findings and conclusions in this chapter are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

References

Albert, V. N., & King, W. C. (2017). Impact of short lifetime limits on child neglect. *Journal of Sociology and Social Welfare, 44*, 53. https://scholarworks.wmich.edu/jssw/vol44/iss2/4/

Berger, L. M., Font, S. A., Slack, K. S., & Waldfogel, J. (2017). Income and child maltreatment in unmarried families: Evidence from the earned income tax credit. *Review of Economics of the Household, 15*(4), 1345–1372. https://doi.org/10.1007/s11150-016-9346-9

Brown, D., & De Cao, E. (2018). *The impact of unemployment on child maltreatment in the United States*. https://ideas.repec.org/p/ese/iserwp/2018-04.html

CBPP. (2019). *Policy basics: The Earned Income Tax Credit*. https://www.cbpp.org/research/federal-tax/the-earned-income-tax-credit

CDC. (2019). *Preventing adverse childhood experiences: Leveraging the best available evidence*. https://www.cdc.gov/violenceprevention/pdf/preventingACES.pdf

CDC. (2021). *Social determinants of health*. Centers for Disease Control and Prevention. https://www.cdc.gov/about/sdoh/index.html

Chandler, C. E., Austin, A. E., & Shanahan, M. E. (2022). Association of housing stress with child maltreatment: A systematic review. *Trauma, Violence, & Abuse, 23*(2), 639–659. https://doi.org/10.1177/1524838020939136

Christens, B. D. (2010). Public relationship building in grassroots community organizing: Relational intervention for individual and systems change. *Journal of Community Psychology, 38*(7), 886–900. https://doi.org/10.1002/jcop.20403

Christens, B. D., & Speer, P. W. (2015). Community organizing: Practice, research, and policy implications. *Social Issues and Policy Review, 9*(1), 193–222. https://rise.mmu.ac.uk/wp-content/uploads/2020/10/Christens2015CommunityOrganizingPracticeResearchandPolicyImplications-1.pdf

CPSTF. (2019). *Health equity: Permanent supportive housing with Housing First (Housing First Programs)*. Community Preventive Services Task Force. Retrieved September 16 from https://www.thecommunityguide.org/findings/health-equity-housing-first-programs

CPSTF. (2021). *Task Force Finding and Rationale Statement - Health Equity: Tenant-based housing voucher programs*. Community Preventive Services Task Force. Retrieved September 16 from https://www.thecommunityguide.org/content/tffrs-health-equity-tenant-based-housing-voucher-programs

Davis, M., Deleon, G., & Lyons, J. (2021, June 2). Strengthening protective factors in ACEs prevention with Medicaid 1115 Waivers. https://www.astho.org/communications/blog/strengthening-protective-factors-in-aces-prevention-with-medicaid-1115-waivers/

Dierkhising, C. B., & Branson, C. E. (2016). Looking forward: A research and policy agenda for creating trauma-informed juvenile justice systems. *Journal of Juvenile Justice, 5*(1). https://www.ojp.gov/pdffiles/249840.pdf#page=19

Foster, E. M., Jiang, M., & Gibson-Davis, C. M. (2010). The effect of the WIC program on the health of newborns. *Health Services Research, 45*(4), 1083–1104. https://doi.org/10.1111/j.1475-6773.2010.01115.x

Ganz, M. (2011). Public narrative, collective action, and power. In S. Odugbemi & T. Lee (Eds.), *Accountability through public opinion: From inertia to public action* (pp. 273–289). The World Bank. https://doi.org/10.1596/9780821385050_ch18

Garcia, C. (2019). Replacing foster care with family care: The Family First Prevention Services Act of 2018. *Family Law Quarterly, 53*(1), 27–49. https://www.americanbar.org/groups/family_law/publications/family-law-quarterly/volume-53/issue-1/replacing-foster-care-family-care-family-first-prevention-services-act-2018/

Giano, Z., Wheeler, D. L., & Hubach, R. D. (2020). The frequencies and disparities of adverse childhood experiences in the US. *BMC Public Health, 20*(1), 1–12. https://doi.org/10.1186/s12889-020-09411-z

Ginther, D. K., & Johnson-Motoyama, M. (2017). *Do state TANF policies affect child abuse and neglect*. Paper preseted at the APPAM 39th Annual Fall Research Conference, Chicago.

Green, B. L., Ayoub, C., Bartlett, J. D., Von Ende, A., Furrer, C., Chazan-Cohen, R., Vallotton, C., & Klevens, J. (2014). The effect of Early Head Start on child welfare system involvement: A first look at longitudinal child maltreatment outcomes. *Children and Youth Services Review, 42*, 127–135. https://doi.org/10.1016/j.childyouth.2014.03.044

Gregory, A., & Evans, K. R. (2020). The starts and stumbles of restorative justice in education: Where do we go from here? *National Education Policy Center*. http://nepc.colorado.edu/publication/restorative-justice

HHS. (2019). *Head Start Program Facts: Fiscal Year 2019*. https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/no-search/hs-program-fact-sheet-2019.pdf

HHS. (2022). *Healthy People 2030: Building a healthier future for all*. U.S. Department of Health and Human Services (HHS), Office of Disease Prevention and Health Promotion. https://health.gov/healthypeople/priority-areas/social-determinants-health

Hoynes, H. (2014). Proposal 11: Building on the success of the Earned Income Tax Credit. *Policies to Address Poverty in America, 4*. https://gspp.berkeley.edu/assets/uploads/research/pdf/expand_earned_income_tax_credit_hoynes.pdf

IRS. (2022a). *2021 Child Tax Credits and Advance Tax Credit Payments Frequently Asked Questions*. Internal Revenue Service. https://www.irs.gov/credits-deductions/2021-child-tax-credit-and-advance-child-tax-credit-payments-frequently-asked-questions

IRS. (2022b). *The Earned Income Tax Credit*. Internal Revenue Service. https://www.irs.gov/credits-deductions/individuals/earned-income-tax-credit-eitc

Klevens, J., & Metzler, M. (2019). Bringing a health equity perspective to the prevention of child abuse and neglect. In *Re-visioning public health approaches for protecting children* (pp. 197–220). Springer. https://doi.org/10.1007/978-3-030-05858-6_13

Klevens, J., Schmidt, B., Luo, F., Xu, L., Ports, K. A., & Lee, R. D. (2017). Effect of the earned income tax credit on hospital admissions for pediatric abusive head trauma, 1995-2013. *Public Health Reports, 132*(4), 505–511. https://doi.org/10.1177/0033354917710905

Klevens, J., Treves-Kagan, S., Metzler, M., Merrick, M., Reidy, M. C., Herbst, J. H., & Ports, K. (2022). Association of public explanations of why children struggle and support for policy solutions using a national sample. *Analyses of Social Issues and Public Policy, 22*(1), 268–285. https://doi.org/10.1111/asap.12285

Komro, K. A., Livingston, M. D., Markowitz, S., & Wagenaar, A. C. (2016). The effect of an increased minimum wage on infant mortality and birth weight. *American Journal of Public Health, 106*(8), 1514–1516. https://doi.org/10.2105/AJPH.2016.303268

Kovski, N. L., Hill, H. D., Mooney, S. J., Rivara, F. P., Morgan, E. R., & Rowhani-Rahbar, A. (2021). Association of state-level earned income tax credits with rates of reported child maltreatment, 2004–2017. *Child Maltreatment*, 1077559520987302. https://doi.org/10.1177/1077559520987302

Krieger, N., Van Wye, G., Huynh, M., Waterman, P. D., Maduro, G., Li, W., Gwynn, R. C., Barbot, O., & Bassett, M. T. (2020). Structural racism, historical redlining, and risk of preterm birth in New York City, 2013–2017. *American Journal of Public Health, 110*(7), 1046–1053. https://doi.org/10.2105/AJPH.2020.305656

Latimer, J., Dowden, C., & Muise, D. (2005). The effectiveness of restorative justice practices: A meta-analysis. *The Prison Journal, 85*(2), 127–144. https://doi.org/10.1177/0032885505276969

Lee, B. J., & Mackey-Bilaver, L. (2007). Effects of WIC and Food Stamp Program participation on child outcomes. *Children and Youth Services Review, 29*(4), 501–517. https://doi.org/10.1016/j.childyouth.2006.10.005

Lindell, K. U., Sorenson, C. K., & Mangold, S. V. (2020). The Family First Prevention Services Act: A new era of child welfare reform. *Public Health Reports, 135*(2), 282–286. https://doi.org/10.1177/0033354919900892

LRP. (2018). *Race-Class Narrative: Minnesota Dial Survey Report*. https://www.demos.org/sites/default/files/publications/LRP%20Report.Race-Class%20Narrative.Minnesota.C3.2018.05.23.pdf

Ludwig, J., & Miller, D. L. (2007). Does Head Start improve children's life chances? Evidence from a regression discontinuity design. *The Quarterly Journal of Economics, 122*(1), 159–208. https://doi.org/10.1162/qjec.122.1.159

Lynch, J. (2020). Health equity, social policy, and promoting recovery from COVID-19. *Journal of Health Politics, Policy and Law, 45*(6), 983–995. https://doi.org/10.1215/03616878-8641518

Lynch, E. E., Malcoe, L. H., Laurent, S. E., Richardson, J., Mitchell, B. C., & Meier, H. C. S. (2021). The legacy of structural racism: Associations between historic redlining, current mortgage lending, and health. *SSM-Population Health, 14*, 100793. https://doi.org/10.1016/j.ssmph.2021.100793

McCarter, S. (2017). The school-to-prison pipeline: A primer for social workers. *Social Work, 62*(1), 53–61. https://doi.org/10.1093/sw/sww078

Merrick, M. T., Ford, D. C., Ports, K. A., Guinn, A. S., Chen, J., Klevens, J., Metzler, M., Jones, C. M., Simon, T. R., & Daniel, V. M. (2019). Vital signs: Estimated proportion of adult health problems attributable to adverse childhood experiences and implications for prevention—25 States, 2015–2017. *Morbidity and Mortality Weekly Report, 68*(44), 999. https://doi.org/10.15585/mmwr.mm6844e1

Metzler, M., Jackson, T., & Trudeau, A. (2021). Youths and violence: changing the narrative. *American Journal of Public Health, 111*, S35–S37. https://doi.org/10.2105/AJPH.2021.306309

Minkler, M., Rebanal, R. D., Pearce, R., & Acosta, M. (2019). Growing equity and health equity in perilous times: Lessons from community organizers. *Health Education & Behavior, 46*(S1), 9S–18S. https://doi.org/10.1177/1090198119852995

Moss, N., & Carver, K. (1998). The effect of WIC and Medicaid on infant mortality in the United States. *American Journal of Public Health, 88*(9), 1354–1361. https://doi.org/10.2105/ajph.88.9.1354

NACCHO. (2018). *Advancing public narrative for health equity and social justice*. http://publichealth.lacounty.gov/CenterForHealthEquity/PDF/advancing%20public%20narrative%20for%20health%20equity%20and%20social%20justice_NACCHO.pdf

Niederkrotenthaler, T., Xu, L., Parks, S. E., & Sugerman, D. E. (2013). Descriptive factors of abusive head trauma in young children—United States, 2000–2009. *Child Abuse & Neglect, 37*(7), 446–455. https://doi.org/10.1016/j.chiabu.2013.02.002

NNPHI. (2022). *Transforming the narrative: Health equity and the community a toolkit*. https://nnphi.org/resource/transforming-the-narrative-health-equity-the-community-a-toolkit/

Nordstronm, K. (2018). *Stymied by segregation: How integration can transform North Carolina schools and the lives of its students*. http://www.ncpolicywatch.com/wp-content/uploads/2018/03/STYMIED-BY-SEGREGATION-Integration-can-Transform-NC-FINAL-2.pdf

NWLC. (2015). *Helping parents in low-wage jobs access affordable child care: Opportunities under the reauthorized Child Care and Development Block Grant*. http://nwlc.org/wp-content/uploads/2015/08/ccdbg_reauthorization_low-wage_workers_issue_brief_.pdf

Parks, G. (2000). *The High/Scope Perry Preschool Project* (Juvenile Justice Bulletin, Issue October 2000). https://www.ojp.gov/pdffiles1/ojjdp/181725.pdf

Pon, G., Gosine, K., & Phillips, D. (2011). Immediate response: Addressing anti-Native and anti-Black racism in child welfare. *International Journal of Child, Youth and Family Studies, 2*(3/4), 385–409. https://doi.org/10.18357/ijcyfs23/420117763

Purtle, J., & Lewis, M. (2017). Mapping "trauma-informed" legislative proposals in US Congress. *Administration and Policy in Mental Health and Mental Health Services Research, 44*(6), 867–876. https://doi.org/10.1007/s10488-017-0799-9

Raifman, J., Nsoesie, E., Dean, L. T., Gutierrez, K., Raderman, W., Skinner, A., & Shafer, P. (2021). State minimum wage, paid sick leave, and food insufficiency during the COVID-19 pandemic. *medRxiv*. https://doi.org/10.1101/2021.03.01.21252723

Raissian, K. M., & Bullinger, L. R. (2017). Money matters: Does the minimum wage affect child maltreatment rates? *Children and Youth Services Review, 72*, 60–70. https://doi.org/10.1016/j.childyouth.2016.09.033

Ramey, C. T. (2018). The Abecedarian approach to social, educational, and health disparities. *Clinical Child and Family Psychology Review, 21*(4), 527–544. https://doi.org/10.1007/s10567-018-0260-y

Reardon, S. F. (2016). School segregation and racial academic achievement gaps. *RSF: The Russell Sage Foundation Journal of the Social Sciences, 2*(5), 34–57. https://doi.org/10.7758/RSF.2016.2.5.03

Redfield, S. E., & Nance, J. P. (2016). *The American Bar Association Joint Task Force on reversing the school-to-prison pipeline preliminary report*. http://scholarship.ufl.edu/facultypub/750

Reynolds, A. J., & Robertson, D. L. (2003). School–based early intervention and later child maltreatment in the Chicago longitudinal study. *Child Development, 74*(1), 3–26. https://doi.org/10.1111/1467-8624.00518

Rostad, W. L., Klevens, J., Ports, K. A., & Ford, D. C. (2020). Impact of the United States federal child tax credit on childhood injuries and behavior problems. *Children and Youth Services Review, 109*, 104718. https://doi.org/10.1016/j.childyouth.2019.104718

SAMHSA. (2022). *Trauma and violence*. Substance Abuse and Mental Health Services Administration. https://www.samhsa.gov/trauma-violence

Shafer, P. R., Gutiérrez, K. M., de Cuba, S. E., Bovell-Ammon, A., & Raifman, J. (2022). Association of the implementation of child tax credit advance payments with food insufficiency in US households. *JAMA Network Open, 5*(1), e2143296–e2143296. https://doi.org/10.1001/jamanetworkopen.2021.43296

Sidanius, J., & Pratto, F. (2011). Social dominance theory. In K.A. Van Lange PAM, E.T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 2, pp. 418–438). SAGE. https://doi.org/10.4135/9781446249222

Solar, O., & Irwin, A. (2010). *A conceptual framework for action on the social determinants of health* (9241500859). (Social Determinants of Health Discussion Paper 2, Issue. https://apps.who.int/iris/bitstream/handle/10665/44489/?sequence=1

Spencer, R. A., Livingston, M. D., Komro, K. A., Sroczynski, N., Rentmeester, S. T., & Woods-Jaeger, B. (2021). Association between Temporary Assistance for Needy Families (TANF) and child maltreatment among a cohort of fragile families. *Child Abuse & Neglect, 120*, 105186. https://doi.org/10.1016/j.chiabu.2021.105186

Temple, J. A., & Reynolds, A. J. (2007). Benefits and costs of investments in preschool education: Evidence from the Child–Parent Centers and related programs. *Economics of Education Review, 26*(1), 126–144. https://doi.org/10.1016/j.econedurev.2005.11.004

Temporary Assistance for Needy Families (TANF). (2020). The Administration for Children and Families.

