Understanding Developmental Pathways from Adversity to Maladaptation, Psychopathology, or Resilience

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I grew up in an Italian community in Pittsburgh, PA. Throughout my childhood, I was in contact with culturally and economically diverse groups, including children and families who were living in harsh conditions. Given these circumstances, I became consumed with understanding why some individuals function well despite experiencing significant adversity (known as resilience), whereas others get diverted onto lifelong negative pathways.

Much of my research has been influenced by my own experiences. Early encounters with poverty and harsh conditions played a major role in fueling my research on child maltreatment. I have always preferred addressing complexity over simplicity, and this has led to a multilevel approach in my research.

Virtually every biological and psychological system is impacted by pathogenic experiences in child maltreatment. This has allowed me to investigate the various multilevel mechanisms that contribute to resilience and psychopathology, and to translate this work into interventions that would help to allay the negative biological and psychological sequelae of child maltreatment.

Investigating the causes and consequences of child maltreatment by studying thousands of individual maltreated children, along with other topics I have examined for decades (e.g., depression, with and without maltreatment and trauma), also have contributed greatly to my personal growth by providing me with insight into the complexity of developmental processes. This insight has allowed me to devote time to developing and implementing developmentally sensitive, theoretically informed interventions that are designed and evaluated scientifically.

During my matriculation as a graduate student in the Developmental and Clinical Psychology programs at the University of Minnesota, I saw the importance of integrating the aforementioned fields of psychology into a unified perspective known as developmental psychopathology. Subsequently, during my first academic job at Harvard, I played a pivotal role in defining and shaping the field. I have continued to foster the growth of developmental psychopathology throughout my academic career from its roots at Harvard to the University of Rochester to today at the Institute of Child Development at Minnesota.

Although there is some divergence in defining developmental psychopathology, it can be conceptualized as an evolving scientific field that seeks to elucidate the interplay among the biological, psychological, and social-contextual aspects of normal and atypical development from infancy through senescence. A developmental analysis presupposes change and novelty, highlights the critical role of timing in the organization of behavior, underscores multiple determinants, and cautions against expecting invariant relations between causes and outcomes.

My research has taken a multilevel developmental psychopathology perspective on the consequences of child maltreatment. Child maltreatment has been conceptualized as a pathogenic relational experience that represents one of the most adverse and stressful challenges that confront children. Child maltreatment constitutes a severe, if not the most severe, environmental hazard to children’s mental and physical development. My research has shown that child maltreatment progressively contributes to compromised adaptation on a variety of stage-salient developmental tasks central to successful adjustment, including insecure attachment, difficulties in forming an autonomous sense of self, emotion dysregulation, problematic peer relations, behavior problems, and psychopathology.

These developmental failures pose significant risk for the emergence of psychopathology across the life course. In addition to the psychological consequences of maltreatment, a growing body of research has documented the deleterious effects of child abuse and neglect on biological processes. Multilevel investigations have been conducted recently that incorporate genetic, neural, physiological, and psychological domains in relation to maladaptation and resilient functioning.

The growth of basic research knowledge in developmental psychopathology has significantly exceeded its application to high-risk conditions such as child maltreatment and to mental disorders. To improve the health and well-being of individuals, scientific discoveries must be translated into practical applications. Translational research is defined as research designed to address how basic biological and behavioral processes inform the diagnosis, prevention, treatment, and delivery of services for mental illness and, conversely, how knowledge of mental illness increases our understanding of basic biological and behavioral processes. This formulation of translational research is in direct accord with principles of developmental psychopathology – namely, the reciprocal interplay between basic and applied research and between normal and atypical development.

