



Inaugural Editorial

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Near the end of the previous millennium, Vincent Felitti, Robert Anda, and their colleagues at the Kaiser Permanente Medical Care Program and the Centers for Disease Control and Prevention published data that transformed our understanding of the origins of disease and development. Analyzing extensive health records from thousands of patients, these researchers documented that adults who were exposed to childhood adversity, including abuse, neglect, and household dysfunction, were at increased risk for chronic disease, mental health problems, health-harming behaviors, and premature death. In a largely middle-class population, they found that these adverse childhood experiences, or ACEs, were common, tended to co-occur, and had a cumulative or a dose-response effect on negative health outcomes (Felitti, Anda, Nordenberg, Williamson, Spitz et al., 1998; Anda, Felitti, Bremner, Walker, Whitfield et al., 2006).

Two decades later, it is doubtful that anyone reading this will not have heard of ACEs and assimilated the knowledge that early life adversity has profound and enduring effects on children's neurobiological, cognitive, emotional, and social development, and subsequent behavior and health. It should not be forgotten that these findings were initially dismissed and disputed by the medical community. In other research and practice communities, however, the cumulative and enduring effects of childhood experiences on mental and physical health were not surprising. In the two decades before the ACEs study, developmental and clinical psychologists and psychiatrists identified powerful predictors of mental illness, cognitive, social, and emotional problems, and intergenerational patterns of dysfunction through longitudinal studies of risk and resilience (Rutter, 1979; Sameroff, Seifer, Barocas, Zax, & Greenspan, 1987; Sameroff, Seifer, Baldwin, & Baldwin, 1993; Williams, Anderson, McGee, & Silva, 1990). The risk factors in these studies are similar to experiences

measured in ACEs research, e.g., parental mental illness, criminality, separation or divorce, domestic conflict or violence.

During the intervening decades, research has replicated the epidemiological data showing the effects of childhood adversity on health and development in other populations (Bellis, Lowey, Leckenby, Hughes, & Harrison, 2014; Hughes, Bellis, Hardcastle, Sethi, Butchart et al., 2017; Merrick, Ford, Ports, & Guinn, 2018). Additionally, research on early life stress with animal models (McEwen, 1998) has provided evidence that early adversity is biologically embedded (Miller, Chen, & Parker, 2011; Slopen, McLaughlin, Dunn, & Koenen, 2013). Scientists are beginning to identify adaptations to adversity and stress that have measurable and negative effects on brain structure and function (McEwen, 1998, 2012; Teicher & Samson, 2016), neuroendocrine responses (Bruce, Gunnar, Pears, & Fisher, 2013; Danese & Lewis, 2017) and other developing systems (Berens, Jensen, & Nelson, 2017). Research on epigenetic changes in response to early life adversity indicates pathways between stress exposure and adult health and behavior disorders in animals as well as humans (Blaze & Roth, 2015; Gröger, Matas, Gos, Lesse, Poeggel et al., 2016; Lester, Conradt, & Marsit, 2016). Epigenetic changes also appear to be implicated in the transmission of adversity and their attending consequences across generations (Dias & Ressler, 2014; Franklin, Russig, Weiss, Gräff, Linder et al., 2010; Roth, Lubin, Funk, & Sweatt, 2009), as do harsh socioeconomic conditions (Ellis & Dietz, 2017) and historical trauma (Yehuda & Lehrner, 2018). Of equal importance, recent research has also identified multiple neurobiological (Feldman, 2017) and behavioral (Lieberman, Padron, Van Horn, & Harris, 2005) processes that promote resilience, providing evidence for the biological basis for the love and care that is essential for human and other mammalian offspring to develop and thrive.

In many arenas, we witness renewed interest in identifying and understanding the role of protective experiences in promoting resilience and recovery for those affected by early life stress and adversity (Hays-Grudo & Morris, 2020; Morris, Treat, Hays-Grudo, Chesher, Williamson, & Mendez, 2019). Building upon decades of developmental science that was initially focused on

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the characteristics of resilient individuals (Rutter, 1987; Masten, Best, & Garnezy, 1990), more recent models are identifying characteristics of neighborhoods, interventions, and every day experiences that protect, treat, and sustain children and adults alike from the damaging effects of childhood adversity (Masten, 2015; Luthar, 2015; Ungar, 2018). As evidence accumulates documenting the costs of ACEs on health care, social problems, and lost productivity (Bellis, Hughes, Ford, Rodriguez, Sethi, & Passmore, 2019), adversity and resilience science is becoming increasingly relevant for public policy. Schools, courts, law enforcement, health care and other industries, and organizations are calling for evidence-based prevention and treatment programs to better respond to the widespread prevalence and impact of childhood adversity on individuals, families, and communities.