Retrieved March 9 from https://www.acf.hhs.gov/ofa/programs/temporary-assistance-needy-families-tanf

USBLS. (2022). *Labor Force Statistics from the Current Population Survey CPS CPS Program Links: Wage and salary workers paid hourly rates with earnings at or below the prevailing Federal minimum wage by selected characteristics*. U.S. Bureau of Labor Statistics. Retrieved March 9 from https://www.bls.gov/cps/cpsaat44.htm

USDA. (2022). *Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)*. U.S. Department of Agriculture, Food and Nutrition Service. https://www.fns.usda.gov/wic

Wainwright, C. (2019). *Building narrative power for racial justice and health equity*. Open Society Foundations. https://www.opensocietyfoundations.org/uploads/8177cc25-e5be-477c-b369-d454468e24f2/building-narrative-power-for-racial-justice-and-healthy-equity-20190812.pdf

Watson, T. (2019). *SNAP benefits and the government shutdown*. Econofact. https://econofact.org/snap-benefits-and-the-government-shutdown

Williams, D. R., Lawrence, J. A., & Davis, B. A. (2019). Racism and health: evidence and needed research. *Annual Review of Public Health, 40*, 105–125. https://doi.org/10.1146/annurev-publhealth-040218-043750

15

A National Approach to Preventing Adverse Childhood Experiences (ACEs): Findings from Two Federal Initiatives

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Introduction

Children need safe, stable, nurturing relationships and environments to thrive and live to their full life potential. However, environments that undermine their safety and stability put them at risk for adverse childhood experiences (ACEs). ACEs are potentially traumatic events that occur in childhood (0–17 years), including neglect; emotional, physical, or sexual abuse; experiencing or witnessing violence; and exposure to adult incarceration, mental illness, or substance abuse (CDC, 2019a; Felitti et al., 1998). Because these and other traumatic events have potentially long-lasting effects on health and well-being, it is critical that all of society, including families, schools, communities, organizations, and governments, contribute to preventing ACEs.

The negative consequences of ACEs have been well documented. ACEs can lead to lifelong problems related to health, well-being, and opportunity (e.g., increased risk for chronic and mental health problems, substance misuse, and reduced educational and occupational attainment) (Dube et al., 2002; Gilbert et al., 2015; Sansone et al., 2012; Shonkoff & Garner, 2012). In addition, social and economic conditions such as living in poverty, experiencing homelessness, food insecurity, or ongoing trauma related to systemic racism and discrimination can cause toxic stress and exacerbate the effects of ACEs (Metzler et al., 2017). Research indicates that ACEs are common, but preventable. Preventing them can lead to substantial reductions in chronic health

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conditions and health risk behaviors (Merrick et al., 2019).

Preventing ACEs requires a comprehensive public health approach. The Centers for Disease Control and Prevention's (CDC) public health approach to preventing violence, including ACEs, involves defining and monitoring the problem; identifying risk and protective factors; developing and testing prevention strategies; and assuring widespread adoption of effective strategies. A public health response rooted in science is critical to addressing ACEs and has the greatest potential for population-level impact. CDC's comprehensive approach focuses on implementing a set of strategies and approaches based on the best available evidence to prevent ACEs before they occur (i.e., primary prevention) and intervene to lessen harms. Efforts to ensure a strong start for children, promote societal norms that protect against adversity, strengthen economic supports to families, teach skills, and connect youth to caring adults and activities have been found to prevent and mitigate the effects of ACEs (CDC, 2019b; Guinn et al., 2022; Merrick et al., 2019; Metzler et al., 2017; Jones et al., 2020).

Historically, CDC has invested resources in understanding the impact of ACEs on violence, injury, and other negative health outcomes. CDC also made investments in developing, evaluating, implementing, and disseminating ACE prevention strategies. Given the prevalence and ongoing research suggesting the harmful effects of ACEs, there has been recent federal attention and investments in ACEs prevention (Gervin et al., 2022). In December 2019, the US Congress appropriated $4 million – the first-ever appropriation of its kind – toward CDC's ACEs prevention efforts for Fiscal Year 2020, with another $1 million added in Fiscal Year 2021. The focus of the appropriation was to improve surveillance efforts, identify research priorities, and fund programmatic efforts to prevent ACEs. The funding was used to expand the measurement of ACEs in the state and local administration of the Youth Risk Behavior Survey (YRBS), as well as to add selected items (e.g., witnessing community violence) to the national administration of the YRBS. The YRBS was developed to monitor health behaviors that markedly contribute to death, disability, and social problems among youth and young adults in the United States. In addition, the funding supported extramural research to conduct rigorous evaluations of prevention programs, policies, and practices. The funding also supported a new programmatic initiative – Preventing Adverse Childhood Experiences: Data to Action (described in detail in this chapter) – focused on improving surveillance and prevention activities at the state and local levels. Lastly, the funding supported efforts to address the intersection between ACEs and other public health issues that are a priority for the National Center for Injury Prevention and Control – suicide and overdose prevention. These and other continued investments broaden society's understanding of the scope of the problem, where and when ACEs are most likely to occur, who is at greatest risk, and the health and social impacts of prevention. The next section describes how CDC uses science to inform prevention practices for ACEs.

Application of Science to Practice

Essentials for Childhood Framework

CDC's Essentials for Childhood Framework: Creating Safe, Stable, Nurturing Relationships and Environments for All Children "proposes strategies communities can consider to promote the types of relationships and environments that help children grow up to be healthy and productive citizens so that they, in turn, can build stronger and safer families and communities for their children" (CDC, 2014, p. 5). The Essentials for Childhood Framework includes four goals: (1) raise awareness and commitment to promote safe, stable, nurturing relationships and environments for all children; (2) use data to inform actions; (3) create the context for healthy children and families through norms change and programs; and (4) create the context for healthy children and families through policies. Goal 1 builds awareness and commitment to prevent child abuse and neglect (CAN) and other ACEs and includes (a) partnering with others to build commitment, (b) developing a shared agenda, and (c) applying consistent and strategic messaging. Understanding data, Goal 2, helps to determine the specific prevention resources that are needed to decrease CAN and other ACEs. This may be accomplished by (a) using partnerships to help identify, gather, and synthesize relevant data; (b) taking stock of existing data; (c) identifying and filling critical data gaps; and (d) using the data to support other action goals and steps. Goal 3 focuses on providing norms change and programs to help support parents and caregivers. Parents and caregivers can be supported by (a) promoting the community norm that communities share responsibility for the well-being of children, (b) promoting positive community norms about parenting programs and acceptable parenting behaviors, and (c) implementing evidence-based programs for parents and caregivers. Goal 4 focuses on policies that help children lead safe and healthy lives. The steps to inform polices include (a) identifying and assessing which policies may positively impact the lives of children and families in your community, and (b) providing decision-makers and community leaders with information on the benefits of evidence-based strategies and rigorous evaluation. Taken together, the four goals help to create an environment for all children to thrive.

CDC's Technical Packages and ACEs Resource Document

Along with the Essentials for Childhood Framework, CDC developed technical packages to provide a blueprint to guide community activities for preventing violence and promoting healthy relationships and environments (CDC, 2022a). In 2016 and 2017, the released suite of technical packages focused on CAN, intimate partner violence, sexual violence, suicide, and youth violence to "help states and communities prioritize prevention activities using the best available evidence" (Fortson et al., 2016, p. 7). Each technical package includes strategies (i.e., "actions to achieve the goal of preventing child abuse and neglect"), approaches (i.e., "the specific ways to advance the strategy"), and the evidence for the specific approach. The approaches are implemented through programs, policies, and practices. The five strategies in *the Preventing Child Abuse and Neglect: A Technical Package for Policy, Norm, and Programmatic Activities* and associated approaches help improve the conditions and supports necessary to reduce the risk of CAN. The specific programs, policies, and practices have shown reductions in several outcomes, including physical abuse and neglect of children, familial encounters with child welfare services, improvements in parent–child interactions and parenting behaviors, and reductions in risky behavior among adolescents. In addition, this technical package aligns well with Goals 3 (create the context for healthy children and families through norms change and programs) and 4 (create the context for healthy children and families through policies) of the Essentials for Childhood Framework.

In 2019, CDC released *Preventing Adverse Childhood Experiences: Leveraging the Best Available Evidence* (CDC, 2019a). Similar to CDC's technical packages, the ACEs resource document includes strategies and approaches compiled from CDC's violence prevention technical packages that specifically apply to the prevention and mitigation of ACEs. The specific strategies and approaches for preventing ACEs have shown reductions in several outcomes including rates of CAN and experiences of peer violence. In addition, increases in parent–child attachment and improvements in child behavior and academic achievement were noted.

The relevant prevention strategies from the CAN technical package were included in the ACEs resource document. Both resources have strategies to strengthen economic supports to families and intervene to lessen immediate and long-term harms. Additionally, ensuring a strong start for children (e.g., providing quality care and education), teaching/enhancing skills (e.g., teach and enhance parenting skills to promote healthy child development), and promoting social norms that protect against violence and adversity (e.g., public education campaigns) have been shown to prevent CAN and other ACEs (CDC, 2019a; Fortson et al., 2016). The next section describes two CDC programs focused on using evidence-informed strategies from these resources to improve the lives of children and their families.

Preventing Aces Through Two Funding Initiatives

Essentials for Childhood (EfC)

Child abuse and neglect (CAN) is a significant public health problem in the United States. CAN refers to behavior that results in harm, potential for harm, or threat of harm directed toward a child under the age of 18 by a parent, caregiver, or another person in a custodial role (e.g., clergy, coach, teacher) (Cicchetti & Carlson, 1989). The primary prevention of CAN potentially prevents other forms of violence and abuse (e.g., youth violence, sexual violence, and teen dating violence) (Hamby & Grych, 2013; Wilkins et al., 2014). In 2013, CDC launched the Essentials for Childhood program to address CAN (CDC, 2018). This initial cohort funded five state health departments (California, Colorado, Massachusetts, North Carolina, and Washington) to partner with child maltreatment prevention organizations to implement the Goals of the Essentials for Childhood Framework.

In 2018, a second cohort funded seven state health departments for 5 years (California, Colorado, Kansas, Massachusetts, North Carolina, Utah, and Washington) to continue implementation of the Essentials for Childhood Framework, but also expanded activities to include implementation and evaluation of evidence-based strategies and approaches in the CDC CAN technical package to achieve sustainable reductions in CAN. To accomplish these goals, the state health departments engage in the following activities: (a) coordinating and managing partnerships with other CAN prevention organizations and nontraditional partners; (b) enhancing their state action plan for violence prevention by working with partners to identify and align strategies across sectors; (c) identifying, coordinating, monitoring, and reporting on the strategies implemented by multisector partners; and (d) documenting state-level impact of these efforts through a process and outcome evaluation. Current recipients are implementing CAN prevention approaches related to strengthening economic supports for families, as well as approaches that focus on changing social norms to support parents and positive parenting. These approaches can reduce risk factors and increase protective factors for CAN. Details of each (EfC) grant recipient's activities can be found in Table 15.1a.

Preventing Adverse Experience: Data to Action Program (PACE: D2A)

Building upon the lessons learned from the EfC program, the Preventing Adverse Experience: Data to Action Program (PACE: D2A) funding initiative (CDC, 2020) was conceptualized not only to scale up implementation of evidence-based strategies and approaches, but also to utilize surveillance to inform ACEs prevention. Six recipients were awarded (Georgia Department of Health, Massachusetts Department of Public Health, Michigan Public Health Institute, Minnesota Department of Health, Office of Early Childhood in Connecticut, and Center for Healthcare Strategies in New Jersey). Recipients were funded for up to 3 years to build state-level surveillance infrastructure that ensures capacity to collect, analyze, and use ACEs data (Focus 1); support implementation of ACEs primary prevention strategies (Focus 2); and conduct data-to-action activities to inform ACEs prevention strategy implementation (Focus 3).

Table 15.1a Prevention activities of essentials for childhood recipients

Recipients	ACE prevention strategies and approaches
California Department of Public Health	Social norms: Promotes public awareness of factors leading to safe, stable, nurturing relationships by promoting child well-being policy platforms and policy-specific toolkits. Economic supports: Engages decision-makers to promote adoption and effective implementation of earned income tax credit and paid family leave.
Colorado Department of Public Health and Environment	Social norms: Disseminate an education campaign to promote parental help-seeking and ultimately expand policy commitment to support families and encourage families to use available services. Economic supports: Developing and disseminating a Family-Friendly Workplace Toolkit to educate on best workplace policies and promote strategies to increase enrollment of SNAP, WIC, and the Colorado Child Care Assistance Program.
Kansas Department of Health and Environment	Social norms: Coordinating a multimedia campaign to increase adoption of family-friendly work policies and educate the public on policies that decrease risk factors and increase protective factors for child maltreatment. Economic supports: Working with local and state business partners to collect data on family-friendly workplaces and promote uptake of family-friendly workplace policies.
Massachusetts Department of Public Health	Promote social norms: Developing and disseminating a community social connectedness toolkit to promote nurturing parenting and reduction of risk factors for child abuse and neglect. Economic supports: Increasing access to earned income tax credits and paid family and medical leave by raising awareness of services.
North Carolina Department of Health and Human Services	Promote social norms: Conducting a public awareness campaign under the Connections Matter Initiative in which trainings on ACEs and related topics are conducted with faith leaders and community members. Economic supports: Working with businesses and public partners to increase employer-based family-friendly workplace policies, access to earned income tax credits, and access to quality early care and education.
Utah Department of Health	Promote social norms: Implementing a statewide campaign to encourage help-seeking for vulnerable parents. Economic supports: Working with partners to promote earned income tax credit awareness with a special focus on Spanish-speaking populations and advertising a new policy expanding eligibility of the tax credit
Washington State Department of Health	Promote social norms: Working with the Bezos Family Foundation to support programs and initiatives that are working to foster healthy and resilient families. The partners follow the vroom system to help support positive parenting. The Vroom system is a set of principles that provides helpful tips for parents and other caregivers to reinforce positive brain-building messages for children. Economic supports: Promotes the Help Me Grow systems model, which is a community-driven, resource and referral linkage system that connects young children and their families to appropriate services.

Each of the three foci are interdependent and implemented as part of a comprehensive and coordinated program. Together, recipients aim to leverage multisector partnerships and resources to improve and sustain an ACEs data surveillance system to inform implementation and reach of ACEs prevention strategies that help promote safe, stable, and nurturing relationships and environments where children live, learn, and play (Guinn et al., 2022).

To build surveillance capacity to monitor ACEs (i.e., Focus 1), comprehensive data collection approaches, such as collecting prevalence and risk and protective factors for ACEs to focus intervention activities, are needed (Anderson et al., 2022). PACE: D2A recipients are addressing the issue of limited data collection on ACEs by gathering and synthesizing state and local-level ACEs data, with a special emphasis on obtaining data on ACEs from youth-based surveillance systems (i.e., data obtained directly from youth), using at least one mechanism to collect ACEs data using near-real-time or other innovative surveillance strategies, producing annual state data profiles about ACEs, and developing data dissemination plans for data to action activities.