Translational research is needed to impart more scientific knowledge of genetic, neurobiological, cognitive, social-cognitive, and
emotional processes to the understanding and treatment of mental disorders. There must be a recognition and agreement that basic research should be conceived within a conceptual framework that understands the goal of informing future application. Thus, one of developmental psychopathology’s potential contributions lies in the heuristic power it holds for translating facts into knowledge, understanding, and practical application. Such a developmental perspective may aid in the prevention and reduction of the individual and societal burden of mental disorder, alleviate the onus of suffering that mental illness engenders in individuals, their families, and the communities in which they reside, and contribute toward eliminating the stigma commonly associated with the presence of mental disorder.

Research on the efficacy of prevention and intervention approaches to child maltreatment is complicated by ethical, legal, and logistical problems, as well as by difficulties in isolating factors specifically associated with child abuse and neglect from a host of other factors present in multi-problem families. Moreover, because maltreated children often reside in families characterized by single parenting, economic disadvantage, social isolation, and minority status, factors such as ethnic discrimination, racism, oppression, social class bias, sexism, segregation, and social inequities all influence the development of a national agenda to protect maltreated children.

Historically, the “services” provided by many child-protective agencies have consisted almost solely of investigative and safety-monitoring activities, with significantly fewer resources or efforts directed toward the amelioration of the effects of child maltreatment. Unfortunately, increasingly limited child protective resources have resulted in a focus on the identification of maltreatment and on ensuring child safety. In fact, there has been a national trend toward screening maltreatment reports and prioritizing investigative activities as a function of the severity of the report. Not surprisingly, a reduction in services provided has also occurred. Moreover, children who are in foster care too often fail to receive mental health services despite the fact that these youngsters are among the most severely maltreated children in the nation.

Given limited resources, it is increasingly critical that services provided to victims of maltreatment are theoretically informed and evaluated for their effectiveness. Theory and research on the causes and consequences of child maltreatment have been used in our laboratory to inform prevention and intervention efforts with maltreated children. Furthermore, preventive intervention strategies can provide unprecedented and critical insights that can further the theoretical and empirical advances in child maltreatment. For example, if the developmental course of maltreated children is altered as a result of the implementation of preventive interventions and the risk for negative outcomes is reduced, then prevention research has contributed to specifying the processes that are involved in the emergence of maladaptive developmental outcomes and psychopathology.

As knowledge on the biological and psychological sequelae of child maltreatment continues to accrue, it will be important to implement preventive interventions with these children. We will then be able to ascertain whether the provision of developmentally sensitive interventions prevent, ameliorate, or even reverse the adverse neurobiological and psychological consequences of child maltreatment. Is it possible for such preventive interventions to exert a positive effect on brain structure, function, and organization only during particular sensitive periods in development, or is neural plasticity operative throughout the lifespan? As the basic knowledge matures, researchers and clinicians will truly be able to provide maltreated children with a psychobiology and a neuropsychology of hope and optimism that can minimize or eradicate the adverse effects of their histories.

Society also must recognize the adverse trajectory toward mental illness, delinquency, and criminal behavior in adulthood that increases each time a child is maltreated. Although child maltreatment is not a diagnosable mental illness, its occurrence portends poor outcomes for mental and physical health. Assessments of maltreated children should include biological as well as psychological measures to ensure that each maltreated child receives the best intervention possible. Mechanisms that allow for the early provision and subsequent continuity of services for maltreated children must be developed.

Currently I am undertaking a number of new research endeavors. I am very excited about these new ventures, and I believe my best work lies ahead. These new projects include incorporating DNA and RNA studies into basic and intervention research on maltreated infants and children. We are also investigating how the adverse experiences associated with maltreatment affect DNA methylation and gene expression. Finally, we are examining volumetric, structural, connectivity, and functional neuroimaging studies as part of longitudinal research that focuses on the multilevel contributors of resilient and nonresilient adaptation in maltreated adults. We have embarked on a multilevel randomized control trial (RCT) intervention aimed at preventing recurrent depression in adolescent girls, with and without a history of child maltreatment. We are enthusiastic about this new RCT because it will examine intervention efficacy across multiple levels of analysis, from the molecular to the neural and to the behavioral.

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