Adversity and Resilience Science: Journal of Research and Practice was created to provide a platform to publish research on adversity and resilience from the many fields and disciplines engaged in the search for knowledge needed to reduce the effects of childhood adversity and promote resilience and recovery. Our goal is to foster more integrative approaches and more collaborative research across disciplinary, theoretical, and methodological boundaries. Innovative and transformative advances occur when we make the effort to learn enough about another discipline—its language, assumptions, and concepts—to build theoretical and methodological bridges and networks. We also welcome papers reporting the results of research that evaluates developmentally appropriate, culturally sensitive, and practicable prevention and treatment programs, and papers that apply these findings to public policy. The interest in adversity and resilience is stimulating diverse initiatives in many areas of science and public life. Our intention is to provide a forum for communicating and learning about these initiatives, creating rich networks of collaborators across disciplinary lines and national borders. Two well-respected and excellent associate editors, Hiram Fitzgerald and Amanda Morris, a strong, diverse, and international editorial board, and an interdisciplinary assembly of consulting editors are committed to realizing this vision.

Aims & Scope

Adversity and Resilience Science (AARS) includes manuscripts focused on understanding the interplay between adverse and protective childhood experiences on proximal as well as long-term health and development, and how that knowledge can be used to prevent and treat the effects of adversity. The research published is expected to have roots in one or more of the disciplines of psychology and psychiatry, pediatrics, neuroscience, epigenetics, psychoneuroimmunology, epidemiology, public health, sociology, social work, education, public policy, and other related fields. AARS includes manuscripts focused on

interventions and prevention programs that promote resilience in the face of adversity throughout the lifespan, across developmental transitions, and at varying levels of social and relational systems. AARS publishes empirical articles, literature reviews, brief reports, book/media reviews, informed practice reviews, and policy papers. Authors are encouraged to consider and incorporate clinical and/or policy applications. Special issues will highlight applied as well as basic science topics.

This Issue

In this first issue of *Adversity and Resilience Science*, we present three reviews, two empirical papers, and a commentary in addition to this editorial. Kirlic, Cohen, & Singh (2020) review interventions targeting behavioral and neurobiological effects of adversity on children and adolescents, applying basic neuroscience research on early life stress to improve the effectiveness of novel and scalable preventive interventions. Kirsch, Nemeroff, & Lippard (2020) discuss the relationship between early life adversity, neurobiological adaptations, and subsequent adolescent and adult substance use disorders, discussing the potential for improved prevention and treatment outcomes by identifying potential pathways involving genetic vulnerabilities associated with mood and anxiety disorders. Teicher, Ohashi, & Khan (2020) extend their previous research on a proposed network model to explain patterns of susceptibility or resilience to childhood adversity (Ohashi, Anderson, Bolger, Khan, McGreenery, & Teicher, 2019), showing that timing, type, and number of adverse experiences are predictive of psychiatric outcomes during late adolescence and early adulthood.

Research and issues relevant to screening children for adverse experiences are reviewed by Bartlett (2020), who identifies specific concerns and challenges and offers recommendations to ensure that screening is beneficial for children, their families, and communities. McKelvey, Whiteside-Mansell, Zhang, & Selig (2020) report the results of a latent-class analysis in which three types of adversity profiles in low-income families of very young children were identified and found to be predictive of distinct parenting patterns. Future issues will include special sections and issues addressing both methodological and topical issues related to childhood adverse and protective experiences and environmental, socio-historical, epigenetic, and behavioral contributions to patterns of risk and resilience transmitted across generations.

I look forward to hearing your feedback and reading your submissions as we launch this journal and this new initiative. I believe this effort can significantly reduce the amount of suffering in the world and help every child live a healthier and more fulfilling life.

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