Focus 2 of the PACE: D2A funding initiative utilizes evidence-based strategies and approaches to minimize risk factors, increase protective factors, and reduce the occurrence of ACEs before they begin through effective prevention. Recipients were asked to implement at least two of three core ACE prevention strategies from the ACEs resource document: strengthening economic supports to families, promoting social norms that protect against violence and adversity, and ensuring a strong start for children. To increase awareness, uptake, and reach of these strategies, recipients are leveraging multisector partnerships and resources by serving as convener and coordinator of partners focused on ACEs prevention.

Combining efforts from other foci, Focus 3 is intended to utilize ACEs surveillance data to guide prevention strategy implementation, creating a continuous process to foster change or adaptation to existing strategies or implementation of additional strategies. The data to action process is designed to create a feedback loop to improve understanding of the scope and nature of the problem of ACEs at the state level and identify subpopulations within a state that have the greatest burden of and risk for ACEs. Foundational activities include assessing current state capacity to monitor ACEs and assessing current ACEs prevention strategies implemented within the state to identify gaps. Based on the assessments, recipients develop recommendations to build or enhance a state surveillance system to monitor ACEs and increase alignment of state prevention strategies with strategies highlighted in CDC's ACEs Resource Document (CDC, 2019a). Details of each PACE: D2A grant recipient's activities can be found in Table 15.1b.

Table 15.1b Prevention activities of preventing adverse childhood experiences: data to action recipients

Recipients	ACE prevention strategies and approaches
Connecticut Office of Early Childhood	Promote social norms: public awareness campaign to promote parental help-seeking and mental health to reduce ACEs Ensure a strong start for children: provide comprehensive training for home visitation providers on ACE prevention Strengthen economic supports to families: increase awareness and access to Earned Income Tax Credit Teach skills: disseminate evidence-based materials on social-emotional skills
Georgia Department of Public Health	Promote social norms: public education campaign promoting parental help-seeking behavior using a local helpline Ensure a strong start for children: increasing access to early childhood home visitation programs
Massachusetts Department of Public Health	Promote social norms: public awareness campaign on the importance of ACE prevention Connect youth to caring adults: provide training and technical assistance to build skills among youth serving providers and home visitors Strengthen economic supports to families: increasing and ensuring equitable access to state-paid family leave
Michigan Public Health Institute	Promote social norms: public education campaign promoting ACEs prevention through ACE community champions Ensure a strong start for children: develop a comprehensive ACEs prevention strategy toolkit to integrate into early home visitation programs
Minnesota Department of Health	Promote social norms: public awareness campaign with additional targeted messaging to engage Indigenous men and boys in the prevention of ACEs Ensure a strong start for children: develop a comprehensive ACEs prevention module for early home visitation programs and targeted training for providers interacting with children of incarcerated parents
New Jersey Center for Healthcare Strategies, Inc.	Promote social norms: public education campaign on ACE prevention Ensure a strong start for children: develop a comprehensive ACEs prevention strategy toolkit to integrate into three early home visitation programs

Initiative Implementation at the State and Local Levels

State-Level Coordination and Collaboration

Developing multisector partnerships is critical to having a diverse partner network for ACEs prevention. It is important to form meaningful relationships and identify national, regional, community, and/or academic partners with similar goals to establish powerful partnerships. In both the EfC and PACE: D2A programs, recipients were required (1) to identify diverse potential partner organizations, (2) develop clear roles and responsibilities, and (3) maintain relationships. For example, one EfC state health department secured partnerships with more than 80 state and local organizations for their coalition that support efforts to create social norms change and strengthen economic supports for families. Another EfC recipient developed new state agency partners, including the state's Nutrition Services Branch, Children, Youth, and Families Branch, and the Department of Human Services Office of Economic Security. These partners work alongside other partners serving vulnerable populations to implement economic mobility strategies. Other EfC recipients began working with the business community to increase employer-based, family-friendly workplace policies. Other key partners include local health jurisdictions and nonprofit representation from across the state. Examples include Casey Family Programs, Gates Foundation, North Carolina Early Childhood Foundation, Center for Child and Family Wellbeing at the University of Washington, Seattle Foundation, and American Indian Health Commission.

To assist in building their surveillance capacity, a PACE: D2A recipient established interagency agreements with the Department of Elementary and Secondary Education, Department of Mental Health, the Office of the Child Advocate, the Children's Trust Fund, and the Executive Office of Public Safety and Security. These agencies are instrumental in building and enhancing ACEs surveillance and sharing relevant data for future data dashboards.

State-Level Support for Prevention Practices

The EfC and PACE: D2A recipients utilize multisector coalitions and working groups to make key decisions and guide their prevention activities. In many cases, recipients collaborate with existing entities that have been working in CAN or ACEs prevention prior to CDC funding; however, in cases where local access to existing coalitions or working groups was not available, recipients have facilitated the formation of advisory committees or working groups by leveraging existing relationships with child-serving agencies and organizations. State-level PACE: D2A and EfC staff both contribute to these working groups to ensure alignment of statewide activities, as well as receive guidance to steer their own activities.

Another example of effective collaboration across the state is the work of the Georgia Department of Public Health. This recipient participated in implementing the Essentials for Childhood Framework and CAN prevention strategies as an unfunded state prior to their receipt of the PACE: D2A funding in 2020. The EfC Steering Committee and the Essentials for Childhood Data, Programs, Communications, and Policy Working Groups are comprised of representatives who examine data, propose strategies and programs, educate about policies, and build partnerships and general awareness. The PACE: D2A program collaborated with these existing committee and working groups to build their statewide Child Abuse and Neglect Prevention Plan. The plan included implementing specific ACEs prevention strategies within 14 Division of Family and Children Services regions throughout the state. The PACE: D2A program reported that having these groups already active in CAN and ACEs prevention at the state level has facilitated the more rapid and sustainable implementation of activities specifically funded by the PACE: D2A funding source.

Alignment of State and Local-Level Activities

Although both funding initiatives are focused on state-level implementation of ACEs prevention strategies, recipients have reported activities that actively support local-level implementation of prevention strategies. One EfC recipient was instrumental in ensuring local-level implementation of two prevention strategies: promoting social norms change that protects against violence and adversity and strengthening economic supports to families. This local-level initiative works with cities across the state to focus on ACEs prevention with direct and ongoing support from the EfC recipient. In addition to local-level implementation of prevention strategies, one PACE: D2A recipient utilizes regional ACEs data to inform regional implementation of their public education campaigns and identify access gaps to the state's home visitation programs.

Yet another approach undertaken to align state and local-level activities has been in addressing health equity and social determinants of health. Both programs have a distinct focus on addressing the needs of those with the greatest risk for poor health based on social conditions. As a result, recipients have taken actionable steps to educate local stakeholders about health equity. Recipients in both programs have been intentional about reaching populations that experience a greater burden of life and health issues due to their adverse experiences and community environment (e.g., focusing on low-wage workers to implement family-friendly work policies).

Impact of the Current Environment on ACEs Prevention

The COVID-19 pandemic posed some challenges to both PACE: D2A and EfC recipients. Implementation of prevention strategies across states was delayed significantly as health and social services capacity was diverted to urgent needs related to the COVID-19 pandemic. For example, staff of public health agencies were deployed to COVID-19 positions, lowering capacity of the PACE: D2A and EfC programs. Additionally, community-level work activities that typically occur in person (e.g., outreach and evaluation data collection) shifted to virtual platforms. This shift required staff to familiarize participants with new tools for virtual engagement, which, at times, reduce the quality of interactions; however, recipients reported that the shift to a virtual environment also enabled their work to reach a greater number of partners and community members. EfC and PACE: D2A programs adapted to these new circumstances and afforded their local partners expanded flexibility to accomplish activities. Many recipients noted that limiting in-person activities per state and federal public health COVID-19 guidance reduced the number of families referred to program activities. On the other hand, some reported an increased number of participants in their virtual programming compared to the in-person programming offered prior to the COVID-19 pandemic. While COVID-19 caused program activities to stall initially, recipients reported utilizing this obligatory downtime to reflect, analyze, and identify the areas for improvement in their work.

Data to Action: Access and Use of Data

Use and Enhancement of Surveillance Systems to Track ACEs

Historically, there has been limited incorporation of ACEs into ongoing population-based surveillance systems that can assist in monitoring the current burden of ACEs in a community (Anderson et al., 2022; Niolon et al., 2020). The ability to monitor the current prevalence of ACEs among children and adolescents continuously and identify the risk and protective factors associated with their disproportionate burden for some populations can improve efforts to tailor prevention strategies and evaluate prevention implementation effectiveness. Therefore, it is critical to improve surveillance and data infrastructure to collect and access ACEs data and its associated risk and protective factors, including social determinants of health.

While the access and use of data is pertinent to both the EfC and PACE: D2A programs, this is a stated goal of the PACE: D2A funding initiative and will be a focus of this discussion. In addition to other efforts underway to improve the tracking and use of ACEs data (Anderson et al., 2022; Gervin et al., 2022), the PACE: D2A initiative is working to build the surveillance, prevention, and data to action infrastructure of six funded recipients. While the specific efforts undertaken by each recipient are diverse and wide-ranging, cornerstones of the surveillance and data to action plans for each recipient include the following: (a) gathering and synthesizing state and local-level ACEs data, with a special emphasis on obtaining data on ACEs from youth-based surveillance systems; (b) using at least one mechanism to collect ACEs data using near-real-time or other innovative surveillance strategies; (c) producing annual state data profiles about ACEs, which could include discussion of the burden of ACEs in the state, as well as associated risk and protective factors; and (d) developing data dissemination plans to ensure that surveillance data on ACEs are disseminated and used to inform prevention strategies. Moreover, to support data-driven decision-making at the county, regional, and state levels, many recipients are building infrastructure that integrates these multiple data sources into one online data dashboard platform that can tell a broader story about how common ACEs are in their state and communities, how risk factors and social determinants of health are associated with ACEs, and how ACEs impact lifelong health and well-being. Making these data publicly available can also aid in informing partners, policymakers, and the public about the importance of ACEs and increase transparency in monitoring the impact that prevention strategies are having on ACEs in the community and reducing health inequities.

Prior to undertaking these activities, PACE: D2A recipients conducted a capacity assessment that examined the strengths and gaps in their existing infrastructure. Results from this assessment assisted recipients in enhancing their existing surveillance capacity by acquiring staff or contractual support and/or leveraging multisector partnerships to strengthen ACEs surveillance systems. As mentioned earlier, multisector partnerships are a critical activity for programmatic efforts, including surveillance activities. One approach taken by many PACE: D2A recipients to foster surveillance partnerships has been to create statewide ACEs data strategy workgroups with representatives from diverse state agencies. These workgroups, whose members represent the "owners" of different data sources, aim to identify the gaps in available data and determine how to share, use, and disseminate data effectively for the benefit of their state populations. Recipients have highlighted the critical need to collaborate across departments of health, education, mental health and substance use, child and family services, and justice, among others, to identify the most relevant data sources and use data for prevention action most effectively. Many recipients have also found that partnerships within academia and with community-based organizations provide additional scientific and community grounding in the interpretation of ACEs data and how to implement data strategies and prevention messaging.

Data Sources Utilized to Track CAN and ACEs

Both EfC and PACE: D2A recipients use diverse data sources to track measures of ACEs and CAN; however, due to the more extensive surveillance and data to action expectations of the PACE: D2A cooperative agreement, PACE: D2A recipients have more thoroughly developed and implemented plans to track ACEs and related risk and protective factor data. Most PACE: D2A recipients are partnering with the state administrator of the YRBS (Underwood et al., 2020) to obtain information about the current prevalence of selected ACEs among youth. To do this, recipients whose states administer the YRBS have added up to 13 ACEs items to the 2021 state administration of their survey (see Table 15.2); the one state that does not participate in the YRBS has included ACEs items in their statewide survey since 2013 and will continue to include these questions in the 2022 administration of their survey. The state YRBS or equivalent provides representative statewide estimates of critical health behaviors, including those contributing to violence, among high-school students. For many recipients, the inclusion of new ACEs items in their YRBS marks remarkable growth in their ACEs surveillance infrastructure and will be the first time that statewide estimates for individual ACEs are available for high school students within the jurisdiction. In addition to data on ACEs, at least one jurisdiction has added data on positive childhood experiences to their state YRBS in 2021. Critically, other youth-based surveillance efforts also are occurring. Three of the six PACE: D2A recipients are using additional youth-based data collection strategies that provide estimates of select ACEs and associated risk and protective factors at the county or school district level.

In addition to expansions of youth-based surveillance systems to include information on ACEs, PACE: D2A recipients have leveraged relationships with health or other departments to incorporate aspects of near-real-time data collection on ACEs. For example, multiple states are leveraging and adapting emergency department syndromic surveillance infrastructure (CDC, 2022b) to monitor trends in selected ACEs, such as visits related to child abuse and neglect or sexual violence against youth. Other jurisdictions are utilizing data from crisis or service hotlines to map crisis hotspots or service deserts in their state in near-real time. In addition, recipients are working with cross-sector partners and state agencies to obtain and use

Table 15.2 List of adverse childhood experience and positive childhood experience items added to State Youth Risk Behavior Survey (YRBS) in 2021 by PACE: D2A recipients

Question
During your life, how often has a parent or other adult in your home sworn at you, insulted you, or put you down?
During your life, how often has a parent or other adult in your home hit, beat, kicked, or physically hurt you in any way?
Has an adult or person at least 5 years older than you ever made you do sexual things that you did not want to do? (Count such things as kissing, touching, or being made to have sexual intercourse.)
During your life, how often has there been an adult in your household who tried hard to make sure your basic needs were met, such as looking after your safety and making sure you had clean clothes and enough to eat?
During your life, how often have your parents or other adults in your home slapped, hit, kicked, punched, or beat each other up?
Have you ever lived with someone who was having a problem with alcohol or drug use?
Have you ever lived with someone who was depressed, mentally ill, or suicidal?
Have you ever been separated from a parent or guardian because they went to jail, prison, or a detention center?
During your life, how often have you felt that you were treated badly or unfairly because of your race or ethnicity?
During your life, how often have you felt that you were treated badly or unfairly because of your sexual orientation?
Have you ever seen someone get physically attacked, beaten, stabbed, or shot in your neighborhood?
During the past 12 months, how many times has a parent or other adult in your home hit, beat, kicked, or physically hurt you in any way?
During the past 12 months, how many times has a parent or other adult in your home sworn at you, insulted you, or put you down?
During your life, how often have you felt that you were able to talk to an adult in your family or another caring adult about your feelings?
During your life, how often have you felt that you were able to talk to a friend about your feelings?
Do you agree or disagree that you feel close to people at your school?

Note: PACE: D2A recipients added some or most of the items listed to their 2021 YRBS administration administrative data to monitor indicators of ACEs. While these administrative data reflect only a small proportion of the true estimates for health problems or violent experiences, they can provide key insights into access, use, and over- or under-identification for services. Key administrative data sources that have been identified across recipients include those that include child welfare system contact data, data on mental health and substance use services, and data on justice system contact. Data on social and economic characteristics and other quality-of-life measures are incorporated to better understand community and societal-level risk and protective factors that are related to ACEs. For example, some recipients plan to incorporate social determinants of health data into their surveillance system reports and data dashboards. These data, which can be obtained from sources such as the US Census Bureau's American Community Survey (United States Census Bureau, 2022), the Annie E. Casey Foundation's Kids Count (Annie E. Casey Foundation, 2022), or other publicly available resources, can be used to identify and monitor how social determinants of health lead to disproportionate burden of ACEs among some subpopulations. Integration of these data into surveillance reports can also ensure that progress toward eliminating health inequities, including those related to ACEs, are being made. EfC recipients also use national, state, and local data sources to track aspects of ACEs and CAN, including administrative data, survey data sources, and state-level surveillance.

