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Resilient Children

Nurturing Positivity and Well-Being Across Development

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Editor

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Nurturing Positivity and Well-Being Across Development

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For John, Caty, and Killian, thank you for lighting the way

Preface

Resilient Children: Nurturing Positivity and Well-Being Across Development was designed to provide new information about child and adolescent resilience for the mental health literature. Resilience in childhood involves positive functioning and development, often in the face of difficulties and adversities in their everyday lives. This book highlights critical areas where children and their families can show resilience and attain positive social, emotional, academic and behavioral life trajectories. Additionally, material presented in this book presents information about key factors related to enhancing resilience for children, such as positive relationships with adults, positive school environments, and connections with others. Moreover, ideas for resilience in other contexts, and in relation to social determinants of health is provided.

Early research with children and parents portrayed risk factors that hindered development. This was tremendously helpful in outlining children's needs and highlighting needs for treatment of children who experienced risk factors that attenuated positive developmental trajectories. Then, a within the context of risk and adverse experiences, experts noted that some children were resilient, in that they were functioning well, despite experiencing adversity. As such, understanding how to help children who face adversity flourish and experience well-being was noted as a mechanism, in addition to therapy, to help promote positive outcomes. The field of resilience began as another philosophical and treatment approach to promote child wellness and growth, fostering a return to more positive developmental trajectories even in the face of risk, such as facing difficulties related to trauma, illness, and a lack of resources related to social determinants of health. Teaching parents skills to foster child development and resilience became an important part of the resilience movement as well.

The purpose of this book is to provide psychologists and other health and education professionals with a review of evidence-based interventions in child resilience and well-being through a practical lens, with real-world examples of how to implement best practices to foster child resilience when children are facing different problems and life experiences. Chapters in this book provide practical guidelines for promoting resilience in youth. Also, chapters in this book are resources, going

beyond descriptions of theory by providing reviews of evidence-based literature and examples of how to apply interventions and assess their impact to foster positive child and family functioning and success. Vivid examples illustrate necessary steps for fostering child resilience or are tied to models developed by chapter authors, outlining key variables to foster resilience of the child in his or her contexts of development (family, school, etc.). It is important to promote resilient functioning in childhood, in order to set the stage for future positive developmental trajectories. In sum, the material in this book presents a review of the critical nature of resilience in different situations, for various critical issues, and different developmental periods, while offering practical guidance on ways to foster resilience in children that makes this book a resource for clinician's toolkits.

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About the Editor

Laura Nabors is a Professor in the School of Human Services, in the College of Education, Criminal Justice and Human Services at the University of Cincinnati. Dr. Nabors' research interests center on improving the health and mental health of children and families through evidence-based interventions. Dr. Nabors' recent research interests include anxiety management and fostering resilience and positive outcomes for children and families. Moreover, Dr. Nabors has focused on research in community settings and applied contexts that showcases child and parent perceptions of ideas to improve child functioning. Dr. Nabors is an Associate Editor for the *Journal of Child and Family Studies*.

About the Contributors

Samuel Adabla is a doctoral student in the Health Promotion and Education program in the College of Education, Criminal Justice and Human Services, at the University of Cincinnati. He holds a Master of Arts degree in Public Administration with a specialization in health administration from Bowling Green State University. He recently published an article on assessing virtual reality interventions for youth with ADHD, co-authored papers with Dr. Laura Nabors and other authors and presented at multiple conferences. Samuel previously worked with young people in improving their knowledge, access, and utilization of sexual health services in Ghana. His research interests include adolescents' sexual and reproductive health issues, substance abuse prevention, and health disparities among African immigrants in the United States.

Jessica Dym Bartlett is a Research Scholar in early childhood at Child Trends. She conducts applied research on promoting healthy parenting and infant and early childhood mental health, with a focus on protective processes at the family, community, and broader environmental factors that increase the resilience of families with young children to trauma and adversity. Dr. Bartlett has been Principal Investigator on numerous studies of early childhood, parenting, and maternal-child health initiatives in medical centers, Head Start/Early Head Start, early childhood education programs, child welfare, community mental health, and home visiting. She also leads and evaluates training and technical assistance centers on trauma-informed care, parent, family, and on community engagement in Head Start and other early childhood programs. Dr. Bartlett has a strong applied background, having been a mental health consultant, play therapist, and family therapist for over a decade.

Cory J. Campbell is a doctoral candidate in Learning Sciences and Human Development at the University of Washington. Her research interests are primarily on supporting positive relationships among caregivers and children across multiple contexts and social-emotional learning. She has a B.S. in Decision Science from Carnegie Mellon University. Recently, she was a Community Partner Fellow,

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Susan Damico is the Director for the Devereux Center for Resilient Children at Devereux Advanced Behavioral Health. She received her degrees in Sociology from Bucknell University and Social Service Administration from the University of Chicago. Her areas of interest include the development and implementation of primary prevention interventions that strengthen the overall health and resilience of young children, their families and the child-serving professionals who support them. She has contributed to the development of the *Devereux Early Childhood Assessments,* a continuum of widely used assessments of behaviors related to social and emotional skills of infants, toddlers and preschoolers.

Rebecca Graber is a Senior Lecturer in Psychology at the University of Brighton's School of Humanities and Social Science, where she presently leads the Master's Degree in Community Psychology Program. Her research focuses on how supportive peer relationships can contribute to the development of psychological resilience and well-being among young people facing complex social risks such as cultures of substance misuse, socioeconomic marginalization, and stigmatization based on LGBTQIA+ identity. She has expertise in intervention development and evaluation, mixed methods research, and creative methods. She is currently collaborating with interdisciplinary and community partners to develop interventions for resilience to substance misuse in Assam, India.

Cristina Granda is a doctoral student in Learning Sciences and Human Development at the University of Washington. Her main research interests are systems of support for parents of young children. She holds an undergraduate degree in Psychology from University of California Los Angeles and a master's degree in Child Study and Human Development from Tufts University. Recently, she has been providing technical assistance to community-based organizations participating in the Best Starts for Kids Prenatal to 5 Innovation Fund in King County.

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Gail Hornor has been a pediatric nurse practitioner at the Center for Family Safety and Healing, a hospital-based child advocacy center at Nationwide Children's

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Buket Kara is a developmental psychologist and Research Fellow at the University of Brighton's Centre of Resilience for Social Justice. Her research interests include the development, well-being, and resilience of children and young people living in disadvantaged contexts, such as armed conflict, socioeconomic marginalization or inequality. By adopting a social justice-oriented understanding of resilience, Dr Kara focuses on the systems surrounding individuals, such as family, school, neighborhood or the wider context that are associated with mental health and resilience. She is currently co-producing research projects with marginalized communities and translating this knowledge to promote resilience and create sustainable change.

Kathy Marshall is founding director of the University of Minnesota National Resilience Resource Center (NRRC). NRRC philosophy views all people and systems as "at promise" rather than as "at risk". Marshall's publications for The Carter Center and other entities focus on research based principles tapping natural resilience and well-being in all children, youth and adults. Kathy created *Educators Living in the Joy of Gratitude*, an online series of professional development resilience programs for educators globally. She has co-authored a comprehensive K-12 curriculum, *My Guide Inside*, and most recently published, *Parenting with Heart*. The NRRC website includes her scholarly publications and resources for school communities. For nearly three decades she has guided selected communities in securing public and private funding, and conducted long-term community projects dedicated to changing systems and enhancing resilience in school communities. Marshall also developed and teaches the Center for Spirituality and Healing graduate course, *Spirituality and Resilience*, at the University of Minnesota.

Anurag Paul is a recent graduate of University of Cincinnati, where he completed his Bachelor of Science in Neuroscience and Bachelor of Arts in Liberal Arts, with a focus on psychology, biomedical sciences, and substance abuse prevention. As an undergraduate student, he worked on cultivating the mental wellness and resiliency skills of Cincinnati's underserved communities and of students on campus by promoting substance abuse prevention techniques. Additionally, he conducted cancer research by investigating the role of serum starvation in regulating the mRNA expression of microtubule-associated protein 1 light chains. Anurag has continued to promote substance abuse prevention techniques among underserved communities after completing his undergraduate education.

Jennifer L. Robitaille is the Director of Research and Development for Aperture Education. Her research interests focus on strength-based approaches to promoting social and emotional competence and resilience in children, youth, and the adults who care for them. She has contributed to the development of a series of widely used assessments of behaviors related to children and adolescents' social and emotional strengths, including co-authoring the *Devereux Student Strengths Assessment (DESSA) High School Edition*. She has provided consultation to schools and organizations using these measures to inform and evaluate social and emotional learning programs.

Laila Y. Sanguras is a lecturer in the department of Curriculum and Instruction at Baylor University. She earned her B.S. in Education from Western Oregon University, followed by a master's degree in Curriculum and Instruction from Portland State University and Ph.D. in Educational Research from the University of North Texas. Dr. Sanguras was named one of Baylor University's 2021 Outstanding Faculty Award winners. Her areas of teaching include educational evaluation and research methods. Her primary scholarly interest is on the development of psychosocial skills, particularly grit and coping, and how teachers and parents can support their children to succeed academically and personally. She enjoys researching with her graduate students and is currently studying the convergence of intersectionality and imposter syndrome and academic dishonesty among high performing high school students, and the effects of microaggressions on graduate students of color.

Holly S. Schindler is an Associate Professor in Learning Sciences and Human Development at the University of Washington and a Fellow at Harvard University's Center on the Developing Child. Her program of scholarship, teaching, and service focuses on informing more effective and equitable early childhood policies and practices. She is particularly interested in understanding how to better support fathers and their children through existing early childhood systems. Her work has been supported by funders such as the National Institutes of Health, Institutes of Education Sciences, Foundation for Child Development, and the Fatherhood Research and Practice Network.

Dana Thomson is a Senior Research Scientist in the Early Childhood research area at Child Trends. Her research explores how policymakers, practitioners, and caregivers can support child and family resilience in the face of trauma, adversity, or disadvantage. This includes research on policies and programs that foster family economic well-being, positive parenting conditions, and healthy child development, as well as evaluations of interventions designed to mitigate the effects of trauma and adversity on child outcomes.

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family and sociocultural factors that influence the processes of adversity, risk and vulnerability in contexts of significant adversity. His main research interest is in how psychosocial factors related to quality of life, resilience and well-being influence the complex relations between families, groups, communities, and in families of children with chronic diseases. He is currently examining the processes that allow us to search, navigate and represent our position in the world around us. His research also focuses on developing instruments for measuring psychosocial variables, to evaluate quality of life, resilience, well-being and interventions in populations and cultures in contexts of adversity.

Chapter 1
Introduction: Ideas to Promote Resilience in Children

Laura Nabors and Samuel Adabla

Introduction

This book provides a review of child resilience across different life stresses and contexts. The authors focus on how children are adaptive and provide insightful information on interventions to promote child resilience in stressful situations. The first chapters in the book define resilience, review the flourishing of children who have faced trauma, and discuss grit in children, which is related to children adopting strategies to promote their resilience. Chapter 2, entitled, "Resilience for Children and Families," sets the stage for the book, defining resilience at the child, family, and community levels, while also considering the impact of time. Additionally, resilience for youth during times of war and when a parent is lost due to HIV/AIDS are examined. Chapter 3, entitled, "Resilience in Children Recovering from Trauma" provides information on resilience for children who have faced abuse, featuring information on individual, targeted, and universal trauma informed care, assessment tools, and resources for treatment. Chapter 4, "Grit and Resilience in Children," proposes definitions of grit and ways to measure it. Also, ideas for fostering grit, in order to promote resilience, are presented.

The next set of chapters focus on well-being in the context of schools, stress, the family, and residing in low-income families. Chapter 5, "Discovering Resilience and Well-Being in School Communities," offers a hopeful view of promoting resilience and informing teachers in school communities, considering the school as a context for resilience. Chapter 6, "Fostering Resilience in Children Facing Toxic Stress," focuses on lifting up children and parents to improve functioning and feelings of well-being. Chapters 5 and 6 were developed by researchers working at

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centers in the United States that provide a wealth of helpful resources to foster positive functioning and well-being, ideas critical to resilience, for youth and families. Then, as families are critical to child and individual family member's resilient functioning, Chapter 7, entitled, "Association Between Family Relationships and Childhood Resilience," presents research and ideas for practice to foster positive functioning in families, which will lift up children and promote a trajectory of positive social and emotional functioning. Taking a global view, in Chapter 8, "Promotion of Resilience for Children in Low-Income Communities," the authors take a systemic approach to encouraging interventions to promote social and emotional development. Chapter 8 also reviews ways to enhance the development of programs for growth and resilience of children from low- and middle-income countries with a lens toward improving lives of children living in impoverished circumstances.

Chapters 9, 10 and 11 are focused at the child level, addressing fostering resilience in young children, which has the potential to create positive life trajectories. Specifically, Chapter 9, "Interventions to Promote Resilience in Children with Chronic Illnesses," shows that children with chronic medical conditions thrive, despite facing significant stress and pain. Chapter 10, "Resilience in Early Childhood," reviews resilient social and emotional functioning and interventions to promote resilience in childhood. Chapter 11, "Improving Executive Functioning Contributes to Cognitive Performance and Results in Resilience for Children," links resilience to cognitive functioning and discusses ideas for promoting executive functions of youth. In sum, the chapters address a myriad of topics and interventions to promote children's functioning. A goal is to provide foundational ideas and interventions that will help clinicians and researchers foster the behavioral, social, and emotional functioning of children. At the same time, enhancing the resilience of families and the capacity of key contexts to foster resilience sets the stage for resilience trajectories for children.

Areas in which to develop training include the development of positive attitudes (enhancing grit), school achievement (addressing child and school context), social and emotional skills, hope, internal locus of control (things the child can do to manage illness, trauma, and toxic stress), strong positive relationships (to improve family and peer relationships), and hobbies and creative things to do (e.g., increasing involvement in activities with peers and in activities that will build child self-esteem). In terms of fostering psychological resilience in children, helping children find areas in which they are excelling or doing positive things can be a building block for resilience. Additionally, encouraging the child/adolescent to take an optimistic perspective when facing problems and teaching a "problem-solving" orientation, where the child brainstorms on coping solutions and going back to generate other solutions if the first ones are unsuccessful, may foster positive functioning for youth. The "roots" of positive psychology for children indicate that young children can learn to be optimistic about the outcome of events and experiences (Seligman, 2007), which, with practice, may promote "dispositional optimism" which is an orientation that predicts a positive present and future (Cousins et al., 2015a, b). This type of positive stance toward life, and stress, may assist the child in "bouncing back" during times of stress, to exhibit resilient functioning.

In discussing the dynamic and changing nature of resilience, Hornor (2017) draws on Rutter's (2012) notion of resilience as dynamic in nature. As such, the health professional or psychologist can "consult" with the child and family, and in these check-in visits determine if support to bolster resilience is needed. Strategies and interventions will change over time as the child encounters different life phases and stressors. In Dr. Nabors's work with children with chronic illnesses at the Ronald McDonald House, parents have described their child as having a "this will work out" attitude and the clinician can mirror ideas for hope and positive thinking to encourage this type of attitude (Nabors et al., 2018). Teaching children reframing skills - to look for what they can do well and areas of strength in their functioning and lives may help foster a feeling of control over one's life (also fostering a more internal locus of control). Increasing peer support may be another way to support the child. The health professional or clinician may work with parents to have them model accepting support and, at the same time, discuss the value of accepting support from many sources, such as friends, counselors, health professionals, and neighbors. This will foster acceptance of others' support, with a possible added benefit of increasing social connections for the child.

In trying to reach youth with a broad array of stressors, who are located in different areas, it may be advisable to continue to develop mobile health applications (MHealth apps). We believe it could be beneficial to take advantage of healthcare's digital revolution to support prevention and intervention efforts to promote resilience using interactive technology. Psihogios et al. (2020) recorded some of the many benefits of MHealth apps including,

> …abilities to deliver interventions and practice therapeutic skills in real-world environments, assess patient-reported outcomes between clinical encounters, and address access-to-care issues by offering free or low-cost interventions at home. Moreover, there is a growing evidence base that mHealth apps are potentially efficacious for improving youth health behaviors…and mental health… (p. 1107).

Table 1.1 presents ideas for app development in different topic areas related to resilience. In Table 1.1, we add the concept of doing things for others (altruism). Doing for others builds self-confidence and pride in one's positive actions.

The ideas in Table 1.1 can be presented in apps, videos, or games. These ideas can become part of the curriculum in online support groups for children, and this may be another mechanism for reaching children who may not be able to come to the "clinic" to participate in mental health-promoting interventions. MHealth apps could be designed to track child use of the games and have questions to survey opinions about the value of activities and child perceptions of their quality of life and resilience.

There also may be environmental changes, such as making it easier to complete schoolwork, involving children in extracurricular activities, or providing funding to bolster family finances that will facilitate child coping. Thus, assessment of environmental (e.g., contextual – how is the child doing in different settings?) and family resilience may be critical to enhancing positive child functioning. When one thinks of the child, one inevitably thinks of the family, as child resilience is often

Table 1.1 Ideas for incorporation in MHealth apps for promoting resilience

Topic area	Strategies
Optimism	Older youth: Develop a game where children can find the "silver lining," (e.g., benefit finding) which is a positive solution, exemplifying resilience in different stress-related situations Young children (preschool-age through first grade): Fill your cup with a cheerful solution. Have the child view a situation and select from an optimistic versus a pessimistic attitude. Each time an optimistic solution is selected the cup fills, and when the cup reaches the top, the child wins
Self-confidence	Kindergarten through early elementary school: Have the child fill in a "shield of strength" where the child draws pictures of his or her assets (things that are special about me) onto a shield. Explain how shields protected knights and describe how thinking about one's strengths can protect the self from negative thinking and build feelings of self-confidence Elementary school-age children: Affirmation calendar – have the child select affirmations from a list of positive self-statements. Have the child place the affirmation from his or her list on the day(s) it was used. If the child places a positive affirmation on 21 days out of the month, he or she wins a pot of self-confidence gold and coins to use in buying a self-confidence house to store positive affirmations Adolescents: Develop an MHealth app with positive self-statements from movies and books and have adolescents try to guess which movie or book the positive affirmation is from. With appropriate guesses, tokens are earned to add to a self-confidence board. When the board is filled with tokens, the game is won
Altruism	Adolescents: Develop a diary where students can select from ideas for helping others, such as cooking meals for others, donating scarves for children, making table decorations for a nursing home, making blankets for an animal shelter. Have students record altruistic activities to develop a certificate they can print, listing their activities Elementary school-age children: Develop an activity board with a parent, where the parent and child can select from a menu of things to do for others, such as making decorations for a nursing home or hospital cafeteria tables, making a bulletin board for a nurses' or staff station, collecting donations for games and books for child life specialists, or collecting donations for a local shelter, orphanage, or Ronald McDonald house.
Hope	All ages: An age-appropriate gratitude journal. For younger children, there may be examples for parents and the child to select (e.g., "I am grateful for a sunny day today"). Older youth can select from quotes from famous persons and also write their own gratitude statements, "I am grateful for _____" or "It's great that _____"). Positive actions can generate hope, and having children keep a record of (1) I can do _____ (2) I accomplished _____ can facilitate a sense of positive accomplishment now or in the future
Expressing feelings	Children and adolescents may need to express feelings in order to release emotions. Finding their feelings on a feelings poster/drawing and learning to use "I feel" and "I think" statements for characters in a game and a character they "build" or develop who represents them, may be a gentle and fun way to allow for self-expression

found within a context of family resilience. Family resilience is defined very similarly to child or individual level resilience (Masten, 2018), as the ability of the family to "bounce back" and attain positive functioning, good communication, and a sense of family cohesion, even when dealing with stressful situations or adversity (e.g., Walsh, 2003). The same ideas for promoting family resilience can be applied for helping teachers in schools and adults in other settings, such as coaches of extramural activities. Finally, working on policies and programs from a resilience focus may ensure that resources are provided to those children residing in impoverished circumstances and/or facing traumatic experiences so that a resilience-promoting lens is focused on interventions to enhance their healing and behavioral, social, and emotional functioning.

Understanding resilience is intertwined with increasing knowledge about positive child development. More information about how resilient children cope in the face of adversity and stress may provide critical information for the development of interventions that rely on positives – such as promoting positive attitudes, interactions, supports, and behaviors that will change the resilience and quality of life of children and families who are not showing resilient functioning. Improving our understanding about how critical attitudinal factors, such as hope (Shatté et al., 2000), learned optimism (Seligman, 2007), a fighting spirit, spirituality (Reynolds et al., 2014), and altruism impact the functioning of children may shed more light on links between protective factors and resilience of children. It is our hope that readers will use these ideas to move the field further and help more children, especially those who might not have access to mental health-promoting services. As such, the chapters in this book take a resilience focus to enhance child and family development. The authors wrote with knowledge and caring, providing ideas and interventions to promote optimism for assisting children and families and ideas for intervening to promote resilience in child functioning, leading to positive life trajectories for children. It is with hope and caring that this team feels enthusiastic about the message of resilience and fostering assets that pervades this text. Thank you in advance for reviewing the chapters!

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Chapter 2
Resilience in Children and Families

Laura Nabors

Introduction

Resilience in childhood involves positive functioning and development, often in the face of difficulties and adversities in children's everyday lives. The chapters in this book highlight critical areas where children and their families can show resilience and attain positive social, emotional, academic, and behavioral trajectories. Researchers have often described resilience as the ability to adapt or bounce back in the face of stress or adversity (e.g., Masten, 2018; Walsh, 2003a). Hadfield and Ungar (2018) discussed contributions to the field made by Rutter and Garmezy, among other researchers, who highlighted the notion of competence in the face of negative events and stressors. There may be an evolutionary advantage to being resilient or competent when facing stress, facilitating survival of our species (e.g., Lou et al., 2018). Although the definition typically involves the notion of adaptation, and involves some consistency, capturing or assessing resilience can be challenging. Assessment of resilience may be a "moving target," in that its assessment depends on how the construct is operationalized and assessed, as well as being influenced by the context of the adverse situation and the personality traits of the individuals experiencing the situation. There are different levels of resilience as well. Masten (2018) suggests that there is family and individual resilience, and it is probably the case that there is community and national levels of resilience, which might be termed "system level" (Masten, 2018, p. 17) resilience. Additionally, based on life experiences, mentors, personality, and contexts for development, there are multiple pathways toward resilient and risky (e.g., non-resilient) functioning. All of this makes for a complex picture, involving multiple facets to understand a

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critical concept. Consequently, assessment of resilience is holistic (Walsh, 2003a) involving a look at the problem itself (e.g., illness, poverty, discrimination) and historical factors at the individual, family, and community levels, strengths and weaknesses at each of the aforementioned levels, timing of events (e.g., is an event at the individual level related to an event at the family or community level or vice versa), phase in the individual's development (as well as developmental phase for the family and community or system), and reciprocal relations among the individual and family/community influences.