Program Evaluation Activities

The Measurement of Program Outcomes and Indicators to Prevent ACEs

Both EfC and PACE: D2A funding initiatives require recipients to conduct a process and outcome evaluation. Recipients use a mix of qualitative and quantitative data to assess program outcomes and indicators. Most recipients review program documents and records, and conduct surveys, key informant interviews, and focus groups for evaluation activities. Because building the ACEs surveillance infrastructure is a key activity of PACE: D2A recipients, many use surveillance data to inform program activities (i.e., to identify areas of high ACEs burden for programming efforts). In addition to specific program outcomes being monitored, states receiving PACE: D2A funding measure risk and protective factors for ACEs through their surveillance efforts.

Recipients of both initiatives use survey data to assess the activities of their participants. For example, many assess training activities of providers using pre−/post-training surveys. Survey data, including those for community stakeholders, partners, and advisory and leadership groups, are also used to assess awareness, identify issues, and assess the activities of various stakeholders. Many recipients use key informant interviews and focus groups to assess program outcomes (e.g., the effects of training activities, community outreach, program, and policy efforts) with direct program participants and key stakeholders to determine the effectiveness and satisfaction with those efforts. Other data collected and used by recipients include website and social media analytics, participant observation, network mapping (to assess collaboration), partner agency reports, training logs, and meeting minutes.

Use of Data

Data to action decision-making is a key feature of the PACE: D2A initiative. Recipients are utilizing results from their statewide ACEs surveillance data collection, including the YRBS or equivalent surveillance data, to inform statewide strategies for preventing ACEs and monitor the impact of prevention strategies through program evaluation. Given that prevention efforts occur at multiple geographical levels within a state, recipients are also utilizing regional, county, and school district-level data to tailor prevention strategy implementation to the needs of specific communities. To support local data-driven decision-making, community-level data are being used from youth-based surveys, hotlines, syndromic surveillance systems, and cross-sector administrative data sources to identify disproportionate burden of ACEs or associated factors among some communities and subpopulations. Findings from these data sources are also being used to tailor social norms messaging to meet the needs of specific communities and identify ACEs that are most prevalent or of concern to different populations. In addition to informing prevention, surveillance data can be used to monitor prevention strategy impact. For example, if a jurisdiction is focused on ensuring a strong start for children via early home visiting (CDC, 2019a), including data elements that examine the proportion of families accessing home visiting or other related services can provide indications as to whether prevention efforts or policy changes are having an impact on home visiting uptake and subsequently reductions in ACEs.

For EfC recipients, data are also used for decision-making, program planning, and improvement. Recipients use evaluation findings for continuous quality improvement by using data to inform modifications to prevention strategies and identify technical assistance needs to local partners. Recipients also share data with stakeholders through presentations, fact sheets, and data briefs. Since the nature of the work focuses on multiple stakeholders, the general audience for sharing evaluation data is broad. For example, recipients have shared data with steering committees, data/evaluation committees, workgroups, community members, nonprofit organizations, governmental agencies, other private entities, policymakers, municipal partners, academic audiences, and the public at large.

For both EfC and PACE: D2A recipients, disseminating data also involves training local communities to build data use capacity so that data can be used to make decisions about prevention activities at the local level. Many have taken the approach of developing a dashboard with data from state and national sources to be accessible to communities and decision-makers.

Implications and Future Directions

The two programmatic initiatives highlighted in this chapter provide a pathway for preventing and reducing exposure to ACEs. Lessons from these initiatives demonstrate that two areas are significantly important for making progress: (1) establishing meaningful partnerships with mutual interests and (2) using data for public health actions. What is evident from these programs is that building and sustaining meaningful relationships is pertinent to expanding a partner network. Both EfC and PACE: D2A recipients rely on partner agencies and organizations to provide guidance and help implement prevention activities (e.g., improve program reach). Partners also provide needed resources (e.g., funding, staff, data) to accomplish program goals. Recipients secure trust and mutual understanding and recognize the contributions of each partner. At the state level, recipients also work on building local capacity to understand ACEs, the importance of addressing them, where they occur, and how to prevent them. Partnerships among local-level stakeholders have been helpful in cultivating public will to address ACEs. Moreover, recipients leverage existing relationships with child-serving agencies to ensure alignment of local activities with statewide efforts. Lessons learned from these two initiatives indicate that effective collaboration involves a mutual exchange of ideas, passion, resources, and information. Recipients have a general understanding that no one stakeholder can solve the problems created and exacerbated by ACEs. Therefore, establishing partnerships based on trust, common interest, and shared goals helps create sustainable change for addressing ACEs.

Another important aspect of this work is using data to inform public health actions. Both programs have shown that data can be used to inform assessment, planning, implementation, and evaluation. An approach that health agencies and organizations can take to make data useful and relevant is making data accessible and involving community stakeholders to determine what data are pertinent. Some recipients have developed dashboards as a way of making data about the health status of their communities more accessible. Specifically, dashboards help to identify and track ACEs, which in turn informs programmatic efforts. Using data to inform public health action also involves applying scientific knowledge to prevention practice. CDC's technical packages and ACEs resources connect data and science to inform about strategies proven to be effective. When implemented, they are intended to work in combination to prevent and mitigate the harms associated with ACEs and have the greatest potential for population-level impact.

No matter how data are obtained, it is important that routine and ongoing monitoring align with the work of multiple federal, state-level, and local partners and agencies to achieve a more comprehensive understanding of ACEs, their consequences, and effective prevention efforts in this area (CDC, 2019a). It is also important to track the progress of prevention efforts and evaluate the impact of those efforts. Evaluation data, produced through program implementation and evaluation, are essential to providing information on what does or does not work to prevent ACEs and associated risk and protective factors (CDC, 2019a).

Conclusion

CDC's Division of Violence Prevention (DVP) has identified reducing ACEs as one of its strategic priorities. Over the last several years, DVP has made investments in identifying, developing, and disseminating strategies that protect children and youth from ACEs and their consequences. More recent investments have been made in identifying ACEs research priorities and tracking and monitoring ACEs to better understand how ACEs are manifested in the everyday lives of children and their families. These activities help to inform the field about the factors that give rise to ACEs. Increasingly, more health organizations are addressing these factors using multisector and multigenerational approaches to ensure the realization of safe, stable, nurturing relationships and environments for children. The EfC and PACE: D2A programs expand the public's knowledge about what works best to prevent ACEs and their long-term health impacts. Yet another way CDC assesses ongoing prevention work is through cross-program evaluation methods that capture implementation in other violence topics. For example, strengthening economic supports is also addressed through intimate partner and sexual violence prevention programs. Applying a public health approach and using the best available evidence is necessary to address these problems. Capturing state-level context is complex and will require continued efforts to monitor prevention activities.

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References

Anderson, K. N., Swedo, E. A., Clayton, H. B., Holditch Niolon, P., Shelby, D., & McDavid Harrison, K. (2022). Building infrastructure for surveillance of adverse childhood experiences: Integrated, multi-method approaches to generate data for prevention action. *American Journal of Preventive Medicine, 62*(6), S31–S39.

Centers for Disease Control and Prevention. (2014). *Essentials for childhood: Steps to create safe, stable, nurturing relationships and environments*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Centers for Disease Control and Prevention. (2018). *State essentials for childhood initiative: Implementation of strategies and approaches for child abuse and neglect prevention. (Funding Opportunity Announcement CDC-RFA-CE18-1803)*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. https://www.grants.gov/web/grants/search-grants.html. Retrieved December 16, 2021.

Centers for Disease Control and Prevention. (2019a). *Preventing adverse childhood experiences: Leveraging the best available evidence*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Retrieved from https://www.cdc.gov/violenceprevention/pdf/preventingACES.pdf

Centers for Disease Control and Prevention. (2019b). *Vital Signs: Adverse Childhood Experiences (ACEs) Preventing early trauma to improve adult health [Fact sheet]*. Retrieved from https://www.cdc.gov/vitalsigns/aces/pdf/vs-1105-aces-H.pdf

Centers for Disease Control and Prevention. (2020). *Preventing adverse childhood experiences: Data to action. (Funding Opportunity Announcement CDC-RFA-CE20-2006)*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2018. https://www.grants.gov/web/grants/search-grants.html. Retrieved December 16, 2021.

Centers for Disease Control and Prevention. (2022a). *Technical packages for violence prevention*. Technical Packages for Violence Prevention |Violence Prevention|Injury Center | CDC. Retrieved February 28, 2022.

Centers for Disease Control and Prevention. (2022b). *National syndromic surveillance program*. https://www.cdc.gov/nssp/index.html. Retrieved February 24, 2022.

Cicchetti, D., & Carlson, V. (Eds.). (1989). *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect*. Cambridge University Press.

Dube, S. R., Anda, R. F., Felitti, V. J., Edwards, V. J., & Croft, J. B. (2002). Adverse childhood experiences and personal alcohol abuse as an adult. *Addictive Behaviors, 27*(5), 713–725. https://doi.org/10.1016/S0306-4603(01)00204-0

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245–258. https://doi.org/10.1016/s0749-3797(98)00017-8

Fortson, B. L., Klevens, J., Merrick, M. T., Gilbert, L. K., & Alexander, S. P. (2016). *Preventing child abuse and neglect: A technical package for policy, norm, and programmatic activities*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Gervin, D. W., Holland, K. M., Ottley, P. G., Holmes, G. M., Niolon, P. H., & Mercy, J. A. (2022). Centers for disease control and prevention investments in Adverse Childhood Experience prevention efforts. *American Journal of Preventive Medicine, 62*(6), S1–S5.

Gilbert, L. K., Breiding, M. J., Merrick, M. T., Parks, S. E., Thompson, W. W., Dhingra, S. S., & Ford, D. C. (2015). Childhood adversity and adult chronic disease: An update from ten states and the District of Columbia, 2010. *American Journal of Preventive Medicine, 48*(3), 345–349.

Guinn, A. S., Ottley, P. G., Anderson, K. N., Oginga, M., Gervin, D. W., & Holmes, G. M. (2022). Leveraging surveillance and evidence: Preventing adverse childhood experiences through data to action. *American Journal of Preventive Medicine, 62*(6), S24–S30.

Hamby, S., & Grych, J. (2013). The web of violence: Exploring connections among different forms of interpersonal violence and abuse. In R. J. Johnson (Ed.), *Springer briefs in sociology* (pp. 1–106). Springer.

Jones, C. M., Merrick, M. T., & Houry, D. E. (2020). Identifying and preventing adverse childhood experiences: Implications for clinical practice. *JAMA, 323*(1), 25–26.

Merrick, M. T., Ford, D. C., Ports, K. A., Guinn, A. S., Chen, J., Klevens, J., Metzler, M., Jones, C. M., Simon, T. R., Daniel, V. M., Ottley, P., & Mercy, J. A. (2019). Vital signs: Estimated proportion of adult health problems attributable to Adverse Childhood Experiences and implications for prevention – 25 states, 2015-2017. *Morbidity and Mortality Weekly Report, 68*, 99–1005.

Metzler, M., Merrick, M. T., Klevens, J., Ports, K. A., & Ford, D. C. (2017). Adverse childhood experiences and life opportunities: Shifting the narrative. *Children and Youth Services Review, 72*, 141–149.

Niolon, P. H., Treves-Kagan, S., Dahlberg, L. L., & Mercy, J. A. (2020). The evolution of interpersonal violence research and prevention across the lifespan in the U.S.: The past, present and future. In R. Geffner, V. Vieth, V. Vaughan-Eden, A. Rosenbaum, L. K. Hamberger, & J. White (Eds.), *Handbook of interpersonal violence and abuse across the lifespan* (pp. 4859–4886). Springer. https://doi.org/10.1007/978-3-319-62122-7

Sansone, R. A., Leung, J. S., & Wiederman, M. W. (2012). Five forms of childhood trauma: Relationships with employment in adulthood. *Child Abuse & Neglect, 36*(9), 676–679. https://doi.org/10.1016/j.chiabu.2012.07.007

Shonkoff, J. P., & Garner, A. S. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics, 129*(1), e232–e246.

The Annie E. Casey Foundation. (2022). *Kids count data center*. Retrieved from https://datacenter.kidscount.org/. Retrieved February 24, 2022.

Underwood, J. M., Brener, N., Thornton, J., et al. (2020). Overview and methods for the youth risk behavior surveillance system – United States, 2019. *MMWR Supplements, 69*(1), 1–10. https://doi.org/10.15585/mmwr.su6901a1

United States Census Bureau. (2022). *American community survey*. Retrieved from https://www.census.gov/programs-surveys/acs/. Retrieved February 24, 2022.

Wilkins, N., Tsao, B., Hertz, M., Davis, R., & Klevens, J. (2014). *Connecting the dots: An overview of the links among multiple forms of violence*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention Oakland, CA: Prevention Institute.

16

Translating the Science of Adverse Childhood Experiences (ACEs): A Guide for Psychologists to Engage the Policymaker

Daniel W. Dodgen and Clare C. Anderson

Introduction

As the chapters in this volume demonstrate, there is a growing understanding of the effects of childhood adversity on the development and well-being of children throughout the life course. Numerous prevention and intervention strategies have been shown to ameliorate the impact of adverse childhood experiences (ACEs); build self-regulatory capacity; promote healthy development, mental health resilience, and well-being; and help children get back on track developmentally. Despite these advances, there remains a gap between knowledge and implementation of evidence-based policies, practices, and interventions (Schellenbach et al., 2013). The RAND Corporation, a policy-focused nonprofit, published a report on improving child welfare policy, which states, "There is broad consensus that the child welfare system and outcomes for the children it serves can be improved. It is also generally acknowledged that success will require action on multiple fronts, including both treatment and prevention" (Ringel et al., 2017). Given this consensus on the need for child welfare system improvement, this chapter will explore evidence-based policymaking related to adverse childhood experiences using child welfare practices and policies as the primary example.

The gap between science and policy is not caused by a lack of concern on the part of policymakers. Bogenschneider and her colleagues (2021) found that elected officials in general favor actions that support youth and families. Current policy agendas to promote child care, a robust child tax credit, and many other family-strengthening and child-focused strategies also suggest that the policies that help serve to prevent ACEs are receiving attention. Furthermore, the advancement of a collective understanding of racial equity, social justice, access to resources, and personal vulnerability due to social justice issues that were elevated in 2019–2022, and the COVID-19 pandemic has created a new awareness of the need to resource families so that ACEs are prevented and children can thrive.

Many policymakers are motivated to apply science and professional expertise to the most pressing challenges, including preventing and addressing ACEs, and they have numerous strategies, tools, and resources available within their sphere of influence. However, they can also benefit from well-informed guidance from researchers and experts in ACEs, child welfare, and child development in order to deploy these resources strategically and based on evidence. This chapter provides an overview of current policies and how

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experts can build bidirectional relationships with policymakers to share their knowledge, make recommendations for evidence-based policy and intervention selection, and advance the shared goal of making the United States a better place for children and families.

Brief Review of Key Child Welfare Policies Affecting Children Facing Adversity

Child welfare as a federal issue might be said to begin with provisions in the 1935 Social Security Act. Portwood and Dodgen (2005) described the history of child welfare legislation from 1935 to 2003 (see also Table 16.1). Trends in the time since that publication have included more emphasis on human trafficking, focus on law enforcement solutions, attention to the substance abuse–child abuse nexus, and ongoing revisions to existing child abuse prevention and treatment programs (CWLA, 2014; Thomas et al., 2022). A brief review of these laws provides background for the reader and illustrates how high-profile issues, such as the opioid epidemic or sexual trafficking, can weave together with budget trends and other issues to work for and against the actions of child advocates. See also the Child Welfare League of America's *Legislative Index* (2020) for a comprehensive overview.