Definitions of Individual-, Family-, and System-Level Resilience

Individual Level Individual "level" resilience may be described as traits or characteristics and coping styles that enhance resilient functioning. Synonyms for resilience include flourishing, well-being, and adaptation, to name a few. The multitude of terms can be confusing, although the positive connotations of the terms are evident and highlight an individual's positive functioning and abilities. Masten (2018) defined resilience as "…the study of capabilities, processes, or outcomes denoted by desirable adaptation in the context of risk or adversities associated with dysfunction or adjustment problems" (p. 13). Masten (2018) pointed to the fact that others have defined resilience as an outcome, process, or character trait, making this a multifaceted construct. Bouncing back or thriving may be related to several positive traits, which can be fostered through interventions, making resilience a malleable construct. If resilience is malleable, then enhancing resilience becomes a clinical tool, and we see characteristics of resilience reflected in the field of positive psychology (e.g., Seligman & Csikszentmihalyi, 2014).

Characteristics related to thriving are positive emotional, social, and cognitive functioning and being able to experience a sense of self-worth and accomplishment in life. After reviewing the literature, Bethell et al. (2019) distilled characteristics related to resilience into several factors. For instance, they proposed that flourishing or resilience was fostered by having positive meaning and engagement in life. Moreover, feeling positive about the self, in terms of feelings of self-worth, positive interpersonal relationships, positive emotional functioning, and a sense of accomplishment also were related to resilient functioning or flourishing. Enhancing the aforementioned resilience factors may mitigate risk and help children and those in families where there is adversity overcome this risk and thrive in terms of positive development. Moreover, resilience at the individual level may be linked to resilience at the family level. For instance, Bethell et al. (2019) studied family flourishing amidst contexts of adversity or children experiencing adverse childhood events (ACES). They reported that children's thriving was related to family resilience. I also believe that a child's resilience has a reciprocal influence on thriving of family members.

Family Level Families marked by resilience "rally" (Walsh, 2003a, p. 3) in the face of adversity and engage in "processes" that enhance the recovery of the family and individual family members. Walsh (2003a) designated several resilient family processes including having positive views of adversity and making meaning from stressful experiences (e.g., "it's helped us grow together"), flexibility in adapting to change and in outlook on change, good communication and problem-solving, and open expression of emotions. Families that thrive in tough times also tend to "normalize" those stressful times, understanding stressful experiences can occur. In the face of stressors, in resilient families, members cope and attempt to thrive without shaming and blaming each other. Families that are resilient try to have a shared positive understanding of stressors and often are spiritual in their approach to stress. This acceptance, turning to a higher power, and meaning-making are part of positive processes that facilitate adaptation. Hamilton McCubbin and his colleagues highlighted the contribution that a well-functioning family makes to both family and individual adjustment when the environment is challenging (e.g., McCubbin & Patterson, 1983; also see mccubbinresilience.org). This is consistent with the notion that the family uplifts members and in so doing further strengthens the family unit.

Community Level One definition of community resilience describes the community as having vitality. Dale et al. (2010) defined community vitality as remaining strong when facing challenges. When communities have vitality:

> …they are resilient, they are innovative, and they are adaptive. Simply put, a vital community is one that can thrive in the face of change. It is a place that can remain at its core a functional community without loss to ecological, social and economic capitals in the long run, whatever occurs as a result of exogenous changes beyond its control. And perhaps more importantly, it is a place where human systems work with rather than against natural systems and processes. (Dale et al., 2010, p. 217)

The resilience or vitality of a community can help sustain members and contribute to a higher quality of life for them in tough times. It also may mean that community members are innovative, so that they adapt and innovate to change and thrive when facing adversity, such as natural disasters (Cutter et al., 2008). They may innovate by supporting technological or environmental advances (e.g., clean water policies, sustainable energy; Dale et al., 2010). While the community is adapting, its members often maintain its structure and their strong social relationships, which, in turn, may contribute to quality of life and social functioning (Cutter et al., 2008; Murphy, 2007). In addition to neighborhood communities, there are a myriad of cultural communities (e.g., church, political, and interest groups) that influence resilience in children. A book edited by Ungar (2005), entitled *Handbook for Working with Children and Youth: Pathways to Resilience Across Cultures and Contexts*, presents ideas for facilitating resilience in children from different cultures facing different life situations.

Identification of Risk and Resilience Factors

Masten (2018) discusses identifying risk and resilience factors that impact individuals and families as being critical to advancing the field. This also harkens back to Jessor's (1993) work, and his model suggests that for each individual, there is a complex interplay of risk and protective factors that impact reactions (to stress or environmental events) and development. Like Masten (e.g., Garmezy et al., 1984; Masten, 2018), Jessor (1993) wrote about complexity in trying to understand the pattern of risk and protective factors impacting developmental trajectories for youth. Jessor (1993) posited that biological, genetic, and environmental factors (including one's perceptions of the environment), personality, behaviors (e.g., results of one's behaviors), and adolescent lifestyles (e.g., health risk behaviors, school behaviors, health-related behaviors) and health-compromising outcomes (e.g., social roles, preparedness for adulthood) had interacting causality in a "web" that impacted adolescent functioning. In his model, the adolescent was "set" in a family, neighborhood, school, and a broader social-structural context (including economic, political, and cultural environments). At each of these levels, resilient functioning can occur, and a wealth of system and family level factors can impact child functioning. Alternately, child functioning can reciprocally impact the family- and system-level resilience. Jessor (1993) posed a question, in the context of adolescents succeeding despite adversity, that the chapters of this book will address for children and adolescents — "how can we understand the process by which young people make it, despite the adversity they face..." (pp. 125–126). Another question to add is how can we understand processes at different levels and how they interact to influence child and adolescent development? And, yet another question is how can we enhance knowledge about how stage of development impacts resilient functioning?

Differences in Resilience over Time

Resilience or adaptive functioning can occur at one point in development, but is often conceptualized as occurring over time (e.g., Brooks, 2006; Zolkoski & Bullock, 2012). The impact of adversity in different periods of child and adolescent development is concerning for many reasons, including the fact that children might not reach their full potential as adults (Zolkoski & Bullock, 2012). Despite being faced with adversity, however, many children reach their potential and exhibit positive functioning (Brooks, 2006; Masten, 2007). Hence, children who cope well and function well despite adversity are considered resilient, as they possess certain traits and are able to benefit from protective factors in their environments (e.g., family and system) that enhance their positive functioning (e.g., Zolkoski & Bullock, 2012). As such, psychologists and other health professionals have sought to study factors related to resilience (e.g., using person-focused and variable-focused approaches; Masten, 2014). They also strive to implement interventions to foster resilient

functioning in children, in order to improve their lives and foster positive development that will "follow" the child across his or her life course (e.g., Alvord & Grados, 2005).

Masten (2014) encouraged researchers to assess critical periods for resilience in children (when is it very important to be resilient) and understand how resilience changes over time (using modeling) so that we can gain a fuller developmental perspective on this important concept. The notion of positive trajectory over time in the family system reflects the notion that families adapt to stress and move toward functioning in a manner that enhances family growth and development (Rolland, 2005; Walsh, 2003b). Bethell et al. (2019) showed a positive relationship between child and family resilience that suggests that positive trajectories for the family unit exert a positive impact on child development. The Kauai Longitudinal Study (see mccubbinresilience.org) provides information on risk and resilience factors for individuals and families over time, showing that developmental change plays a dynamic role in adapting to stressors over the life course.

Yule et al. (2019) reviewed longitudinal studies across different settings or contexts where children faced violence (e.g., maltreatment, community violence). They found that children who could regulate their emotions (an individual trait) and experience family, peer, or school support (systems level resilience factors) tended to exhibit more positive functioning in longitudinal studies. This introduces a new question – is there an additive influence of multiple resilience factors? Masten's (2014) research tends to support this; Masten posited that resilient functioning has been approached by studying the person and factors in the environment (variables) and can also be assessed by understanding the "system" ("adaptive systems" including "large areas and groups of people" p. 10). Hence, when understanding resilient functioning, it remains important to study the individual- and system-level factors that may promote adaptation. Although it may be more difficult to study large systems, it remains important to do so, as entire cultures can "bounce back" from war and extreme poverty or other adverse conditions. In fact, a cultural group is yet another system that may enhance individual and group resilience.

When assessing time, it is important to assess "timing" for different levels and events. For example, Walsh (2003a) discussed how an individual's behavior can be impacted by another family member's behavior. Consider the impact of a divorce and parental disagreement about custody and its impact on the child. Some children express their feelings through behavioral problems, while others are sad and upset. Another example might be how an eating disorder impacts other family members, with siblings perhaps being resentful of all the attention provided to the "ill" child who has the eating disorder. Or, if a parent has "bad days" at work, it can impact children's experiences and result in disengagement of the child from the parent or, other times, in negative behaviors. Consequently, considering timelines for others impacting the child or adolescent can provide greater understanding of why the child is or is not displaying positive functioning. Family systems also experience developmental or time trajectories, which Walsh (2003a) referred to as "nodal events" (p. 4). Walsh (2003a) described nodal events as being more predictable (e.g., birth of a child, graduation of a child from high school) and unpredictable

(e.g., child being diagnosed with a chronic illness). How the family copes with nodal events is a window on their functioning over time. Similarly, systems experience nodal events over time, including growth factors (e.g., a new school building and increased taxes to pay for it) and unexpected events (such as a fire in the community). The timing and community response to these factors can impact the child and family, just as children and families have an influence on community functioning.

Resilience Across Domains

Resilience can occur in different developmental domains, which may include emotional, language, and cognitive functioning, school, sports/physical development, extracurricular activities, and social groups. The notion of multiple domains for resilience is similar to that of the idea of multiple intelligences (e.g., Gardner, 1993). Some of the domains for resilience might be social and intrapersonal resilience, which include getting along with others; athletic resilience; intellectual resilience, creative resilience (the ability to creatively express new ideas); language resilience (e.g., good public speaking skills); emotional resilience; and behavioral resilience. In short, an individual may show resilience in all domains of human functioning, and whether resilience is one quality applied throughout life domains or separate qualities in different domains has yet to be determined.

Dubowitz et al. (2016) proposed that resilience "…describes adaptive functioning, over time and in multiple domains, in a context of adversity" (p. 233). Dubowitz et al. (2016) discussed academic resilience, which they applied to school entry and readiness, as involving "...academic capability, the ability to follow rules of conduct, and skills to function with peers" (p. 233). Brooks (2006) conceptualized the schools as settings to foster child resilience, including the child's social functioning, which is another domain for resilient functioning. Another aspect of social resilience involves getting along with others and functioning according to societal expectations. Dubowitz et al. (2016) conceptualized adaptive skills and communication skills as being in the social domain. There also may be physical resilience (Hornor, 2017), emotional resilience (e.g., abilities to cope with stress, Collishaw et al., 2016; Smith & Carlson, 1997), and a host of other domains to study. It may be that the skills in different domains, such as cognitive, social, communication, emotional, and physical functioning, differ based on the age or developmental stage for the child. To improve our understanding of different facets of resilience, it is necessary to examine resilience across different developmental domains over time.

Families show resilience in their support of each other and in several domains, many of which are similar to the child- or individual-level domains. Some of these domains may be social, emotional, and behavioral functioning, interaction patterns, orientation toward education and work, financial functioning, communication, support of kinship networks, and orientation toward events in the family life cycle (e.g., birth of a child). Walsh (2003a) described family belief systems and abilities to make meaning of critical events as key domains for family resilience. Positive

attitudes and a positive position in the face of adversity (i.e., "We can cope with this" and "We will survive and thrive") and being able to find meaning in crisis events (or unpredictable nodal events) are critical to family resilience. I believe that these two orientations (i.e., positive attitudes and a positive position during adversity) are critical to individual and community resilience as well. Walsh (2003a) stated that a family that bounces forward, staying connected and maintaining a "collaborative problem-solving" (p. 13) orientation, has the potential to be resilient in the face of adversity, thereby indicating that belief systems are a critical domain for positive coping.

Communities show resilience in ensuring safety and a feeling of trust in the leadership, so that needs for safety and security can be met. In addition, it is important to establish that information (e.g., "news") will be provided in a fair and trustworthy manner. The financial domain overlaps safety and security – can people's needs for shelter, food, water, and safety be covered? Showing a sense of social cohesion is important, as citizens need to build hope that the community will maintain itself and make it through stressful events (Eshel & Kimhi, 2016). Other domains are providing infrastructures for mental health services and safe housing. Providing services for women and girls, especially if they are experiencing violence, or for other groups, such as refugees, is important (MacDermid Wadsworth, 2010). It may be difficult to clearly outline community domains. Some of these domains are providing for human needs (safety, food, water), ensuring the availability of mental health services and services for vulnerable groups, establishing communication networks and safety through law and order, and defining a capacity to maintain the community and its processes. Defining domains for community resilience to facilitate population wellness and community readiness to face current and future threats in the face of stressors, such as war, disease, and disaster, remains an area for continued research (Eshel & Kimhi, 2016).

The next section of this chapter provides examples of resilience in the face of war, a critical event, or unpredictable nodal event (Walsh, 2003a) at the community level, which impacts individual-, family-, and community-level resilience. Masten (2018) suggested that "global calamities" (p. 13), such as World War II, and their resulting trauma and stress shaped "...what could be done to mitigate risk or support recovery" (p. 13). War and terrorism (which I define as being in the broad category of war) are a part of many children's and families' daily lives, and their adaptation in the face of a prolonged state of crisis is admirable as they face calamity, danger, trauma, violence, displacement, and scarce resources. Masten (2014) proposed that the "...development of children around the world is threatened by disasters, political violence, pandemics, and other adversities that can have life-altering consequences for individuals, families, and the future of all societies" (Masten, 2014, p. 6). There is a need for more knowledge about risk and protective processes and how to prepare for specific threats to human development in the event of exposures to disaster, terror, displacement, abandonment, and many other extremely dangerous situations for child development (Masten, 2014, p. 15).

War and Its Aftermath

In 2010, MacDermid Wadsworth proposed that war and terrorism were increasingly impacting family life. Since this time, this influence has only increased. MacDermid Wadsworth (2010) discussed that fact that war and terrorism can be overlapping in modern times, as wars:

> …are increasingly unconventional, with rising numbers of combatants lacking official status, no clear front lines, and increasing use of terrorist tactics, such as the targeting of civilians with random attacks calculated to generate the most widespread fear possible. (p. 537)

One issue related to war is mass violence and exposure to trauma, which may result in psychopathology, such as post-traumatic stress disorder. Women and girls face rape, as a tool of war, which may destroy family and ethnic group solidarity. Finally, if the community is damaged or destroyed, a sense of community solidarity can be damaged or shattered. MacDermid Wadsworth (2010) reported that:

> Daily life is extremely difficult in the context of mass violence: Family members may be separated by imprisonment or forced military recruitment, the need to care for members in multiple locations, or safety concerns. (p. 547)

Parents may become very concerned with the future of the family and thus be less responsive to children's emotional needs. Children, in turn, can experience post-traumatic stress disorder (PTSD), depression, and anxiety (MacDermid Wadsworth, 2010). Family members may take on roles they are ill-prepared for and, if communities are ravaged, may be forced to flee their homeland and then cope with the stress of being a refugee and relocating to a new country. Given this extreme stress, there is a need for intervention at the individual, family, and community levels (MacDermid Wadsworth, 2010). Table 2.1 presents some ideas for enhancing resilience among children, families, and the community.

Growing up in a war-torn country can be incredibly devastating. Yet, many children show resilience in these environments. Bosqui and Marshoud (2018) evaluated "review" papers focusing on children's coping during and in the aftermath of war. Their definition of psychological well-being was that of the United Nations, which is "children's health and safety, material security, education, socialization, and their sense of being loved, valued, and included in the families and societies into which they are born" (as cited on page 1 of the Seventh Innocenti Report Card by the United Nations Children's Fund, 2007). Resilience could be fostered through interventions to enhance cognitive and emotional functioning and promote positive behaviors. In terms of cognitive change, Bosqui and Marshoud (2018) reviewed key concepts, including problem-solving (i.e., active searching to find solutions), learning stress management skills, emotion regulation (e.g., coping with negative feelings), being able to engage in play, and learned helpfulness. Specifically, learned helpfulness has a positive impact through being altruistic, which can provide an internal focus and feelings of well-being from helping others. Coping with traumatic stress, through therapy and support of others, and having strong therapeutic rapport with counselors promotes wellness. As one might expect, increasing a

Table 2.1 Ideas for enhancing resilience among children, families, and communities in war-torn countries

Area	Child	Family	Community
Ideas for resilience-building	Food, water, and shelter	Food, water, and shelter, financial support	Policies and infrastructure to provide adequate food, water, and shelter; encourage and monitor fairness in distribution of resources; find financial support, possibly through involvement of non-governmental organizations to facilitate community recovery
	Mental health services	Mental health services	Facilitate provision of mental health services (build emergency infrastructure); increase the number of mental health service providers
	Facilitate meaning-making and "can do" attitude (I will be O.K.); encourage active problem-solving	Facilitate meaning-making and educate parents about the importance of a "we will pull through" attitude and orientation; encourage active problem-solving	Ensure that frontline mental health responders are educated about the importance of meaning-making and positive or coping-oriented attitudes; organize and develop channels to ensure that accurate news is flowing in the community; build a feeling of community capacity for "getting back on our feet"
	Build sense of safety: emotional and physical safety need to be considered, develop a predictable routine; connect children with parents and supportive others	Build sense of safety: emotional and physical safety need to be considered	Develop policies to ensure safety; establish law and order; ensure court processes (and legal infrastructure) are in place; if refugee camps exist, ensure safety and security of these areas; if necessary, create new infrastructures (e.g., community centers, housing for refugees, orphanages) to assist the community in mobilizing in an organized, safe manner
	Support girls who have experienced rape	Support women who have experienced rape	Provide housing for girls/women if pregnant; build programs for girls/women who face ostracism and rejection due to rape
	Enroll in school and activities	Re-establish rituals, such as celebrations, holidays, and worship; re-establish family patterns, such as going to school, encourage family to spend time together	Support re-opening of houses of worship; build policies to support the family; re-open schools, churches, community centers where possible; support staffing and fund community organizations critical to child and family functioning

Note. Many ideas in this table reflect ideas presented by MacDermid Wadsworth (2010) and from Laura Nabors's work as an instructor for a course in Global Health

child's social support and building positive relationships with caregivers were strengthening factors, promoting resilience. In fact, Bosqui and Marshoud (2018) mentioned that resilient children have good skills for finding adult support, even if it is beyond the parental unit.

At the community level, engaging in community values and activities, be they political, religious, or ideological, was a protective factor. Bosqui and Marshoud (2018) discussed finding ways to support child programs and research in war-torn countries, such as Syria. Programs may include developing schools, providing food and shelter, and mental health services for the child and family (see Table 2.1). This is critical as the quality of care after traumatic war-time experiences can have a positive impact on child functioning and later development (e.g., Hal-van Raalte et al., 2007). Further study of the protective mechanisms outlined by Hal-van Raalte et al. (2007), and finding out how to practically apply and enhance protective factors in existing programs, has the potential to enhance resilience for children coping with war and the aftermath (devastation) in the wake of war.

Massad et al. (2018) wrote that "...one in four children lives in conflict-affected areas around the world, and this results in many consequences for their mental health" (p. 280). They state that exposure to war erodes children's sense of safety and trust in their world, negatively impacting their development of self. Negative and destructive behaviors often increase when a child has been exposed to violence through war, and the concomitant destruction of "civil society" (p. 281), and children experience post-traumatic stress, shame, and grief. Next, Massad et al. (2018) turned their focus to Palestine, discussing the conflict and resistance to occupation. They wrote that children participating in resistance to Israeli occupation demonstrated more positive resilience, in terms of emotional functioning (primarily through reducing symptoms related to PTSD). Another supportive factor, enhancing child functioning, was school-based mental health counseling to assist children in coping with anxiety and stress.

The United Nations Relief Works Agency for Palestine Refugees in the Near East (UNRWA) was a community support, providing schools, food, shelter, and health care in refugee camps for Palestinians (Massad et al., 2018). Other non-governmental organizations have provided aid and support to develop health and educational programs through UNRWA. There is dialogue and exchange through UNRWA organizations, which helps the collaborative to run smoothly. UNRWA health departments provide for child and family well-being and promoted child and family protection.

Activities to foster resilience promoted by UNRWA had a national impact (Massad et al., 2018). For instance, UNRWA established a child and family protection program in 2009, and the promotion of child rights and the importance of positive child development became a message for the country. Through working with the schools, the child and family protection group began summer camps and family theater, puppet play, storytelling, social groups, dance, and art groups. A positive parenting book was developed, bringing further psychological support for children (Massad et al., 2018). UNRWA worked cooperatively with other organizations, to promote child resilience in the aftermath of war, during occupation. Massad et al.

(2018) reported that continuing to leverage community "strengths" and promote child well-being will foster resilience in children and that the UNRWA model could be "exported" to other war-torn countries.

The next section of this chapter addresses an unpredictable nodal event (Walsh, 2003a) for the family that may have a profound impact on child functioning. This event is parental bereavement as a result of AIDS. Children who have lost a parent or parents due to AIDS may benefit from many of the actions listed in Table 2.1, as they can face relocation and poverty and are grieving as they cope with a traumatic event.

Parental Bereavement as a Result of AIDS

Collishaw et al. (2016) assessed children's responses to parental bereavement from AIDS. Children, who have lost their parents to this illness, often face stigma as well as family and educational disruption and stress. If they reside in settlements, they can face violence in the community and often reside in poverty. Collishaw et al.'s (2016) sample consisted of over 1000 children and adolescents residing in urban settlements in South Africa. Their model was an ecological one (Bronfenbrenner, 1977), and they considered risk and resilience factors at the child, family, and community levels. The consideration of multiple risk and protective factors was also consistent with Jessor's (1993) theory. However, their main goal was to understand factors related to positive mental health. They conducted a detailed assessment at the child, family, and community levels. Surveys were used to assess children's report of their depression, anxiety, post-traumatic stress, conduct problems, and delinquency. At the family level, family positive caregiving and maltreatment were measured. They also examined time since bereavement, child physical health, and child optimism. Several community level variables were assessed: violent victimization, stigma, and peer victimization were among these variables.

Results indicated that one fourth of the children were resilient, with no evidence of mental health problems (Collishaw et al., 2016). Poor physical health of the child and multiple family bereavements were risk factors for positive functioning. As one might expect, positive relationships with family members and peers were protective factors as was child "optimism." Lower levels of community violence and victimization were protective factors. In terms of poverty, having food security was a protective factor. Researchers believed that results supported the positive impact of using an ecological model when considering risk and resilience factors to predict child and adolescent functioning (Bronfenbrenner, 1977). The results of this study provided guidance for policy to help children. Using interviews may have provided depth information to guide policy efforts. This author was privileged to visit South Africa, on a "People to People" program visit to discuss the AIDS crisis. It was noteworthy that orphanages for children who were bereaved were placed in the center of some communities as a hub to care for children and offer opportunities for work. Lou et al. (2018) reviewed resilience factors related to residential care and

noted three strengths, which this author observed in many of the orphanages. These strength or resilience factors included an emphasis on child education, involving positive, supportive adults in the children's lives, and instilling a sense of hope in a positive future.