Substance Abuse and Child Welfare

The child welfare–substance abuse nexus has received increased attention in recent years, with particular emphasis on opioid misuse. The *Comprehensive Addiction and Recovery Act of 2016* (CARA), for example, includes requirements to help states address the effects of substance use disorders on infants, children, and families. The law required the Secretary of the U.S. Department of Health and Human Services

Table 16.1 Timeline of major child welfare legislation

1935 – Enactment of *Social Security Act* includes funds for child welfare services under Title V
1958 – Amendments to Title V require states to match federal child welfare funds
1961 – Title IV-A, the *Aid to Families with Dependent Children (*AFDC) entitlement, is amended to allow use of funds for foster care expenses. State participation in the Title IV-A AFDC foster care program is made mandatory in 1969
1967 – Child welfare funding under Title V becomes Title IV-B, *Child Welfare Services*
1974 – *Child Abuse and Treatment Act* is enacted. It is the only federal legislation exclusively dedicated to the prevention, assessment, identification, and treatment of child abuse and neglect
1978 – *Indian Child Welfare Act* is adopted, establishing requirements for child welfare agencies when serving Native children and families
1980 – Enactment of the *Adoption Assistance and Child Welfare Amendments* establishes a new Title IV-E Foster Care and Adoption Assistance entitlement program
1985 – Title IV-E is amended to include a new *Independent Living* program to assist youth that age-out of the foster care system
1993 – Title IV-B is amended to create a new *Family Preservation and Family Support* program
1994 – Legislation is enacted that directs HHS to create a review of state child welfare systems. This directive ultimately creates the *Child and Family Service Reviews*. The legislation also authorizes child welfare waiver demonstrations
1994 – *Multiethnic Placement Act* is enacted to prevent discrimination in services and includes limited funds for child welfare placement of children based on race, color, or national origin and facilitate the identification and recruitment of foster and adoptive parents
1996 – *Temporary Assistance for Needy Families* (TANF) block grant is created, thus eliminating AFDC as an individual entitlement. While TANF replaces AFDC, the law requires states to continue to base Title IV-E Foster Care and Adoption Assistance eligibility on AFDC standards already in place
1996 – MEPA is amended by the *Interethnic Adoption Provisions* to delete language specifically permitting the consideration of race in placement decisions

(continued)

Table 16.1 (continued)

1997 – *Adoption and Safe Families Act* is enacted. It creates timelines for moving children to permanency, provides adoption bonuses for states, and continues the child welfare waiver demonstrations. The law also renames the Family Preservation and Family Support program to *Promoting Safe and Stable Families* (PSSF) and expands the use of funds to additional categories of service: time-limited reunification services and adoption promotion and support services
1999 – The *Independent Living* program is expanded and renamed in honor of Senator John H. Chafee (R-RI)
2001 – *PSSF* is reauthorized. The law also amends the John H. Chafee Independent Living program to provide funding for education and training vouchers for foster youth and create new funding for mentoring of children of incarcerated parents
2006 – *Adam Walsh Child Protection and Safety Act* enacted to protect children from sexual exploitation and violent crime; prevent child abuse and child pornography; prevent sex offenders' access to children; promote internet safety; and honor the memory of Adam Walsh and other child crime victims
2008 – *Fostering Connections to Success and Increasing Adoptions Act* is enacted. It amends Title IV of the Social Security Act to support relative caregivers, improve outcomes for children and youths in foster care, especially in healthcare and education, provide for tribal foster care, improve incentives for adoption, and enhance training access for the child welfare workforce
2010 –*Affordable Care Act* is enacted. This legislation extends Medicaid coverage to all youths who exit out of care as young adults up to age 26. In addition, the prohibition of the preexisting conditions exclusion and expansions of Medicaid and the Child Health Insurance Program will benefit families at risk for involvement in the system. This legislation also included federal support for home visiting programs
2010 – *CAPTA* is reauthorized. Programmatic updates include provisions to improve data collection; improve systems training for supporting individuals who identify, prevent, and respond to reports of child maltreatment; and strengthen coordination among service providers
2011 – *Child and Family Services Improvement and Innovation Act* is passed. Programmatic updates address health and development provisions of the state plan, caseworker visits, the Court Improvement Program, and data standardization, among others. Some education and older youth provisions of IV-E are also updated, in addition to the reinstatement of waiver authority for HHS-approved demonstration projects to flexibly use IV-E funds
2014– *Preventing Sex Trafficking and Strengthening Families Act* enacted to prevent and address sex trafficking of children in foster care, develop a reasonable and prudent parent standard to allow a child in foster care to participate in age-appropriate activities, extend and improve adoption incentives, and for other purposes
2015 – *Justice for Victims of Trafficking Act* enacted to provide justice for victims of trafficking, services for victims of child pornography, and domestic child human trafficking deterrence programs, specialized training programs for law enforcement officers, first responders, healthcare and child welfare officials, and others and to facilitate the rescue of child victims of human trafficking
2016 – *Comprehensive Addiction and Recovery Act* enacted to address aspects of substance use disorders, particularly opioid use disorder, with provisions that affect multiple agencies and systems, including the addition of various requirements to help states address the effects of substance use disorders on infants, children, and families
2018 – *Substance Use Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act* (SUPPORT for Patients and Communities Act) amends Titles IV-B and IV-E of the Social Security Act and CAPTA to make public health reforms to combat the opioid crisis by advancing treatment and recovery initiatives, improving prevention, protecting communities, and bolstering efforts to combat illicit synthetic drugs; and to boost programs that fight, treat, and stop substance abuse and support access to mental health services
2018 – *Family First Prevention Services Act* amends the Social Security Act to create new optional prevention funding under Title IV-E, place Title IV-E payment limits on childcare institutions, reauthorize the Adoption Incentive Program through 2021, and establish other changes

(HHS) to maintain and disseminate information about the best practices for care for infants affected by substance use, withdrawal symptoms, or a fetal alcohol spectrum disorder. It also modified the Child Abuse Prevention and Treatment Act (CAPTA) requirements so that states would have to address the health and substance use disorder treatment needs of the infant and affected family member or caregiver. States also must monitor plans to determine whether and how local entities are making referrals and delivering appropriate services.

The *Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act of 2018* (SUPPORT for Patients and Communities Act) authorized a family recovery and reunification program for parents with children in foster care due to parental substance abuse. It also created an interagency task force to make recommendations regarding best practices to identify, prevent, and mitigate the effects of trauma on infants, children, youth, and their families and better coordinate the federal response to families impacted by substance use disorders and other forms of trauma. Furthermore, it required HHS to develop and issue guidance to states that identifies opportunities to support family-focused residential substance use treatment programs and required HHS to award grants to develop, enhance, and/or evaluate family-focused residential treatment programs.

Human Trafficking and Exploitation

The *Adam Walsh Child Protection and Safety Act of 2006* (Adam Walsh Act) aimed to protect children from sexual exploitation and violent crime and prevent child abuse and child pornography. This law required criminal background checks for prospective foster or adoptive parents, and required safeguards to prevent the unauthorized disclosure of information in any child abuse and neglect registry from being used for a purpose other than conducting background checks in foster or adoptive placement cases. It also directed the secretary of HHS to create a national registry of substantiated cases of child abuse or neglect, establish standards for the dissemination of information in the registry, and conduct a study on the feasibility of establishing data collection standards for the registry.

The *Preventing Sex Trafficking and Strengthening Families Act of 2014* sought to prevent and address sex trafficking of children in foster care. It required states to develop policies and procedures for identifying, documenting, and determining appropriate services for any child or youth the state believes is, or is at risk of being, a victim of sex trafficking. It further required states to locate and respond to children who have run away from foster care and report information on missing or abducted children or youth to law enforcement authorities immediately. It also allowed states to identify and provide services to any individual under age 26 who may be a victim of sex trafficking. Other provisions included creating higher standards for children over 16 to be placed in permanent living arrangement, giving children aged 14 and older authority to participate in the development of their own case plans, and requiring that children who are leaving foster care at age 18 or older be provided with a copy of their birth certificate, Social Security card, health insurance information, medical records, and a driver's license or equivalent state-issued identification card. Finally, it established the National Advisory Committee on the Sex Trafficking of Children and Youth in the United States.

The *Justice for Victims of Trafficking Act of 2015* aimed to provide justice for victims of trafficking through grants to states for child abuse investigation and prosecution programs, services for victims of child pornography, and domestic child human trafficking deterrence programs. It also authorized specialized training programs for law enforcement officers, first responders, healthcare and child welfare officials, juvenile justice personnel, prosecutors, and judicial personnel to identify victims and acts of child human trafficking and facilitate the rescue of child victims of human trafficking. It provided for training child protective services workers in identifying, assessing, and providing comprehensive services for children who are sex trafficking victims and required the HHS Health Resources and Services Administration to award a grant to an accredited school of medicine or nursing to train healthcare professionals to recognize and respond to trafficking victims. It also authorized a block grant from the U.S. Department of Justice (DOJ) to develop, improve, or expand domestic child human trafficking deterrence programs to assist law enforcement and other entities in rescuing and restoring the lives of trafficking victims, while also investigating and prosecuting offenses involving child human trafficking. It also expanded the federal definition of "child abuse" to include human trafficking and the production of child pornography.

"Traditional" Child Welfare

The initiatives described above happened concurrently with efforts to improve child welfare services. The *Child and Family Services Improvement Act of 2006* reauthorized existing programs and established a new program purpose that allowed a broader array of services and activities and promoted more flexibility for states to design their programs accordingly. It also reserved specified funds for states to support monthly caseworker visits with children in foster care under state responsibility and required targeted grants to increase the well-being of, and improve the permanency outcomes for, children affected by methamphetamine or other substance use. It also reauthorized and extended the program for mentoring children of prisoners.

The *Fostering Connections to Success and Increasing Adoptions Act of 2008* (Fostering Connections) was designed to connect and support relative caregivers, improve outcomes for children in foster care, provide for Tribal access to foster care and adoption funds, and improve incentives for adoption. This law extended eligibility for Medicaid to children receiving kinship guardianship assistance payments. It allowed services to youth who leave foster care for kinship guardianship or adoption after age 16 and permitted states to extend assistance to otherwise eligible youth remaining in foster care after reaching age 18, as well as youth who, at age 16 or older, exited foster care to either a kinship guardianship or adoption. It extended tribal grant programs and required case plans to ensure educational stability of children in foster care.

The *Patient Protection and Affordable Care Act of 2010* (often referred to as "Obamacare" or "ACA") included provisions relevant to child welfare, such as extending Medicaid coverage to children formerly in foster care who are younger than age 26, providing grants to eligible entities for early childhood home-visitation programs, and reauthorizing the expansion and improvement of emergency medical services for children who need treatment for trauma or critical care.

The *Child Abuse Prevention and Treatment Act (CAPTA) Reauthorization Act of 2010* authorized grants to public or private agencies and organizations to develop or to expand effective collaborations between child protective services (CPS) entities and domestic violence service entities; required improvements in provision of services to children exposed to domestic violence; emphasized collaboration among child protective, substance use, and domestic violence agencies; and promoted adoption.

The *Child and Family Services Improvement and Innovation Act Overview of 2011* required each state to plan for the oversight and coordination of healthcare services for any child in foster care, required a State Safe and Stable Families Program plan to describe how states identify populations at greatest risk of maltreatment and how they target services to them, revised requirements for grants to assist children affected by a parent's or caretaker's methamphetamine or other substance use, and required State agencies to meet the educational stability case plan requirement at the time of each placement change, not just at the initial placement into foster care.

The *Family First Prevention Services Act of 2018* (Family First) amended existing law to promote the use of evidence-based practices that improve parenting skills and/or prevent or treat mental health and substance use challenges in order to prevent child abuse and neglect, reduce the likelihood of foster care entry, and promote child and family well-being. Family First is also structured to ensure that children in foster care placements are not inappropriately diagnosed with mental illness, other emotional or behavioral disorders, medically fragile conditions, or developmental disabilities, and are not placed in congregate settings as a result of the inappropriate diagnoses. It also required that qualified residential treatment programs have a trauma-informed treatment model that is designed to address the needs of children with serious emotional or behavioral disorders and facilitate participation of family members, to the extent appropriate, in the child's treatment program.

Other Recent Issues in Child Welfare

At the same time the laws above were being debated, passed, and implemented, relevant new social and political issues continued to emerge. For example, bullying and cyberbullying became a greater source of harmful experiences for children. Leemis et al. (2019) found a longitudinal relationship between bullying, cyberbullying, and sexual harassment perpetration among middle and high school youth. Kim et al. (2019) found that peer victimization variables (physical and sexual dating violence, school bullying, and cyberbullying) predicted depressive symptoms for both females and males, with male victims at an even higher risk of negative outcomes. Pham et al. (2019) found that youth victims of face-to-face aggression and/or cyber-aggression are themselves at elevated risk for perpetrating aggressive behavior against others, and students who experienced more than one form of aggression were the most likely to engage in aggressive behaviors. "Sexting," the practice of sending and receiving sexually explicit text messages, adds an additional dimension to the study of cyber-aggression. Research suggests that sexting was associated with subsequent cyberbullying victimization (Van Ouytsel et al., 2019).

Given the rise in peer bullying and cyber-aggression, it is not surprising that legal responses have been attempted (Gordon, 2019). Although there is no federal cyberbullying statute, some cyberbullying may be covered by laws prohibiting discriminatory harassment because of race, national origin, gender, sexual orientation, disability, or religion. The *Computer Fraud and Abuse Act* allows criminal charges and prosecution for hate crimes, impersonation, harassment, and other violations, and individual states have additional laws or regulations on cyberbullying (see StopBullying.gov). School districts are also required to submit some bullying information to the U.S. Department of Education, which conducts an annual Civil Rights Data Collection survey. Sexting may also be addressed under other laws since people who send or receive sexts can be charged with distributing child pornography, even if they are minors. In many states, it does not matter if the minor took the photo willingly or sent it willingly to someone else (Gordon, 2020). Although these laws often focus on identifying perpetrators, rather than assisting victims, the increased attention to the issue highlights how opportunities to address ACEs through policy can emerge unexpectedly.

Summary of Policy Trends

The focus on identifying perpetrators rather than assisting victims continues to be a challenge. Similarly, many child welfare statutes described above are oriented more toward pathologizing and penalizing parents than strengthening families, consistent with a long-standing child welfare policy approach. Federal policymakers have struggled to find an effective balance between treatment, out-of-home services, and prevention in achieving policy objectives (Ringel et al., 2017). This is made more challenging by the focus on targeted programs and policies rather than systemic solutions. Nevertheless, the sheer breadth of all the programs described above suggests that there is a tremendous appetite to develop policies that address many aspects of ACEs. Furthermore, this array of policy solutions creates many opportunities for experts to inform the policymaking process and helps them better link solutions to evidence for policymakers.