Macedo et al. (2018) surveyed children (ages 4–13 years) and caregivers (over 900 youth and 900 caregivers in original sample) in South Africa and Malawi to understand the impact of bereavement related to AIDS. Eight hundred and thirty-three caregivers and children (about 84% of the original sample) completed surveys and/or provided information at intake and a 12–18-month follow-up assessment. Approximately 58% of the children (n = 490) had lost one or both of their parents. Their model also was ecological (Bronfenbrenner, 1977) in nature, in that they examined caregiver and child perceptions of child-, family-, and community-level predictors of functioning. They found that about 25% of the children who were orphaned exhibited "resilient" functioning. Results indicated that helping other family members was a protective factor, promoting functioning, and this is similar to Bosqui and Marshoud's (2018) notion of "learned helpfulness" being a protective factor for children. Other resilience-promoting or protective factors at the family level were more positive parenting (i.e., frequency with which the child received praise), lower exposure to domestic violence, and persons in the home being employed (thereby reducing family poverty). At the community level, reduced experience of stigma (i.e., being teased and gossiped about) and children feeling supported by their community were related to resilience. Predictors did not vary by child age, sex, or country, which is important, and it may be that there are some universal protective actions that can help many children who have experienced bereavement. Using interviews to assess ways to reduce stigma or assess instances of reduced stigma in the community may have provided even more guidance for developing interventions, perhaps based on empathy, relationship building, and altruism.

One program built to heal trauma and assist with relationship building is the Balekane EARTH program in Botswana (Katisi et al., 2019). The EARTH acronym stands for Empathy-based, Action-oriented, Relationship-building, Transformative, Healing Therapy (Katisi et al., 2019). This program served youth ages 12 to 15 years and follows them until 18 years of age. Therapy is provided, peer networks are formed, and social workers supported adolescents in getting services in their communities. There were "mothers" to support youth, and they were community members. They helped youth build relationships with peers, family, and members of their communities. The first part of treatment is a wilderness camp where adolescents take part in team-building and group exercises as well as participate in therapy (e.g., individual, group, art, and music therapy). The second part of the program is what might be called supportive, transformative aftercare. Social workers support youth in navigating communities to find support and resources, after youth return from camp. Additionally, there are group meetings with peers from camp, to provide peer support and support positive youth functioning and positive relationships with the child's family. The EARTH Program addresses support at the individual, family, and community level, which is a comprehensive, ecological approach.

Katisi et al. (2019) assessed change for youth (examining males' and females' perceptions) who had participated in the program. They found males and females reported increased resilience related to program participation. Females felt aspirational about participating in the EARTH program. Moreover, males and females who initially had high levels of grief reported reduction in grief after being in the program. Katisi et al. (2019) did not assess the perceptions of social workers, family, or "mothers." Understanding points of view from the aforementioned stakeholders would have provided more information to evaluate program impact as would have data about how children were functioning in their communities. Nonetheless, the EARTH Program appeared to be a creative approach to addressing a stressor on individual, family, and community levels. Future assessment of family and community perceptions will provide more data to support the development of this program.

Conclusion

This chapter focused resilience in the face of adversity as being critical to understanding child development. It is important to continue to study person-level factors, environmental factors, and processes over time so that we can develop interventions to foster resilience and to protect children who have experienced adversity. There is a need for continued research about resilience during adversity to elucidate what is meant in different situations, with different measurement tools, and different character traits. Masten (2018) makes a case for continued work in the field stating, "Integrating models, evidence, and strategies across systems and sciences holds great promise for elucidating resilience and for translating this knowledge more effectively into practical action that will benefit individuals, families, communities and societies" (p. 24). This quote exemplifies an objective of this book, which is to think about different issues, such as systemic influences, problems, and contexts, in order to develop practical ideas that will advance clinical practice and research in the field. This book presents diverse perspectives, much like Jessor (1993) presented a group of diverse studies to illustrate critical perspectives on risk and protective factors that influence adolescent development. The hope is that the views and topics addressed in chapters for this book shed some light on resilient functioning for children of a variety of ages, who are facing a variety of types of adversity. Promoting resilience is investing in our children's future so that they can continue positive trajectories that foster their development. As such, research and reviews that foster resilient development are a way to light the path so that interventions can be developed and applied to enhance the positive trajectory of youth.

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Chapter 3
Resilience in Children Recovering From Trauma

Gail Hornor

Introduction

Trauma and Stress

The National Child Traumatic Stress Network (NCTSN, 2018) defines a traumatic event as a frightening, dangerous, or violent event perceived as posing a threat to a child's life of bodily security. Witnessing an event that threatens the life or physical integrity of a loved one can also be traumatic. Children, especially young children, are dependent upon their caregivers for survival, and witnessing trauma to a caregiver can be as triggering to the child as experiencing trauma themselves (NCTSN, 2020). Trauma may be experienced as a single event or take place repeatedly over years, both of which can negatively affect the child in similar ways. Traumatic experiences are out of the range of usual human experiences and can overwhelm an individual's ability to cope and frequently result in intense emotional and physical reactions and feelings of hopelessness and terror (NCTSN, 2018). These physical and emotional reactions experienced by trauma-exposed children can persist long after the traumatic event. Traumatic events can be accidentally/naturally occurring or inflicted. Traumatic events can originate outside the family or inside the family. Exposure to childhood trauma is truly an epidemic in the United States. Approximately one out of five American children will experience an inflicted traumatic event involving interpersonal violence, such as physical abuse, sexual abuse, or witnessing domestic violence. See Table 3.1 for examples of traumatic events as discussed by researchers at the National Child Traumatic Stress Network (2017).

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Table 3.1 Traumatic experiences

Setting	Traumatic experience	Subtypes of traumatic experience
Outside the family		
	Car accident or other serious accident	
	Natural disaster	
	Life-threatening illness	
	School shooting	
	Community violence	
	Terrorism	
	Refugee	
	War	
Inside the family		
	Domestic violence/interpersonal violence	
	Sudden or violent loss of loved one	
	Child maltreatment	
		Physical abuse
		Sexual abuse
		Emotional abuse
		Neglect
		Medical child abuse
		Child sex or labor trafficking
	Familial substance use disorder	
	Military family-related stressors	
		Deployment
		Parental loss or injury

Childhood trauma exposure has tremendous potential to negatively impact a child's future health and opportunity (Houry, 2019). Exposure to trauma results in stress. Some stress is normal and may actually encourage healthy growth. However, exposure to childhood traumas included in Table 3.1 can result in stress that becomes toxic, chronic, and/or unpredictable, and changes can occur to the developing brain and body (Kalmakis & Chandler, 2014).

Although nearly every child experiences some form of trauma (Hornor et al., 2019), not all traumatic events are equal in the stress resulting from that experience (Lancaster et al., 2014). Thus, screening and evaluation of the trauma and impact of traumatic events are important (National Center for Trauma-Informed Care, 2014). There are basically three levels of stress response. Brief exposures to stress with opportunities to return to baseline can be positive and yield growth (Cicchetti & Rogosch, 2009). Such exposures can help to prepare the child for stress exposure later in life. Neurobiologically, this type of exposure results in a mild elevation of stress hormones, and children learn to self- regulate (Hornor, 2017). The presence of a supportive caregiver facilitates the processing of such stress exposure in a manner resulting in positive growth for the child. Tolerable stress is serious but

temporary. Although stress hormone levels are elevated, buffering from genetics such as high cognitive ability or personality characteristics and supportive relationships aides in recovery for the child. Then there is toxic stress – ongoing, unpredictable stress over a long period of time (Hornor, 2015). Toxic stress results in chronic activation of the stress response yielding consistently high levels of stress hormones. In the absence of protective relationships and protective genetics, lifelong physical and psychological consequences can occur to the child. Toxic stress can harm the nervous, endocrine, and immune systems; alter brain structure and brain messaging systems impacting other body organs; and can change the physical structure of DNA (Houry, 2019). These brain changes can affect a multitude of functions such as attention, impulse control, decision-making, learning, emotional regulation, and responses to future stress (DeBellis, 2001; DeBellis & Zisk, 2014; Edwards et al., 2005).

The landmark Adverse Childhood Experiences (ACE) study, first published in 1998 (Felitti et al., 1998), solidified our understanding of the link between childhood trauma exposure and negative adult physical and psychological health consequences. More than 18,000 adult members of the Kaiser Permanente Health plan were surveyed regarding their childhood experiences, adult health behaviors, and adult health. The landmark ACE study (Felitti et al., 1998) divided adverse child experiences into the four levels presented in Table 3.2.

Exposure to ACEs was common within the study population with more than two-thirds (67.3%) reporting exposure to at least one ACE (Dong et al., 2004). If an individual reported one ACE, the likelihood of them reporting another was 2 to 18 times higher than those reporting no ACEs (Dong et al., 2004). Exposure to multiple traumas was very common within the ACE study population. Nearly all participants reporting one ACE (86.5%) also reported exposure to an additional ACE, and 52% reported at least three additional ACEs (Dong et al., 2004). Participants reporting exposure to one ACE were at a slightly increased risk for negative adult health behaviors and adult health consequences. Participants reporting at least three ACEs were at significant increased risk for negative adult health behaviors and adult health, both physical and psychological. The ACE study (Felitti et al., 1998) solidified our knowledge that exposure to trauma in childhood can result in lifelong negative life consequences in a graded, dose-response fashion (Traub & Boynton-Jarrett, 2017).

More recent studies have explored potential traumatic results from other childhood exposures. Afifi et al. (2017) analyzed data from Wave II from the CDC-Kaiser ACE study. Over 8000 ($N = 8316$) adults were queried regarding the original ACE study questions (Table 3.2) and experiencing spanking as a child. More than half (54.8%) of study participants reported being spanked. Spanking was found to be highly correlated to physical and emotional abuse, and spanking was associated with an increased likelihood of suicide attempts, moderate to heavy alcohol use, and street drug use. Afifi et al. (2017) concluded that spanking should be considered an ACE.

Table 3.2 Adverse childhood experiences

Experience levels	Adverse experience	Subtypes of adverse experience
Child experiences		
	Maltreatment	
		Sexual abuse
		Physical abuse
		Emotional abuse
		Neglect
	Exposure to domestic violence	
	Household drug and alcohol concerns	
	Domestic violence/interpersonal violence	
	Household mental illness	
	Parental separation/divorce	
	Criminal behavior of a household member	
Adult health behaviors		
	Diet	
	Exercise Tobacco use	
	Alcohol use	
	Substance use	
Adult health		
	Physical	Heart disease Lung disease Liver disease
		Stroke
		Diabetes
		Cancer
		Early death
	Mental health	
		Substance use Suicidal ideation/suicide
		Depression/anxiety
		Personality disorders

Resilience

Pathology resulting from trauma exposure and toxic stress is not universal – some children appear to be more resilient than others experiencing similar or even apparently more severe traumas. Resilience, at its' essence, is an interactive concept to describe the combination of serious risk experiences and a relatively positive psychological outcome despite those experiences (Rutter, 2006). Greenberg (2006)

defines resiliency as protective or positive processes that decrease maladaptive outcomes under conditions of risk. Three broad categories of protective factors have been identified in the literature: individual (temperament and intelligence/cognitive ability), the quality of a child's relationships, and broader environmental factors (safe neighborhoods, quality schools, and regulatory activities (Greenberg, 2006).