Two simultaneous issues in recent years have further impacted policies addressing ACEs and created opportunities for experts to provide input. These include the rising awareness of racial equity, social justice, access to resources, and personal vulnerability due to social justice issues and the COVID-19 pandemic. While the connection between social justice and ACEs has been well established (see this volume), various studies analyzing child abuse and neglect trends during the COVID-19 pandemic have yielded mixed findings (Rapp et al., 2021). Not surprisingly, legislative efforts have been initiated to address the COVID–child abuse and neglect nexus. The *Stronger Child Abuse Prevention and Treatment Act*, which passed the U.S. House of Representatives in March 2021, but has not passed the Senate, sought to build networks of cost-effective and locally driven services to prevent child abuse, strengthen families, and provide critical services to families facing challenging circumstances during the COVID-19 pandemic (House Committee on Education and Labor, 2021). At the same time, President Biden issued Executive Orders directing federal agencies to examine how they addressed issues of equity, diversity, and inclusion in carrying out their work. One example is Executive Order 13985, issued January 20, 2021, on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government. Similarly, Executive Order 14035 on Advancing Diversity, Equity, Inclusion, and Accessibility in the Federal Government (Executive Order 14035), issued in June 2021, focuses on diversifying the workforce that implements these programs (Federal Register, 2022). This array of federal activities suggests that policymakers could be interested in examining the links between social justice issues, pandemics, and child welfare. They also suggest the need for policymakers to be informed by the expertise of child-serving professionals, experts in ACEs, and those with lived experience who can help them make those linkages.

Impediments and Opportunities to Closing the Science–Policy Gap

Given the long-standing interest of policymakers in issues related to child welfare and adverse experiences, it seems puzzling that the science–policy gap has not been bridged more successfully. For example, while 60% or more of substantiated child maltreatment cases are for neglect and physical and sexual abuse, substantiations have declined since the early 1990s (U.S. Department of Health & Human Services, 2021); strategies continue to focus on historical conceptualization of the bad parent rather than the overloaded parent. This challenge is exacerbated by the ongoing science–policy–political gap between the conceptualization that child abuse and neglect, mental illness, substance abuse, incarceration, etc., are primarily related to individual pathologies rather than sequela of societal context and historical trauma. It is easier to make policies that focus on the selection of a particular solution to address an individual need rather than to create policies that address the structural disadvantages that can drive ACEs. Nevertheless, studies are increasingly focused on macroeconomic policies and population-level strategies and their association with child abuse and neglect (Kovski et al., 2022; Puls et al., 2021).

There are several other reasons that policymakers may be reluctant to embrace system-wide change to close the science–policy gap. First, large-scale changes in policy approaches to systemic social problems can take years to demonstrate their effectiveness, while many election cycles occur in short two-year time frames. This makes it hard for elected officials to sustain support for broader initiatives. Second, while federal policies set parameters for state-level requirements and funding, significant flexibility remains in how state and local governments implement programs, especially as they relate to supportive services for children and families (Portwood & Dodgen, 2005). Federal policymakers are sometimes reluctant to "dictate" to states around certain issues. Third, the current highly partisan political context can exacerbate the challenges of addressing systemic social challenges that impact children's welfare.

There are also specific impediments for social scientists to deliver their message effectively. Research often is very niched and specific, lacks a big picture perspective, or is disseminated through journal articles and conference presentations that often fail to reach policymakers. Furthermore, social scientists are not always effective at connecting the multiple content areas that must be tied together to translate and make sense of the science, its application in the field, and the significance for the policy arena.

What Is Known About the Successful Strategies for Influencing Policy?

Despite these challenges, there are some examples of positive interactions between policymakers and experts to address ACEs. Longhi et al. (2019) described successful community-wide efforts to increase resilience through community capacity building, trauma-informed practices, and culture change in Walla Walla, Washington. These efforts led to shifts in mindsets, collaborative relationships, and organizational values/structures. Srivastav et al. (2020) studied the perspectives of child and family-serving professionals and state-level policymakers to develop policy and program recommendations for addressing ACEs. They found that the professionals and the policymakers differed in their opinions on state government involvement, but were able to identify agreement on certain protective factors (i.e., loving and nurturing relationships, safe home environments, and opportunities to thrive) and a range of potential policy options to support existing community efforts, attempt to alleviate poverty, and improve child and family-serving systems (e.g., providing affordable high-quality child care, providing universal home visiting for first-time parents).

Bogenschneider and her colleagues (2019) interviewed over 150 legislators and 13 experts (who previously held elected office) from two Midwestern states to find out how research is used in policymaking. These researchers found that policymakers most often used research to persuade others, understand complex issues, improve legislation, and define problems. Unexpectedly, they also used research to educate others, improve the decision-making process, and increase their own credibility. This study suggests some strategies for communicating with policymakers by illustrating their research with compelling stories that put a human face on issues and clarify the pragmatic significance of the findings. In a follow-up study, Bogenschneider et al. (2021) interviewed over 120 state legislators to identify "youth and family champions" among their peers who communicate effectively in the policymaking arena. The group represented two states and were diverse in terms of ethnicity, political party, and years in service. They found several commonalities among the views of these champions.

1. Child and family problems are something everyone cares about. Specifically, these legislators saw youth and family issues as less partisan than other issues.
2. There was near universal agreement on which youth and families to target, such as people living in poverty, marginalized or stigmatized groups, and people needing addiction services.
3. Research was more highly valued in finding policy solutions for child and family issues than for other issues.
4. Economic arguments were effective—particularly those that link childhood programs to economic growth and workforce productivity.
5. Children's policy champions were most effective when they could put a human face on the issue or framed child and family issues as a unifying issue across diverse individuals and communities.
6. Impediments to progress on child policy centered on disagreements about the root causes of youth and family problems, political polarization, and perceived costs. The impact of research was blunted due to the perceived lack of objectivity and conflicting findings.

Key Concepts for Maximizing Scientist Impact on Policymakers

The above insights from legislators who are youth and family champions can inform how psychologists and others approach their advocacy efforts. Additionally, many experts, including the authors of this chapter, have written articles outlining the strategies to impact policymakers on behalf of children (Portwood & Dodgen, 2005; Bishop-Josef & Dodgen, 2013). Suggestions for child experts in these articles include

- Enhance ability to "translate" the scientific literature for policymakers.
- Be concise, factual, and clear in communications.
- Acknowledge uncertainties without making uncertainty the focus of communications.
- Stay current on legislative issues and policy questions.
- Set clear goals for advocacy efforts.
- Join relevant advocacy efforts (e.g., policy/advocacy interest groups within one's professional organization)
- Write op-eds for local news media.
- Write/email legislators or legislative staff.
- Meet with legislators or legislative staff.
- Testify before legislatures.
- Give media interviews.
- Comment on proposed regulations.
- Volunteer/self-nominate for advisory committees.

As the research cited above suggests, policymakers appreciate scientific information that helps them understand problems, improve legislative proposals, and persuade their colleagues. This suggests that child experts can have an impact if they are targeted in their approach. To maximize this impact, it is helpful to understand the culture of policymaking and identify strategic opportunities to increase evidence-informed advocacy on behalf of children and families. In Table 16.2, the authors outline many of the levers and tools available to policymakers. These include priority setting; regulation and guidance; publications; technical assistance; resource allocation, to include discretionary funding and the budget process; creating partnerships and collaborations; convening power (e.g., advisory groups, public platforms); and influencing the spending power of others (e.g., foundations). Providing specific, concrete, and targeted guidance attuned to the relevant lever makes advocacy efforts most effective. Some additional key contextual issues include

1. Pace. The policy world is a fast-paced environment where staff and elected officials and executive branch leaders may have to grasp widely disparate concepts from economics to national security to child mental health simultaneously. *Providing immediate access to evidence makes leaders' jobs easier and their policymaking more evidence-informed.*
2. Legislative branch and executive branch roles. The legislative branch is largely responsible for policy development (authorization) and allocation of resources (appropriations). The executive branch focuses on interpretation and implementation of policy and resources

Table 16.2 Basic framework for ACEs experts to engage policymakers

Framework category	Examples of actionable levers and tools available to policymakers
Setting priorities	Policy agenda Key priorities Strategic plan
Directing action and sharing information	Policy development Policy interpretation Rulemaking and regulations Program instructions Information memorandums Policy manual Question and answers Newsletters Letters to the field Publications
Convening influencers	Conferences Advisory groups Ad hoc expert panels Constituents and lived experience
Creating partnerships and collaborations	Across government agencies and departments Organizations, nonprofits Foundations
Directing fiscal resources	Appropriations Discretionary funding Demonstration projects Contracts Technical assistance President's budget
Engaging the field, constituents, and the public at large	Conference presentations Workshops Webinars Proactive and crisis communications

The below framework includes categories and examples of actionable levers and tools available to policymakers and is provided to highlight opportunities for psychologists and other experts to infuse ACEs science into the policymaking process from legislative branch and establishment of political priorities. The executive branch has a wide latitude to interpret the policies of the legislative branch. *Identifying flexibilities needed and providing evidence-based rationales can make the difference between anemic and transformative policy interpretation and implementation.*

3. Timing. Legislation, fiscal decisions, and program implementation all follow relatively predictable cycles. For example, once a policy is passed (authorization) and being implemented, the executive branch may seek feedback on implementation through proposed regulations or "listening sessions" with stakeholders. *Understanding these cycles allows experts to maximize their impact by providing critical information when it is most needed.*
4. Transitions and turnover. Policymakers new to departmental positions (e.g., presidential appointees placed in executive branch positions) often do not know or do not understand the levers and tools they have available to them, thereby limiting their effectiveness. *Supporting new policymakers to understand these levers and tools (see Table 16.2) and providing guidance on how to deploy them can reduce the gap between evidence and policymaking.*
5. Inflection points. Events both positive and negative can spur policy action. Tragedies in the news, policy failures, and pandemics, in particular, can generate policymaking momentum. *Identifying inflection points and guiding policymakers as they navigate crises can open new opportunities for bringing evidence to bear.*
6. Key influencers. Policymakers are sensitive to key influencers because they can raise issues through grassroots and the lived experience of constituents. *Connecting policymakers to communities and families who know the impact of ACEs firsthand can help make the case for policy development.*
7. Consensus and impact. Policymakers value consensus but may not be aware when consensus exists in the literature among experts regarding the root causes and evidence of effective policy strategies. *Elevating areas of consensus and bringing together experts and advocates in joint effort can have a collective impact.*
8. Resonant communication. Gollust and her colleagues Gollust et al. (2022) have gone further than others in examining how messages regarding the consequences of ACEs affect public perceptions. They found that messages about economic consequences increased support for policy change and state action, while messages describing racial equity lowered the perception of the importance of state policy action. Messages on psychological and biological consequences of ACEs had no significant impact on participants' perceptions. *Ensuring messages resonate with policymakers and do not inadvertently reinforce stereotypes, increase stigmatizing attitudes, or produce unintended consequences is critically important* (McGinty et al., 2018).

Bringing It All Together: The ERACE Program (a Hypothetical Example)

This chapter has sought to introduce and explain many concepts regarding effective advocacy with policymakers to address adverse childhood experiences. However, advocacy can be somewhat daunting. The example that follows is meant to illustrate how the strategies, contextual issues, and levers and tools discussed throughout this chapter might look in practice. This is a hypothetical example and not intended to suggest a specific policy proposal:

A group of experts have developed and evaluated the Education, Reducing Adverse Childhood Experiences (ERACE) program. Rigorous research has shown that this program, which utilizes public education strategies to promote education and early intervention, has reduced substantiated reports of child maltreatment significantly in their community. The program developers, Dr. Z and Dr. A, believe that this cross-disciplinary, cross-agency approach can be replicated on a larger scale. They recognize that different communities may need and want *variants of their approach, so they want to advocate for a framework that would let communities modify the ERACE model to meet their particular needs.*

There are many ways Dr. Z and Dr. A might advocate for an ERACE-like program at the state or national level as described below, consistent with the contextual issues above and the levers and tools in Table 16.2. Legislation they are working to see proposed and passed might be called the ERACE Act.

1. Identify like-minded people and organizations with whom they can work for collective impact. These groups (usually child welfare advocates, child development researchers, or related organizations) at the state or national level have likely already done the homework to learn what current legislative and agency efforts are underway and where these are in the policymaking cycle.
2. Identify a clear goal and targeted levers for their advocacy. Rather than requesting support for their own proprietary program (Statement A, below), Dr. Z and Dr. A propose a legislative statement that leads with how the world can be different (Statement B). They are targeting a new US Representative who has championed ACEs in her home state and is working to establish her policy agenda.
   - A. The ERACE Act is a comprehensive public education program to make parents and teachers aware of how to prevent adverse childhood experiences.
   - B. The ERACE Act aims to reduce ACEs by 50% in the next decade. It will promote individual and system community/systems competence/capacity for nurturing, increase positive youth engagement and skill building, and decrease ACEs.
3. Keep up with the pace. To address the fast pace and broad focus of many policymakers, materials advocating for the ERACE Act will be concise and specific and will highlight how each sector (e.g., social services, schools, law enforcement, etc.) would participate and how each would benefit.
4. Devise strategies for both legislative and executive branches. Efforts might initially focus on the legislative branch to ensure the ERACE Act is established and funded, but Dr. Z and Dr. A will also prepare a strategy for working with the executive branch for flexible interpretation and implementation.
5. Maximize inflection points. Dr. Z and Dr. A might work with sympathetic legislators to generate support as the bill is being prepared for introduction in response to a recent crisis. For example, they might organize a town hall, sponsor a webinar, and draft letters for themselves or for state officials to send to Congress or other potentially supportive organizations.
6. Understand the policymaking cycle and levers available. If the ERACE Act is passed into law, Dr. Z and Dr. A can work with partners to track the related rule-making process, including announcements in the Federal Register that are used to define how the ERACE Act will be administered and other programmatic guidance (e.g., Program Instructions, Information Memoranda), providing comments when those are announced. They can also offer their expertise to aid with agency publications and technical assistance. They can provide input on resource allocation decisions and recommendations for convening experts and advisory groups.
7. Support new policymakers to understand their sphere of influence. If the ERACE Act passes before the start of a new administration, Dr. Z and Dr. A (with their partners) can offer to brief people new to their positions (e.g., political appointees in new administration) who may not know or understand the intent of the policy and the levers they have available to them to implement it. They can position themselves as trusted resources.
8. Use key influencers to bring the policy to life. At every stage of the process, Dr. Z and Dr. A can identify people who care about ACEs and have a public or political platform for sharing their stories. Key influencers can raise issues through grassroots networks and elevate lived experience.

9. Communicate and message by focusing on what persuades. As Bogenshneider and colleagues (2021) found, supporting children and families is a widely shared value among policymakers. Communications should build on that shared value. They should also include, where possible, information on the economic benefits of reducing ACEs. Other basic communication strategies Dr. Z and Dr. A can deploy include
    (a) Sharing compelling stories, especially from constituents or people with lived experience
    (b) Emphasizing collective/community/public health perspectives
    (c) Using data that policymakers can understand intuitively (e.g., How many fewer children will experience ACEs through ERACE? What is the economic impact of this reduction?)
    (d) Keeping it interesting by coming up with a case study and providing some examples

Conclusions

Policymaking is a complicated process impacted by social trends, public health, economics, politics, news events, election cycles, and even scientific expertise and evidence. This chapter explored policymaking related to adverse childhood experiences using child welfare practices and policies as the primary example. While policymakers generally agree on the importance of issues affecting children and families, significant gaps remain between science, evidence, and policy when it comes to addressing adverse childhood experiences. The authors believe that understanding the perspectives and needs of policymakers, especially elected and appointed officials, can enhance child experts' ability to advocate for evidence-informed policy. Building on the work of many advocates and policy experts, the authors have attempted to outline where opportunities exist to advocate for evidence-based policy and programs—and ultimately better outcomes—for children, families, and the nation.

References

Bishop-Josef, S., & Dodgen, D. (2013). Advocating for children, youth, and families in the policymaking process. In A. McDonald Culp (Ed.), *Child and family advocacy* (pp. 11–16).

Bogenschneider, K., Day, E., & Parrott, E. (2019). Revisiting theory on research use: Turning to policymakers for fresh insights. *American Psychologist, 74*(7), 778–793.

Bogenschneider, K., Day, E., & Bogenschneider, B. N. (2021). A window into youth and family policy: State policymakers views on polarization and research utilization. *American Psychologist, 76*(7), 1143–1158.

Child Welfare League of America. (2014). *Timeline of major child welfare legislation*. https://www.cwla.org/wp-content/uploads/2014/05/TimelineOfMajorChildWelfareLegislation.pdf. Accessed 22 Feb 2020.

Child Welfare League of America. (2020). *Legislation index*. https://www.cwla.org/our-work/advocacy/legislation-index/. Accessed 27 Feb 2022.

Federal Register. (2022). *2021 Joseph R. Biden Jr. executive orders*. https://www.federalregister.gov/presidential-documents/executive-orders/joe-biden/2021. Accessed 1 Mar 2022.

Gollust, S. E., Nelson, K. L., & Purtle, J. (2022). Selecting evidence to frame the consequences of adverse childhood experiences: Testing effects on public support for policy action, multi-sector responsibility, and stigma. *Preventive Medicine, 154*, 106912.

Gordon, S. (2019). *Understanding the legal ramifications of cyberbullying*. https://www.verywellfamily.com/cyberbullying-laws-4588306. Accessed 22 Feb 2020.

Gordon, S. (2020). *6 things every teen needs to know about sexting*. https://www.verywellfamily.com/things-teens-do-not-know-about-sexting-but-should-460654. Accessed 5 Dec 2021.

House Committee on Education and Labor. (2021). *The Stronger Child Abuse Prevention and Treatment Act*. https://edlabor.house.gov/imo/media/doc/2021-01-25%20Stronger%20CAPTA%20Fact%20Sheet.pdf. Accessed 25 Feb 2022.

Kim, Y. K., Yu, M., Cronley, C., & Yang, M. (2019). Peer victimization, depression, and sexual risk behaviors among high school youth in the United States: A gender-based approach. *International Journal of Adolescent Medicine and Health*, *34*. pii: /j/ijamh.ahead-of-print/ijamh-2019-0139/ijamh-2019-0139.xml. https://doi.org/10.1515/ijamh-2019-0139. [Epub ahead of print].

Kovski, N. L., Hill, H. D., Mooney, S. J., Rivara, F. P., & Rowhani-Rahbar, A. (2022). Short-term effects of tax credits on rates of child maltreatment reports in the United States. *Pediatrics, 150*(1), e2021054939.

Leemis, R. W., Espelage, D. L., Basile, K. C., Mercer Kollar, L. M., & Davis, J. P. (2019). Traditional and cyber bullying and sexual harassment: A longitudinal assessment of risk and protective factors. *Aggressive*

Behavior, 45(2), 181–192. https://doi.org/10.1002/ab.21808. Epub 2018 Dec 21.

Longhi, D., Brown, M., Barila, T., Reed, S. F., & Porter, L. (2019). How to increase community-wide resilience and decrease inequalities due to adverse childhood experiences (ACEs): Strategies from Walla Walla, Washington. *Journal of Prevention & Intervention in the Community, 49*, 1–17. https://doi.org/10.1080/10852352.2019.1633071. [Epub ahead of print].

McGinty, E., Pescosolido, B., Kennedy-Hendricks, A., & Barry, C. L. (2018). Communication strategies to counter stigma and improve mental illness and substance use disorder policy. *Psychiatric Services, 69*(2), 136–146. McGinty, E.E., Goldman, H.H., Pescosolido, B.

Pham, T. B., Muthiah, N., & Adesman, A. (2019). Increased aggressive behavior among youth in the United States who have experienced multiple forms of victimization. *International Journal of Adolescent Medicine and Health*, *33*. pii: /j/ijamh.ahead-of-print/ijamh-2018-0183/ijamh-2018-0183.xml. https://doi.org/10.1515/ijamh-2018-0183. [Epub ahead of print].

Portwood, S., & Dodgen, D. (2005). Influencing policymaking for maltreated children and their families. *Journal of Clinical Child and Adolescent Psychology, 34*, 628.

Puls, H. T., Hall, M., Anderst, J. D., Gurley, T., Perrin, J., & Chung, P. J. (2021). State spending on public benefit programs and child maltreatment. *Pediatrics, 148*(5), e2021050685.

Rapp, A., Fall, G., Radomsky, A. C., & Santarossa, S. (2021). Child maltreatment during the COVID-19 pandemic: A systematic rapid review. *Pediatric Clinics of North America, 68*(5), 991–1009. https://doi.org/10.1016/j.pcl.2021.05.006

Ringel, J. S., Schultz, D., Mendelsohn, J., Holliday, S. B., Sieck, K., Edochie, I., & Davis, L. (2017). *Improving child welfare outcomes: Balancing investments in prevention and treatment*. Rand Corporation.

Schellenbach, C., McDonald Culp, A., & Nguyen, L. (2013). The wellbeing of children in the United States: Evidence for a call for action. In A. McDonald Culp (Ed.), *Child and family advocacy* (pp. 3–10).

Srivastav, A., Spencer, M., Strompolis, M., Thrasher, J. F., Crouch, E., Palamaro-Munsell, E., & Davis, R. E. (2020). Exploring practitioner and policymaker perspectives on public health approaches to address Adverse Childhood Experiences (ACEs) in South Carolina. *Child Abuse & Neglect, 102*, 104391. https://doi.org/10.1016/j.chiabu.2020.104391. [Epub ahead of print].

Thomas, K., Lynch, M., & Anderson, C. (2022). Child welfare legislation and policy. Child and Family-Serving Systems: Compendium of Policy & Practice. Child Welfare League of America, Vol. 1.

U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2021). *Child maltreatment 2019*. Available from https://www.acf.hhs.gov/cb/research-data-technology/statistics-research/child-maltreatment. Accessed 27 Feb 2022.

Van Ouytsel, J., Lu, Y., Ponnet, K., Walrave, M., & Temple, J. R. (2019). Longitudinal associations between sexting, cyberbullying, and bullying among adolescents: Cross-lagged panel analysis. *Journal of Adolescence, 73*, 36–41. https://doi.org/10.1016/j.adolescence.2019.03.008. Epub 2019 Apr 5.

17

A Framework for Unifying and Advancing the Science and Application of Adverse Childhood Experiences (ACEs)

Sharon G. Portwood, Michael J. Lawler, and Michael C. Roberts

Across disciplines, the scientific evidence clearly establishes that adverse childhood experiences (ACEs) are an important factor in determining the health and well-being of individuals, families, communities, and populations. However, effectively translating the ACEs science to practice and policy is a complex task. Not only is the construct of ACEs an expansive one, but the scope of its potential implications across a wide range of settings compounds the difficulties involved in communicating findings in a way that ensures that the science retains its integrity and is applied accurately. While a major strength of ACEs, the fact that it has sparked inquiry across multiple disciplines, including the biological, medical, and social sciences, has resulted in a body of research with a variety of conceptualizations and approaches that can be difficult to decipher and to integrate, making the task of implementing the science even more challenging. With 25 years of empirical work building on the initial ACEs study (Felitti et al., 1998) now available, the need to advance a unified ACEs framework is essential to ensure that the potential of ACEs for improving health and well-being is fully realized.

These authors began to envision such a unifying, interdisciplinary framework with the special issue of *American Psychologist* "Adverse Childhood Experiences: Translation to Action" (Portwood et al., 2021). As a first step, we identified three guiding questions that characterize the study of ACEs and used these to organize our examination of the existing literature, as well as the presentation of new work by expert authors across psychology and allied disciplines: "(1) How should ACEs be defined?; (2) How should ACEs be assessed?; and (3) How can ACEs science inform high quality services?" (p. 183). The chapters presented in the current volume, along with discussing original work, were designed to provide readers with broader, foundational knowledge on ACEs, such that, taken as a whole, they highlight the importance of not only the three questions originally posed, but also other essential questions, which together can be conceptualized as the key elements of an ACEs framework.

Importantly, what we contemplate here is not a model (i.e., focused on explaining a specific aspect or aspects of ACEs), but a comprehensive framework that organizes areas of inquiry and critical findings in a way that maximizes the ability of researchers, practitioners, policymakers, and other stakeholders to use the knowledge generated across disciplines as effectively as possible.

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Indeed, our goal is to advance a framework that can encompass existing models and facilitate their use. Similarly, it is important that the ACEs framework facilitate the integration of knowledge from other, well-developed areas of study specific to individual adversities (e.g., child maltreatment), as well as related constructs (e.g., trauma) and fields of study (e.g., child development, mental health). An effective framework should advance original research and serve to consolidate findings into a more cohesive, interdisciplinary body of knowledge, such that the full range of stakeholders, despite representing diverse fields and perspectives, can approach understanding, applying, and expanding the empirical knowledge base on ACEs in a unified way. In order to maximize the utility of this framework, we also strived to make it as simple and parsimonious as possible; our goal is to make the task of integrating learning across the vast landscape of ACEs science easier, not to add to its complexity.

Below, we distill key elements from the comprehensive examination of ACEs provided in this volume and present a unified ACE framework. We also illustrate how this framework can be used to integrate findings, to identify gaps in knowledge, and to facilitate the translation of science to practice across disciplines and settings.

Essential Elements and the ACEs Framework

Looking at the body of ACEs science as a whole, there are six critical elements that should be addressed within an ACEs framework. These elements align with "the Five Ws" and "How." Originally conceived by Aristotle, the Five Ws are a familiar tool for systematically identifying the fundamental characteristics of a situation (Sloan, 2010). The ACEs framework that results from applying this schema is simple to understand and to apply, regardless of the discipline in which the user is trained and/or the setting in which he or she is working. As shown in Fig. 17.1, along with the core elements of purpose *(why)*, definition *(what)*, assessment *(how)*, population *(who)*, setting *(where)*, and stage *(when)*, this framework incorporates the critical relationship between adversity and resilience. As illustrated below, the proposed framework can be used to conceptualize and to assist in integrating the interdisciplinary work on ACEs into a cohesive body of knowledge. In addition, the framework represents essential questions that should guide the design and critical analysis of individual projects in both research and practice to ensure that they incorporate findings from the existing knowledge base and thus serve to advance the field of ACEs.

Definition *(What)*

At the outset, there is a need to clarify how ACEs are defined and operationalized both within and across studies, resolving current inconsistencies in the ACEs literature. While there is a rich body of literature specifically addressing definitional issues, individual studies routinely label different sets of events as "ACEs," making it unnecessarily difficult to interpret and to generalize findings accurately. Despite the importance of uniformity in the meaning of the term "ACEs," the extent and variety of the ways it has been used since its inception (Felitti et al., 1998) suggest that it is impractical to seek consensus on a single set of experiences that will be universally recognized as ACEs. However, it *is* feasible to adopt consistent terminology to clarify which events comprise ACEs within and across studies and other projects (e.g., programs, policies). More careful attention to the need to use standard terminology can advance the use of the already popular designation "original ACEs" when referring to the set of events included in the initial ACEs study and questionnaire (Felitti et al., 1998): physical, sexual, and emotional abuse; physical and emotional neglect; exposure to adult incarceration, mental illness, substance abuse, or violence in the household; and parental separation or divorce. Consistently characterizing this as a set of ten individual experiences rather than grouping some events as categories to arrive at a number other than ten original ACEs will also avoid confusion (see Portwood et al., Chap. 1, this volume).

Fig. 17.1 A unifying ACE framework

The "ten original ACEs" should be distinguished from what can be characterized as "expanded ACEs." As discussed throughout this volume, there are compelling arguments that an extensive range of events should be acknowledged as ACEs, including, but not limited to, exposure to suicide/suicide attempts, death or prolonged illness of a parent or sibling, exposure to community violence, poverty, bullying, and discrimination. Given the likelihood that empirical study will continue to identify potentially traumatic events in a child's life that are associated with the potential for negative health outcomes in childhood and/or adulthood, and thus might be labeled "ACEs," it seems prudent to identify a standard term (i.e., "expanded ACEs") that can be used to designate these events as distinct from the original ACEs, which have been the primary focus of early research in the field.

Consistent use of the terms "original ACEs" and "expanded ACEs" could lessen confusion among stakeholders, as well as serve as a prompt for individuals to pause to consider which specific events are being included – or excluded - whenever the term ACEs is used. Researchers, in particular, need to be attuned to the importance of clarifying which events comprise "ACEs" within a particular study in order to facilitate the accurate interpretation and application of their findings. We recommend that the term "selected ACEs" be used when *some* original ACEs, *some* expanded ACEs, or some combination of the two are included.

Purpose *(Why)*

A primary focus area of the ACEs sciences to date relates to *why* ACEs are important and, more specifically, the association between ACEs and a host of physical, mental, and behavioral health outcomes in childhood and across the life span through adulthood. Recent work has also begun to explore the processes through which ACEs impact health and well-being. For example, drawing on work across the biological and behavioral sciences, Hays-Grudo et al. (2021) proposed the Intergenerational and Cumulative Adverse and Resilient Experiences (ICARE) model to explain the processes linking ACEs to outcomes in order to inform intervention and prevention efforts. Notably, the ICARE model also incorporates the role of resilience through protective and compensatory experiences (PACEs).

At the level of individual studies and projects, the question of "why" should also be of paramount importance. It is essential that researchers and practitioners clearly articulate the purpose of their activities both to guide their work and to limit any risk of misinterpretation by others. The overarching purpose necessarily impacts important decisions relevant to other elements of the ACEs framework. For example, if the purpose is to screen children in order to identify the need for further assessment, one might choose a broad definition of ACEs (i.e., both original and expanded ACEs), whereas a narrow definition might be appropriate if the purpose is to inform the design of an empirical study or a program to address a specific, identified need. The astute researcher and/or practitioner will continue to revisit the question of "why?" at each stage of his or her process (e.g., Why am I focusing on this particular group of ACEs? Why am I focusing on this population? Why am I using this measure?). Absent a sound rationale, more appropriate alternatives should be considered.

Notably, there have been persistent questions in the literature regarding the purpose of research and other activities focused on individuals with high levels of ACEs (e.g., high ACE scores). While this approach has proven effective for examining outcomes at the group level, there is a high level of agreement that ACEs are not good predictors of problems at the individual level (Karatekin et al., Chap. 3, this volume; Baldwin et al., 2021; Meehan et al., 2021). It is important to emphasize that simply having a high level of exposure to ACEs (e.g., a high ACE score) is *not* a clinical diagnosis, and it should not be treated as such. Instead, ACEs are most appropriately characterized as something that "happens" *to* individuals, such that the burden for change should not be placed *on* the individual.

Assessment *(How)*

The question of how to assess ACEs is also of paramount importance and has been the focus of extensive work in the field. At present, the ACEs questionnaire, designed for use in the original ACEs study (Felitti et al., 1998), remains the most widely used measurement tool, despite the fact that it was conceived not as a comprehensive measure of exposure to adversity in childhood, but rather as a checklist of negative experiences that the researchers had observed among a subset of their weight-loss patients. No doubt due, in large part, to the benefits of using widely accepted and consistent measures across studies, as well as the extensive body of research linking the ten original ACEs assessed in the questionnaire to negative health outcomes, use of the ACEs Questionnaire has proliferated. Nonetheless, it has also been subject to extensive criticism. Beyond limiting the types of potentially adverse experiences assessed, the foremost among these criticisms center on the summative scoring approach of the ACEs Questionnaire, which fails to account for the differences in the severity, frequency, and duration of adverse experiences, along with individual differences in children's perceptions of their experiences (e.g., in a home characterized by conflict, a child might not experience a parental divorce as negative) (see Karatekin & Hill, 2019). There have been several efforts to address these deficiencies through the addition of other events associated with negative outcomes (e.g., Finkelhor et al., 2015), as well as other factors (e.g., age of exposure; Hawes et al., 2021).