In recent years research exploring the genetics and biology of resilience has exploded. A basic understanding of epigenetics is necessary to fully understand the concept of resilience. Epigenetics is the study of heritable, but modifiable, changes in gene expression that do not involve changes to the underlying DNA sequence (Gershon & High, 2015). Epigenetics explain how the human body has learned to adapt itself to its environment (Hornor, 2017). These changes have occurred over generations as a part of natural selection; however, changes can occur during the lifetime of an individual to maximize survival. Epigenetic mechanisms, such as DNA methylation and histone modifications, can change gene expressions, preparing the individual for future responses to environmental challenges (Hornor, 2017). Epigenetics offer an individual a means of adaptation, resilience, and survival, but sometimes epigenetic changes can have slow and devastating consequences. Trauma can trigger both adaptive and devastating epigenetic changes; however, it is important to remember that these changes are reversible.

Resilience research has been enhanced by the ability to study measured genes (G) and measured environment E and their interactions (G x E) (Sapienza & Masten, 2011). Genes have been identified that appear to convey risk or vulnerability, improving the ability to study genetic and environmental mitigating factors. Children with risk or vulnerability genes may also have other genes or experiences that can mitigate risk. Brody et al. (2009) in a ground-breaking test of a G x E hypothesis in a randomized prevention study showed a protective effect of the Strong African-American Families intervention. In this study young people with known environmental risk factors (exposures to psychosocial traumas) and identified as being at genetic risk for depression and risky behaviors were randomized into the intervention group (receiving the intervention) and control group (not receiving the intervention). Young people in the intervention group with similar environmental and genetic risk to those who did not receive the intervention were less likely to develop internalizing and externalizing behaviors (Brody et al., 2009). Understanding the biology of resilience and risk as well as the neural plasticity for resilience allows for studies to promote resilience by targeting a group with genetic risk markers and attempting to cause a protective G x E effect (Sapienza & Masten, 2011). There is evidence to suggest that the genetic polymorphisms that are associated with vulnerability to negative life events may also be associated with greater responsivity to positive events/environments brought about by therapeutic interventions due to neural plasticity (Rutter, 2013).

Individual and environmental factors contribute to resilience in terms of vulnerability factors, risk factors, and protective factors. See Table 3.3.

Vulnerability is the inability to withstand the effects of a hostile environment (Skala & Bruckner, 2014). Vulnerability factors render a child less resistant to trauma and increased risk of developing psychological or physical symptomology.

Table 3.3 Vulnerability factors, risk factors, and protective factors

Vulnerability factors	Risk factors	Protective factors
Neuropsychological deficit Psychopathological factors Genetic factors Chronic disease Difficult temperament characteristics Unsure obligation organization Low cognitive abilities Low abilities to self-regulate tension and relaxation	Chronic poverty Adverse residential environment Chronic familial disharmony Parental divorce Frequently alternating partner of at least one parent Parental unemployment Parental substance abuse Parental mental illness Criminal parent Homelessness Low education level of parents Absence of one or both parents Teenage parents Frequent relocation or change of school Immigrant Familial social isolation Adoption, foster family Loss of sibling or close friend	Stable emotional attachment to one parent or another adult Flexible and little impulsive temperament Realistic perspective of future Psychological hardiness Self-esteem and social skills Sense of hope Respect and esteem for others Sense of control over life Support people (in and out of family – Teachers) Higher cognitive ability Good peer relationships Hobbies and creative pursuits Supportive community Positive school climate

Note. The factors in Table 3.3 represent factors discussed by Rutter (2013), Skala and Bruckner (2014), and the Centers for Disease Control (CDC, 2014)

Vulnerability factors can be primary (present at birth) or secondary (which develop during interaction with the environment; *see* Table 3.3). Examples of secondary vulnerability factors include chronic diseases or neurologic sequelae from accident or disease. A risk factor is an attribute that increases the probability of psycho- or physical pathology. Risk factors do not cause pathology; rather they increase the probability of an individual developing pathology. However, protective factors are individual, family, or community characteristics that mitigate stressful life events (trauma) and help individuals deal more effectively with traumatic life events (CDC, 2014).

Research into factors associated with resilience continues to evolve. Yule et al. (2019) in a meta-analysis of resilience in children exposed to violence (child maltreatment, domestic violence, and community violence) found certain factors at the individual, family, school/peer, and community level to be protective across all three levels of violence exposure. The individual factor most strongly associated with resilience was that of self-regulation followed by a positive self-perception and cognitive ability. Self-regulation, the ability to manage one's own emotions, impulses, and behavior, is conducive to the mastery of key developmental tasks that lead to competence in social, emotional, and academic functioning, thus nurturing resilience (Russell et al., 2016). Warm and caring relationships with parents, other

family members, teachers, and peers were also found to be a critical protective factor for children exposed to violence. These findings underscore the potential for teachers and peers to foster resilience, crucial for children whose parents and other family members are unable to be supportive or nurturant (Grych et al., 2015; Yule et al., 2019). Protective community factors include involvement in a religious organization, community cohesion, and extra-curricular activities outside of school. There are risk factors that appear to increase risk for psychopathology in children exposed to diverse forms of violence (Hamby & Grych, 2013), and at the same time there appear to also be common protective factors at play as well (Yule et al., 2019).

McLaughlin and Lambert (2017) examined protective factors in children exposed to domestic violence (DV). Exposure to DV is common in childhood. It is estimated that one in four children witness DV during childhood (Finkelhor et al., 2015). Childhood exposure to DV has been linked to a variety of negative consequences affecting both psychological and physical health (Bogat et al., 2006; Evans et al., 2008; Holt et al., 2008; Howell et al., 2016). Despite this risk, many children exposed to DV demonstrate resilience (Graham-Bermann et al., 2009; Howell, 2011). Caregiver support, especially maternal, was found to promote resilience by buffering threat processing after a traumatic event (McLaughlin & Lambert, 2017). Although DV complicates parenting, certain maternal parenting strategies have been found to enhance resilience in children exposed to DV (Fogarty et al., 2019). These maternal strategies include role monitoring, stable and consistent parenting, and talking to children about healthy relationships (Fogarty et al., 2019). Children who demonstrate higher sensitivity to positive and rewarding stimuli at both the neural and behavioral levels also appear to be more resilient against the development of trauma-related psychopathology (McLaughlin & Lambert, 2017). Although the exact mechanism of this protective effect remains unknown, high ventral striatum reactivity to reward is thought to be associated (McLaughlin & Lambert, 2017). Mature prefrontal-amygdala circuitry, a marker for mature emotional regulation, has also been found to be a buffer against the onset of psychopathology in trauma-exposed children.

Lavore et al. (2016) conducted a meta-analysis to determine the influence of protective and vulnerability factors on the physical health of trauma-exposed children. Protective factors were found to have a stronger influence upon resilience than vulnerability factors. These results suggest that the focus of professional intervention for trauma-exposed children should focus on enhancing protective factors rather than a deficit-focused model. A strengths-based approach may foster greater resiliency than a harms-reduction approach.

Evidence-Based Interventions

Resilience building is critical for trauma-exposed children. Resilience is not a stagnant concept but rather something that is dynamic and responsive to intervention. Promoting resilience is a complex problem that involves interventions at both the

macro- and micro-levels (Greenberg, 2006). Macro-level interventions provide the framework for micro-level interventions aimed at the community, family, and individual (Oral et al., 2016). The focus of macro-level interventions occurs at the level of economic and social policy to create community environments, attitudes, and behaviors that are safe, supportive, and healthy (Hornor, 2017). Macro-level interventions aim to strengthen resilience within the entire population by focusing on the primary prevention of childhood trauma exposure while maximizing community strengths. These interventions are targeted at the population level and will have the broadest individual and societal impact (Oral et al., 2016). Examples of resilience promotion at the societal level include legislation and policy aimed at reducing resource disparity such as raising the minimum wage, improving the universal affordability of higher education, and improving access to mental health services.

The child advocacy center (CAC) movement is an example of intervention at multiple levels, macro- and micro-level, that has resulted in resilience building (Hornor, 2008). Legislation and funding at the federal level have resulted in state and community development of CACs aimed at improving the multidisciplinary assessment of children for concerns of child maltreatment, thus decreasing the trauma of the investigative process and facilitating the linkage of abused children and their families with resources to promote healing and resilience (Hornor, 2017). CACs promote resilience-building interventions at the community, family, and individual levels.

The integration of trauma-informed care (TIC) into systems providing care for children and families is another example of multi-level intervention to address trauma exposure. Legislation and funding at the national level have allowed for micro-level intervention. Professionals working with children and families, including healthcare providers, counselors, social workers, psychologists, and child protective services workers, can promote resilience in trauma-exposed children and families by ensuring that concepts of trauma-informed care are consistently reflected within their organizations as well as within their individual practice behaviors (Hornor et al., 2019). TIC aims to decrease the impact of emotional and psychological trauma on all participants within a system of care (Weiss et al., 2017). TIC requires a comprehensive multi-level approach that changes the way organizations and individual practitioners view and approach trauma (Oral et al., 2016). Four essential elements of TIC are realizing the significant impact of trauma; recognizing how trauma may affect children, families, and staff; applying TIC knowledge into practice; and preventing re-traumatization (Substance Abuse & Mental Health Services Administration, 2015). Implementation of an effective TIC model of care within a system requires a tiered approach including universal, targeted, and specialty levels. See Table 3.4 for an example of a pediatric healthcare trauma-informed model of care at the three tiers, with examples for action/intervention.

TIC involves the universal screening of child and caregivers regarding potential trauma exposure. A psychosocial history can be gathered by asking parents/caregivers questions to better determine not only trauma exposure but also familial strengths. See Table 3.5 for an example of questions adapted from Hornor (2017) to

Table 3.4 Pediatric healthcare trauma-informed model of care: tiers with a comparison of usual care and trauma-informed suggestions for action/intervention

Tiers	Usual care	Trauma-informed care	Suggestions for action/ intervention
Universal	Medical and surgical history	Screening for trauma exposure	Psychosocial history Safe environment for every child Adverse childhood experiences
Targeted	Referral to counseling for behavioral concerns	Referral to trauma-focused mental health therapy	Trauma-focused cognitive behavioral therapy Eye movement desensitization & reprocessing
Specialized	Counseling and medications	Targeted intervention plus specific familial interventions to address trauma noted in screening (parental drug/alcohol; domestic violence)	Case management services to insure follow-through with recommendations Referral to child protective services when concern for child maltreatment arises

Note. Information in Table 3.4 is adapted from Sperlich et al. (2017)

ask to obtain a thorough psychosocial assessment and references to validated screening tools for assessing child and family trauma exposure.

TIC involves targeted interventions to address trauma symptoms in children coupled with specialized interventions to address specific familial traumas noted in screening such as domestic violence, parental drug/alcohol concerns, or parental mental health concerns. TIC care builds resilience at the community, family, and individual levels.

Micro-level resilience-building interventions attempt to improve the culture, attitudes, and relations in communities, schools, peer groups, and families by building communication skills and values that encourage positive development processes, such as parenting classes, anti-bullying policies and programs, and drug education programs (Greenberg, 2006). Such interventions often focus on strengthening children's relationships with parents, siblings, other relatives, and peers. Healthy relationships build resilience (Oral et al., 2016). Evidence-based programs that have shown to positively affect the parent-child relationship while reducing trauma-exposure, especially child maltreatment, include Circle of Security (Cassidy et al., 2011), Incredible Years (Webster-Stratton & McCoy, 2015), and Nurse Family Partnership (Jack et al., 2015). Interventions strengthening communities in which children live also promote resilience, for example, community programs that focus on violence reduction in at-risk neighborhoods and increased access to food pantries, homeless shelters, and domestic violence shelters.