As efforts to identify the best measurement approach (e.g., experiencing some set number or combination of events) continue, when assessing ACEs, it is particularly important to acknowledge exactly what is being measured and the extent to which the selected approach adequately differentiates between groups for the stated purpose (i.e., *why?*). Too often, when groups are assigned based on a specified cutoff score, it is unclear exactly what these groups represent. For example, placing anyone with a score greater than 0 in an "ACEs group" will yield a group that includes an individual whose parents are divorced alongside an individual who experienced rape and incest throughout childhood, and, thus, effectively characterize their experiences as equivalent.

As previously noted, there is widespread agreement that, given their lack of predictive power at the individual level, measures of ACEs alone are not good tools for assessing individuals and making clinical or other treatment decisions. However, ACEs screening *is* a promising practice for identifying those individuals who may benefit from further assessment using appropriate clinical tools. Screening for ACEs can also provide valuable information to inform effective public health measures (Karatekin et al., Chap. 3). However, screening practices must avoid the potential for stigmatization and/or retraumatization. For example, the widespread availability of the ACEs Questionnaire and its administration in community and classroom settings for "educational purposes" may result in individuals experiencing stress or even severe reactions to receiving a high ACE score. Clearly, screening should be supported with the availability of follow-up services. It is also important to highlight the role of resilience alongside adversity when conducting any assessment of ACEs (e.g., pairing a measure of resilience with administration of the ACEs Questionnaire).

There is also a danger that screening efforts, when not universal, can perpetuate racial and other forms of discrimination. As Karatekin et al. further caution, "An insidious result of the disproportionate focus on prevalence and consequences of ACEs, or on differences in their distribution across groups, is the normalization of these problems, making them seem inevitable rather than as a result of modifiable upstream factors, such as law and policy decisions" (p.39, this volume).

Population *(Who)*

While the experience of adversity cuts across age, social class, and race, it is clear from the ACEs science that for some, their exposure and reactions to adversity are exacerbated by these factors. A growing body of literature evidences that both Black Americans and Native Americans have experienced significant historical trauma and oppression for multiple generations, along with disproportionately high exposure to ACEs (see Briggs et al., Chap. 11; Richards, Schwartz, Gilbert, & Wright, Chap. 12). Latinx children, too, have faced marginalization and discrimination (Valdez, Ayon, Barajas-Gonzalez, Brabeck, Rojas-Flores, & Walsdorf, Chap. 10). As a whole, the available science makes it clear that consideration of cultural factors specific to the group involved is critical to effective research and practice (see Hampton-Anderson et al., 2021). For example, Richards and colleagues (Chap. 12) outline the interventions and theoretical frameworks aimed at dismantling racism, changing clinical practice, and promoting resilience and racial healing when working with Native Americans. Importantly, cultural assets may be leveraged not only to mitigate the negative outcomes associated with ACEs, but also to promote health equity (Woods-Jaeger et al., 2021).

Setting *(Where)*

Given the high prevalence of ACEs, it is not surprising that they are a subject of interest in multiple settings, including schools, health and human service settings, and the courts. Most often, professionals within these settings are faced with the task of responding to the consequences of ACEs. Owing to the differences in their core missions, different settings often deal with different consequences; however, it is important to recognize that the underlying mechanism of ACEs is the same. Across settings, it is important for systems to emphasize strengths and resilience rather than to focus solely on risk and deficits.

There is widespread agreement that regular screening of ACEs through healthcare providers is warranted. For example, screening both children and adult family members for ACEs in pediatric settings can help address intergenerational family trauma and toxic stress (Huth-Bocks, Burkhart, Ronis, Ritzenthaler, Cipolla, Lewis, & Gabriel, Chap. 6). In order to respond adequately to the consequences of ACEs, various other settings have also relied heavily on assessment. However, as previously noted, there are dangers to relying on assessment at the individual level given the poor predictive value of current tools. Nonetheless, screening for both risk and protective factors can help identify appropriate services in a number of settings, including health and human service agencies (e.g., foster care, community mental health, hospital units such as emergency departments, inpatient/outpatient medical care) (Gabrielli, Bennett, Clement, Corcoran, & Nelapati, Chap. 4), the juvenile justice system (Baglivio & Wolff, Chap. 9), and schools (Gerardi, Chafouleas, & Koslouski, Chap. 8; Staeheli, Mason, & Asby, Chap. 5). However, effective ACEs assessment requires appropriate training, with clear guidelines for follow-up and coordinated intervention within and across systems. Models of inter-agency collaboration relative to assessing ACEs and promoting resilience, such as collaborative approaches in Native American communities through Indian Health Services, Tribal colleges and universities, and other federally funded health and social services, also hold promise (Richards et al., Chap. 12).

It should be noted that while various settings must address ACEs in order to advance their own core mission, arguably, much of the work of preventing ACEs is beyond their capacity. For example, since the primary goal of the school system is education, when ACEs result in barriers to learning, schools must deal with those barriers. As noted by Gherardi, Chafouleas, and Koslouski, Chap. 8), while schools can also work to prevent school-based trauma and retraumatization, “the capacity to engage in meaningful prevention for other ACEs largely lies outside of school” (p). Nonetheless, schools not only have the ability to promote protective and compensatory experiences (PACES; Hays-Grudo & Morris, 2020; Hays-Grudo et al., 2021), including helping others, social group activities, extrafamilial mentors, opportunities to learn, physical activity, and reliable routines, but such opportunities advance the mission of educating students.

Stage *(When)*

Early efforts to elucidate the links between developmental considerations and ACEs highlight the promise of and need for future work in this area. A growing body of research demonstrates that the stage at which ACEs occur is an important component of the processes through which they can impact development and, in turn, health and behavioral outcomes. Recent efforts to ensure that the developmental timing of ACEs informs research and clinical practice have included the development of the Adverse Life Experiences Scale (ALES), which provides data on the occurrence and developmental timing of ACES for both parents and children (Hawes et al., 2021). Other research has shown the utility of ACEs for understanding and responding to harmful symptoms during other distinct life stages. For example, Osofsky et al. (2021) reported on the benefits of applying ACEs science to improve maternal mental health, substance abuse, and resilience during pregnancy.

Many of the studies addressing the timing and developmental aspects of ACEs focus on intergenerational adversity and the transmission of ACEs across generations. This work highlights the need to consider risk and resilience not only for children but also for parents and their own families of origin. Echoing the work of Osofsky et al. (2021), there is growing evidence that the perinatal period may provide prime opportunities for intervention and the prevention of ACEs (Narayan, Chap. 2).

Historical points in time may also be relevant when expanding and applying the ACEs science. For example, recognizing the potential for adverse experiences for children during the COVID-19 pandemic, Bryant et al. (Chap. 13) delineated the impact of the pandemic and associated actions, including quarantines, disruption of school and activities (resulting in learning and achievement losses), social distancing and isolation, illness, and death.

Conclusions and Future Directions for the ACEs Framework

There is emerging consensus that the complex nature of ACEs necessitates a public health approach, which brings together experts across disciplines to develop theory, research, practice, and policy informed by a multilevel approach (i.e., one that considers biological, socioeconomic, environmental, and behavioral factors). Within this framework, hub sciences, such as psychology, which have multiple interdisciplinary links, are particularly well positioned to contribute to the advancement of ACEs science and practice. By providing a clear organizational structure for the growing body of knowledge generated through research and practice, the unifying ACEs framework presented here can assist stakeholders in consolidating findings across studies and disciplines, linking findings from other relevant areas of inquiry (e.g., trauma, mental health, human development), and identifying new and important areas for study. Both researchers and practitioners can more easily conceptualize where their own work fits within the broader body of ACEs knowledge, locate multidisciplinary sources of relevant information, and identify the key findings to factor into their activities. A major strength of this framework is its simplicity; it is easy to remember and to apply, and it requires no discipline-specific training. Accordingly, it can help stakeholders to "speak a common language." By asking the six key questions that serve as the foundations for this framework, individuals can ensure that they are attentive to the relevant research, across disciplines, as well as those factors that will make their work more accessible to others.

There are numerous ways in which the adoption of a unifying ACEs framework can help enhance current practices and advance new knowledge and its application. For example, the question of "who?" (i.e., population) prompts individuals to consider how unique characteristics of their target population should inform their research and/or program design, as well as how these characteristics impact findings. It further alerts them to the fact that there is a specific body of research addressing this topic within the context of ACEs that should be consulted.

Moving forward, the framework can be developed more fully to delineate key components of each of the six elements (i.e., discrete areas of study and findings). Again looking to "who?" (i.e., population) for an example, there are a number of specific groups (e.g., Blacks, Native Americans) for which important information is available to guide future research and practice. This exercise also highlights where there are gaps in current knowledge. For example, although other groups, such as Asian Americans and people with disabilities, have been the targets of discrimination and oppression, there has been limited work addressing ACEs and these populations. Similarly, further delineation of setting *(where?)* highlights the need for future work to focus on multisystem-involved youth.

Beyond its six key elements, the unifying ACEs framework presented highlights the critical need to consider not only adversity but also resilience. Another area of emerging consensus is around the need to shift from a deficit orientation to one that focuses on strength and resilience. Accordingly, resilience is an important consideration within and across the areas of definition (*what?*), purpose *(why)*, assessment *(how?)*, population *(who?)*, setting *(where?)*, and stage *(when?)*.

Prevention and policy are two areas in which the need for a unified framework that facilitates conversation and collaboration across stakeholders is particularly acute. Within these contexts, it is especially important not to confuse ACEs with their consequences. While it is well-settled that increasing health-promoting resources, strategies, and experiences has universal benefits, it is insufficient to focus on improving individuals' ability to respond to ACEs to the exclusion of preventing the occurrence of ACEs (Narayan, Chap. 2). In addition to "downstream" solutions that focus on building resilience, there is a critical need to focus on "upstream" solutions to the larger social problems of which ACEs are a consequence. For example, Harper, Traves-Kagan, and Kennedy (Chap. 14) offered strategies that emphasize primary prevention of ACEs, build resilience, and address social and economic disparities (e.g., poverty; access to education, childcare, social services, and housing).

However, to date, there has been little research with direct linkages to ACEs to inform upstream solutions (Karatekin et al., Chap. 3). The development of data systems and partnerships, as well as sufficient funding to support these efforts, is critical to their success (Ottley et al., Chap. 15).

Effective policy is also vital to ensuring that the ACEs science is applied in ways that improve the lives of children and families. From securing necessary funding to promoting evidence-based approaches, effective communication with policymakers is of paramount importance. Fortunately, as Dodgen and Anderson (Chap. 16) outlined, there are effective strategies for identifying opportunities to impact policymakers and to garner support for evidence-based policies. Notably, there is also a need to gain public support for ACEs prevention and policy efforts. Early research in this area (e.g., Gollust et al., 2022) has begun to inform how we might do this most effectively; however, much more work is needed.

In closing, we encourage use of the unifying ACEs framework proposed here as a tool for conceptualizing and conducting future work in the field in a way that maximizes integration of current findings and thus advances the field as effectively as possible. In order to ensure that the potential for ACEs science and practice to positively impact the lives of both children and adults, to create healthy and stable families, and to help achieve equity and social justice reaches its full potential, it is imperative that researchers, practitioners, and other stakeholders speak to each other in a common language, incorporating standardized terminology to clarify what we know – and don't know – about both original ACEs and expanded ACEs.

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References

Baldwin, J. R., Caspi, A., Meehan, A. J., Ambler, A., Arseneault, L., Fisher, H. L., Harrington, H., Matthews, T., Odgers, C. L., Poulton, R., Ramrakha, S., Moffitt, T. E., & Danese, A. (2021). Population vs individual prediction of poor health from results of Adverse Childhood Experiences screening. *JAMA Pediatrics, 175*(4), 385–393. https://doi.org/10.1001/jamapediatrics.2020.5602

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*, 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Finkelhor, D., Shattuck, A., Turner, H., & Hamby, S. (2015). A revised inventory of adverse childhood experiences. *Child Abuse & Neglect, 48*, 13–21. https://doi.org/10.1016/j.chiabu.2015.07.011

Gollust, S. E., Nelson, K. L., & Purtle, J. (2022). Selecting evidence to frame the consequences of adverse childhood experiences: Testing effects on public support for policy action, multi-sector responsibility, and stigma. *Preventive Medicine, 154*, 106912. https://doi.org/10.1016/j.ypmed.2021.106912

Hampton-Anderson, J. N., Carter, S., Fani, N., Gillespie, C. F., Henry, T. L., Holmes, E., Lamis, D. A., LoParo, D., Maples-Keller, J. L., Powers, A., Sonu, S., & Kaslow, N. J. (2021). Adverse Childhood Experiences in African Americans: Framework, practice, and policy. *American Psychologist, 76*, 314–325. https://doi.org/10.1037/amp0000767

Hawes, D., Lechowicz, M., Roach, A., Fisher, C., Doyle, F. L., Noble, S., & Dadds, M. R. (2021). Capturing the developmental timing of adverse childhood experiences: The Adverse Life Experiences Scale. *American Psychologist, 76*, 253–267. https://doi.org/10.1037/amp0000760

Hays-Grudo, J., & Morris, A. S. (2020). *Adverse and protective childhood experiences: A evelopmental perspective*. American Psychological Association. https://doi.org/10.1037/0000177-000

Hays-Grudo, J., Morris, A. S., Beasley, L., Ciciolla, L., Shreffler, K., & Croff, J. (2021). Integrating and synthesizing adversity and resilience knowledge and action: The ICARE model. *American Psychologist, 76*, 203–215. https://doi.org/10.1037/amp0000766

Karatekin, C., & Hill, M. (2019). Expanding the original definition of Adverse Childhood Experiences (ACEs). *Journal of Child and Adolescent Trauma, 12*(3), 289–306. https://doi.org/10.1007/s40653-018-0237-5

Meehan, A. J., Baldwin, J. R., Lewis, S. J., MacLeod, J. G., & Danese, A. (2021). Poor individual risk classification from adverse childhood experiences screening. *American Journal of Preventive Medicine*, S0749379721004566. https://doi.org/10.1016/j.amepre.2021.08.008

Osofsky, J. D., Osofsky, H. J., Frazer, A. L., Fields-Olivieri, M. A., Many, M., Selby, M., Holman, S., & Conrad, E. (2021). The importance of adverse childhood experiences during the perinatal period. *American Psychologist, 76*(2), 350–363. https://doi.org/10.1037/amp0000770

Portwood, S. G., Lawler, M. J., & Roberts, M. C. (2021). Science, practice, and policy related to adverse childhood experiences: Framing the conversation. *American Psychologist, 76*(2), 181–187. https://doi.org/10.1037/amp0000809

Sloan, M. C. (2010). Aristotle's Nicomachean ethics as the original locus for the septem circumstantiae. *Classical Philology, 105*, 236–251. https://doi.org/10.1086/656196

Woods-Jaeger, B., Briggs, E. C., Gaylord-Harden, N., Cho, B., & Lemon, E. (2021). Translating cultural assets research into action to mitigate Adverse Childhood Experience-related health disparities among African American youth. *American Psychologist, 76*(2), 326–336. https://doi.org/10.1037/amp0000779

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