Individual-level interventions are crucial; attributes inside the individual may be able to be molded to promote resilience. Identifying individual strengths and interests and encouraging/supporting them build resilience. Participation in academics, athletics, the arts, or other activities that children are passionate about and excel in

Table 3.5 Psychosocial assessment questions and validated screening tools for assessing trauma exposure

Area	Sub-area
Family tree	Parents' names and ages Names and ages of siblings Living arrangement of child
Parental employment/financial stressors	
Parental drug/alcohol concerns	
Parental diagnoses	Cognitive delay Anxiety Depression Other diagnosis Psychiatric medications or admissions
Interpersonal violence	
Mother/father/family	Sexual abuse as a child Physical abuse as a child Child protective services involvement as a child
Involvement with child protective services	Past or current involvement
Involvement with law enforcement	Past or current involvement
Support systems	
Strengths	
Validated screening tools for assessment of trauma in children and families Safe Environment for Every Kid https://seekwellbeing.org/seek-materials/	
Adverse Childhood Experiences https://www.ncjfcj.org/sites/default/files/Finding%20Your%20ACE%20Score.pdf	
Child and Adolescent Trauma Screen https://depts.washington.edu/hcsats/CBT/Assessment/Child%20and%20Adolescent%20Trauma%20Screen%20(CATS)%20Youth-Self%20Report%20(7-17%20years).pdf	
Domestic Violence Screening http://www.domesticviolence.nsw.gov.au/__data/assets/file/0020/301178/DVSAT.pdf	

can give them a sense of accomplishment and confidence (Hornor, 2017). Peer relationships are also strengthened by these pursuits which also supports resilience growth. Table 3.6 presents ideas for building skills that foster resilience in children which were adapted from Block (2016).

Mindfulness is an evidence-based intervention that builds resilience at the individual level. Mindfulness can be used as a healthy coping mechanism to build self-regulation and resiliency in children and adolescents (Iacona & Johnson, 2018; Leventhal et al., 2016). Numerous studies have proven the effectiveness of the use of mindfulness programs and modalities in managing trauma triggers, providing resilience, and improving emotional regulation for children and adolescents (Allen

Table 3.6 Skills that build resilience

Skill	Intervention
Confidence that they can handle a situation	Focus on individual strengths Academic Athletic Arts Personality
Confidence in their own abilities	Honest praise Point out skills
Connection	Parents Siblings Family Other adults Faith/spiritual community School Peers
Morals and values	Understanding how their behavior affects others
Contribution	Work as a team Service to others
Coping	Ability to make sound decisions
Planning	Working through a process to reach a goal

et al., 2012; Frewen et al., 2015; Ortiz & Sibinga, 2017). Mindfulness involves the use of a present-focused, non-judgmental awareness in life (Ortiz & Sibinga, 2017). Although all individuals have the capacity for mindfulness (non-reactivity, awareness, focus, attention, and non-judgment), variability exists in the amount and quality of mindfulness among individuals. Mindfulness has been found to aide trauma-exposed individuals (Ortiz & Sibinga, 2017) by negating the acute response to trauma and stress while inhibiting underlying consequences of toxic stress such as psychiatric, metabolic, and cardiovascular disease by influencing health behaviors, underlying biochemistry, and neurobiology. Studies indicate that mindfulness may mitigate mental health symptoms and behaviors, improve quality of life, decrease somatic symptoms, and improve coping in children and adolescents, especially those who have been trauma-exposed. Studies suggest multiple benefits resulting from mindfulness programs for children and adolescents: decreased anxiety (Jee et al., 2015; Sibinga et al., 2013); decreased rumination (Sibinga et al., 2013); flatter cortisol curve (Jee et al., 2015; Sibinga et al., 2013); less somatization (Biegel et al., 2009; Sibinga et al., 2016); decreased depression (Kuyken et al., 2013; Sibinga et al., 2016); improved social gains (Jee et al., 2015); decreased hostility (Biegel et al., 2009; Sibinga et al., 2014); decreased suicidal ideation and self-harm (Britton et al., 2014); improved conflict avoidance (Sibinga et al., 2014); improved attention (van de Weijer-Bergsma et al., 2012); and greater well-being (Kuyken et al., 2013).

Mindfulness training can be unstandardized and offered in formats such as educational sessions, art therapy, group therapy, yoga, or other mind-body interventions (Ortiz & Sibinga, 2017; Leventhal et al., 2016). Yoga programs in schools have been

Table 3.7 Examples of evidence-based mindfulness programs for children

Program	Website
Inner Resilience Program	http://www.innerresilience-tides.center.org/
Mindful Schools	http://www.mindfulschools.org
Learning to Breathe	http://www.learning2breathe.org
Mindfulness in Schools Project	http://www.mindfulneeinschools.org
Still Quiet Place	http://www.stillquietplace.com
Stressed Teens	http://www.stressedteens.com
Wellness Works in Schools	http://www.wellnessworksinschools.com/
Center for Mindful Awareness	http://www.centerformindfulawareness.org

Note. Source: Ortiz and Sibinga (2017)

found to have benefit in developing resiliency skills (Brodie et al., 2018). Yoga has been found to improve self-regulation, mindfulness, stress reduction, self-esteem, and other aspects of emotional well-being (Wang & Hagins, 2016). Mindfulness programing can also be structured and standardized with evidence-based efficacy. Table 3.7 provides guidance on mindfulness-based interventions for youth.

Mindfulness is a safe, economical, and effective modality that can be used as an adjunct to therapy to build resiliency and emotional regulation in trauma-exposed children.

Cognitive behavior therapy (CBT) is well-established as a treatment for child trauma-related psychopathology (McLaughlin & Lambert, 2017). CBT for trauma-exposed children targets social information processing biases with cognitive coping techniques, emotional learning, emotional reactivity with relaxation training, and emotion regulation affective modulation skills. Parents are also included in CBT treatment with the aim of improving parenting skills and enhancing the parent-child relationship. A crucial new direction for future research into the efficacy of CBT is to determine whether the intervention techniques targeting threat processing and caregiver support can prevent the onset of symptoms in trauma-exposed children, thus providing resiliency against post-traumatic stress disorder and anxiety (McLaughlin & Lambert, 2017).

School provides an excellent environment to promote resilience in trauma-exposed children. However, time spent in school is not always positive. Trauma-exposed children are at risk for a negative school experience (Brodie et al., 2018). Additionally, school misbehavior is often punished by out-of-school suspensions, with 7% of public school students receiving a suspension in the 2011–2012 school year (US Department of Education for Civil Rights, 2014). The American Academy of Pediatrics (2013) recommends schools identify at-risk children early and ensure supports and make referrals to mental health and social service agencies as well as involving parents and healthcare providers. A modification of the student's school environment or educational program is often needed to best support the trauma-exposed child's educational needs. Pediatric providers of all disciplines should advocate for supportive school environments for students at the local level (Brodie et al., 2018). Advocacy fosters resilience by reducing the negative effects of

Table 3.8 Examples of evidence-based, school-based self-regulation interventions

Author	Intervention	Website
	Tools of The Mind	https://toolsofthemind.org/ and https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_toolsofmind_091608.pdf
	Student Success Skills Program	https://studentsuccessskills.com/our-evidence-based-curriculums/student-success-skills-classroom-manual/ and https://studentsuccessskills.com/research/
Flook et al. (2015)	Kindness Curriculum	https://centerhealthyminds.org/join-the-movement/lessons-from-creating-a-kindness-curriculum
Feinberg et al. (2013)	Siblings are Special	https://hhd.psu.edu/hdfs/siblings-are-special-program
O'Connor et al. (2014)	INSIGHTS	https://psycnet.apa.org/record/2014-14386-001

suspensions and expulsions on the student, school, and community. Pandey et al. (2018) conducted a meta-analysis examining self-regulation interventions in children aged 2–17 years, many of which took place in a school setting. The ability to self-regulate one's emotions is key to resilience in trauma-exposed children. Over three fourths (76%) of the included curriculum-based interventions improved self-regulation, and nearly half were found to also enhance long-term effects, such as academic achievement, decreased substance use, and positive social or behavioral indicators. Table 3.8 provides examples of school-based interventions to promote self-regulation in children.

Ungar (2013) discusses the importance of effective social service intervention in facilitating resilience in children who have experienced child maltreatment or other forms of trauma. Trauma-exposed children often receive interventions by multiple service providers including child welfare, special education, mental health, addictions, healthcare, and juvenile justice. Ungar (2013) suggests that the resilience of trauma-exposed children can be enhanced by the inclusion of three elements into the design and implementation of targeted interventions: improve the availability and accessibility of social supports and formal services; design programs with flexibility to enable the ability to respond to the differential impact specific types of interventions have on children who have experienced different forms of trauma; and design interventions that are more focused on subpopulations of children who have experienced trauma rather that diffuse population-wide initiatives.

Another example of macro-level legislation and policy mandating a micro-level practice intervention is that of mandatory reporting of child maltreatment which is required by a variety of professionals working with children and adolescents. Wekerle (2013) discussed the concept of mandated reporting of child maltreatment in terms of resilience building for children and families. The United Nation's Convention on the Rights of the Child states that children have the right to be protected from violence (United Nations Human Rights Office of the High Commissioner, 1989). Nearly every country, including the United States, has

enacted legislation protecting children from violence in the form of child maltreatment. Children and adolescents are dependent upon adults for safety and survival. Children and adolescents are not developmentally capable of separating themselves from harmful situations; they must be protected from violence. Child victims of all forms of child maltreatment are at risk to experience a variety of short- and long-term negative consequences (Wekerle, 2013). Mandatory reporting of child maltreatment is not, as yet, considered an evidence-based intervention promoting resilience in maltreatment children; however, Wekerle (2013) argues that mandatory reporting does indeed build resilience in trauma-exposed children. Mandatory reporting laws reinforce the wrong of the act against the child and the right of the child. Laws requiring mandatory reporting of child maltreatment, a major source of childhood trauma exposure, are designed to prevent the child from ongoing/additional abuse while linking the child with effective interventions to decrease sequelae. Reporting laws may promote resilience by official acknowledgment of the wrong of the abuse to the child, the perpetrator of the abuse, and the non-offending caregiver; protection from violence, protecting the index child from re-victimization and other children, including siblings, from abuse; and the opportunity to provide interventions to children and families to address not only the abuse but also other identified familial psychosocial risk factors such as domestic violence, parental mental health concerns, etc. (Wekerle, 2013). Additional research is needed to identify mandatory reporting of child maltreatment as an evidence-based intervention promoting resilience in victims of child maltreatment.

Nurturing Positivity and Well-Being in Children

Ideas for Promoting Resilience of Families

It is difficult to separate interventions that stimulate resilience in children from those that stimulate familial resilience; both are intricately inter-woven. Interventions promoting familial resilience also promote the resilience of children and vice versa. The normal development of children can be negatively impacted by exposure to trauma, including poverty, domestic violence, child maltreatment, and harsh or inconsistent parenting (Felitti et al., 1998; Moffitt & Klaus-Grawe Think Tank, 2013). Fundamental to preventing trauma exposure in children is creating safe, stable, nurturing relationships and environments for all children and families (Merrick et al., 2019). The CDC's (2019) comprehensive approach to preventing trauma exposure in children and strengthening families includes promoting social norms that protect against violence and adversity (education campaigns to encourage positive parenting) and intervention to lessen the impact of trauma exposure by screening, referral, and support.

Parenting is the most important modifiable influence upon a child's mental and physical health, general well-being, and life course pathway (Sanders &

Mazzucchelli, 2018). Parenting impacts many aspects of child development including cognition, emotional regulation, language, social skills, personal values, and academic achievement (Center on the Developing Child at Harvard University, 2016). Improving parenting skills can enhance the development and well-being of all children and promote resilience in trauma-exposed children while strengthening the parent-child relationship (Sander et al., 2020; Turner et al., 2020).

The Triple-P Positive Parenting Program is an evidence-based preventively oriented multilevel system of parenting support. Positive parenting is defined as the continual relationship of a parent (s) and a child that includes caring, teaching, leading, communicating, and providing for the needs of a child consistently and unconditionally (Seay et al., 2014). The Triple-P Program was developed with the goal to improve the population-level reach and impact of parenting interventions. Triple-P aims to prevent and treat social, emotional, and behavioral problems in children by enhancing the knowledge, skills, and confidence of parents (Sanders, 2012). The core positive parenting practices of this program are ensuring a safe and engaging environment; creating a positive learning environment; using consistent, nonviolent discipline; having realistic expectations; and taking care of oneself as a parent (Sanders, 2012).

Triple-P incorporates five levels of intervention on a tiered continuum of increasing strength and narrowing population reach for parents of children from birth to age 16 (Sanders et al., 2014). Triple-P includes both universal and targeted interventions which have been developed to meet the varying needs of parents within a comprehensive system of supports to parents. The levels differ in intensity, contact with practitioners, and delivery method. Level 1 involves using the media and positive communication strategies to promote positive parenting. Level 2 involves brief interventions of approximately one to three sessions to teach positive parenting skills, while level 3 contains three to four sessions. Level 4 includes eight to ten sessions, and the sessions can be individualized or in groups and may be delivered in a workbook format. Level 5 interventions are "enhanced" and encompass level 4 services and possible adjunct individual or group sessions to address additional problems (Sanders et al., 2014).

Universal (level 1) interventions can be easily incorporated into a variety of settings where children receive care including healthcare, daycare, and schools. Parents often look to professionals working with their children for advice and guidance (Taylor et al., 2017). Providing education, modeling, and encouragement of positive parenting practices can aid parents in improving their parenting skills. Professionals working with children can also enhance access to more targeted interventions (levels 2–5) to address identified parenting concerns. Triple-P is an evidence-based intervention that has been proven to improve social, emotional, and behavioral outcomes for children while enhancing parenting practices and confidence (Sanders et al., 2014).

It is critical that clinicians working with children possess knowledge regarding interventions that promote resilience of the family. Family resilience can be defined as the functioning of the family system when dealing with adversity (Walsh, 2016). True resilience is more than coping or surviving trauma; rather it involves positive

adaptation, finding the ability to thrive, with resulting personal and relational change and positive growth forged through the experience of recovery. Fundamental to the concept of family resilience is that serious traumatic events and chronic adverse life experiences affect the entire family, their relationships, and the family unit (Walsh, 2016). At the core of family systems, research is an exploration of effective family functioning in dealing with adverse conditions. Familial strengths and vulnerabilities must be assessed and addressed in relation to a family's trauma exposure (Walsh, 2016).

It is crucial that professionals working with children and families, especially those exposed to trauma, assess for parental and child exposure to adverse childhood experiences (trauma) as well as individual and familial strengths and support systems. See Tables 3.5 and 3.6 for examples of psychosocial assessment tools and trauma screens. The American Academy of Pediatrics (AAP, 2018) also supports the importance of screening for adverse childhood experiences and trauma as an essential first step in the prevention of childhood trauma exposure and strengthening families. The AAP suggests assessment tools at this website: https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/resilience/Pages/Clinical-Assessment-Tools.aspx.

The intergenerational cycle of trauma exposure requires professionals working with children to undergo a paradigm shift in service provision (Dube, 2018). Healing and recovery in adult survivors of trauma (parents and other caregivers) are a crucial step to the primary and secondary prevention of trauma exposures in children (Dube & Rishi, 2017). Trauma-informed care recognizes the importance of screening for trauma exposure, followed by a more focused follow-up assessment when trauma exposure is revealed (Dube, 2018). A key clinical intervention is to provide child/family education and targeted anticipatory guidance regarding the identified trauma exposure (Gilgoff et al., 2020). Anticipatory guidance has been shown to have positive outcomes in improving child and family functioning in a variety of ways including parent-child interactions (Hsu et al., 2018) and violence prevention (Sege et al., 2006). Anticipatory guidance should always be developmentally appropriate, culturally sensitive with an understanding of implicit bias. Anticipatory guidance involves helping children/families understand trauma and toxic stress and to be aware of what types of home, school, or other settings may be resulting in trauma exposure for the child. Possible symptoms of trauma exposure in children should be discussed including sleep disturbance, anxiety, focusing difficulties, and other behavioral indicators. Anticipatory guidance can also aid the parent/caregiver in understanding what they can do to buffer their child's stress and how to use positive parenting skills to build resilience in their child. A discussion of trauma exposure is not intended to elicit feelings of blame or shame in children or caregivers, rather insight into healing-centered and strengths-based approaches to reduce/eliminate trauma exposure while promoting resilience in children and families. Clinicians must have knowledge of local, accessible evidence-based interventions to provide children and families to address identified trauma exposures. Working with children and families to ensure that the trauma exposure needs of all family members are

addressed can do much to foster resilience in children and their families (Dube, 2018; Gilgoff et al., 2020).

Ideas for Growth in the Field

The relationship between psychosocial trauma exposure in childhood and negative lifelong physical and psychological health outcomes was solidified by the landmark ACE study (Felitti et al., 1998). While we have a beginning understanding of trauma and resilience, additional research is needed to solidify our understanding of resilience in trauma-exposed children and interventions that enhance that resilience. We are at a critical juncture to better prevent trauma exposure in children and to intervene appropriately when trauma exposure occurs.

Several strategies to expand our current knowledge have been suggested. Yule et al. (2019) suggest that further exploring protective factors most consistently linked to resilience building in children will aid in the design of interventions to better prevent or reduce the negative impact of trauma exposure on children. Current research suggests the importance of loving caregiving and strong family relationships in both the prevention of trauma exposure in children and the reduction of trauma exposure impact. It would be interesting to explore the impact of the institution of a widespread public service media campaign aimed at educating the public regarding principles of positive parenting emphasizing the use of consistent, nonviolent discipline upon trauma exposure in children. Previous educational campaigns touting the importance of the use of seatbelts in cars and safe sleep for infants have resulted in positive public health outcomes.

Further research is also needed to explore the impact of universal screening of children and families for trauma exposures in settings such as healthcare, mental health, and social service on trauma prevention and resilience building (Finkelhor, 2018). Dubowitz et al. (2016) emphasize the need for further research into how some children cope with adversity and factors that predict positive outcomes. This knowledge could be used to guide clinical practice and interventions (Lavore et al., 2016).

Mindfulness has demonstrated promise in preventing the negative outcomes related to childhood trauma exposure (Ortiz & Sibinga, 2017). Additional research is needed to explore the mechanisms of mindfulness along with the long-term outcomes of mindfulness interventions across the life span, from childhood to adulthood, including outcomes in subsequent generations.

Schools provide another setting for promoting resilience in children by creating healthy relationships and building individual strengths (Yule et al., 2019). Historically, schools have focused on interventions to reduce disruptive student behaviors, often via punitive discipline practices. However, in recent years schools have instituted programs to promote mental health and well-being in children and teachers via social emotional learning (SEL). SEL is at the heart of trauma-sensitive schools. Trauma-sensitive schools represent a whole-school approach that

incorporates a SEL curriculum with supports to students, families, and staff (Plumb et al., 2016). A trauma-sensitive model recognizes the significant impact trauma exposure can have on human behavior and learning and provides a multi-tiered system of intervention (Dorado et al., 2016; Kataoka et al., 2018). Primary or universal interventions are included in the model (staff education regarding trauma exposure prevalence and impact), selected or secondary interventions (skill building interventions to promote student empowerment), and also targeted or tertiary interventions (trauma-based individual, group, and family therapy). Further research is needed to evaluate the efficacy of trauma-sensitive schools.

Conclusion

Trauma exposure is a significant and prevalent problem for children and their families. It is crucial that professionals working with children and families be knowledgeable regarding trauma and resiliency as well as evidence-based interventions that prevent trauma exposure and those that promote resilience building in trauma-exposed children and families. This chapter explored several evidence-based interventions that provide promise in promoting resilience in trauma-exposed children as well as ideas for future research to increase current knowledge.

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Chapter 4
Grit and Resilience in Children

Laila Y. Sanguras

Introduction

The idea of what grit looks like crystallized for me several years ago. My stepson was a baseball player, playing on both school and club teams. I took him to practice in the 100-degree Texas heat where he would hustle for hours, working to improve his pitching and hitting before the next game. He regularly missed outings with friends and family vacations, but did not complain one time (and he complained about other things, so I knew that he was capable of it).

When I taught eighth grade, I remember having one student in class who was so advanced in math that he was taking an online calculus course while his peers were taking algebra. I had another student who regularly reported during our "Monday morning updates" that she had submitted yet another piece of writing over the weekend to a publishing contest. One boy struggled immensely with reading comprehension, and he would come to my room every day during lunch so that we could talk through the text we were reading in class.

I wondered again and again, what was the difference between these kids and others? Why did some continue to push themselves while others gave up? Furthermore, why would they work incredibly hard in one area of their lives, but not another? These questions led me to my interest in grit.

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What Exactly Is Grit?

Grit is a psychological concept that is often thought of as stick-to-it-iveness or the commitment to a task despite obstacles. For some, it feels like the missing ingredient that is needed to help a struggling student be successful or to get a 25-year-old to move out of his parents' house. For others, it feels like a psychological cop-out that excuses the effects of children living in poverty attending poor performing schools, placing the blame on the children's lack of grit rather than the systemic inequities of the situation. In this chapter, we will learn about the instruments that measure grit, will examine the research that has been conducted on the predictive validity of grit on academic and psychological constructs, and will consider the oppositional views on grit research. I will also share ideas for developing grit and resilience in children, as well as areas for future research.

Angela Duckworth, a professor at the University of Pennsylvania, has dedicated her career to researching grit and self-control. She was arguably catapulted to academic stardom when the results of her grit studies led her to earn a coveted MacArthur Fellowship and film her profoundly popular 2013 TED talk called "Grit: The Power of Passion and Perseverance." Duckworth et al. (2007) define grit as "perseverance and passion for long term goals," and her teams have built a long (12-item) and short (8-item) *grit scale* around these two factors (Duckworth et al., 2007; Duckworth & Quinn, 2009).

However, Duckworth's definition of grit is not the only one. It has also been defined as "motivation, self-control, a positive mindset, and goal-directedness" (Reed & Jeremiah, 2017, p. 253). Another definition of grit is "to sustain a focused effort to achieve success in a task, regardless of the challenges that present themselves, and the ability to overcome setbacks" (Sturman & Zappala-Piemme, 2017, p. 2). Note that both of these definitions emphasize the perseverance facet of Duckworth's definition and do not include interests or passion.

Some argue that grit is simply repackaged conscientiousness (e.g., competent, organized, disciplined, and achievement-striving) from the *Big Five Inventory* (BFI; John & Srivastava, 1999). Credé et al. (2017) suggest that the inclusion of the consistency of interest factor is superfluous and that grit may be better conceived as a construct related to perseverance alone. While researchers have found strong correlations between conscientiousness and grit (Duckworth & Quinn, 2009; Ivcevic & Brackett, 2014), Duckworth et al. (2007) argue that grit is unique from conscientiousness because of the emphasis on stamina.

Measuring Grit

While the discord surrounding what grit actually is has resulted in the creation of several different instruments to measure grit, the scales developed by Duckworth and her teams are the most widely used. In a meta-analysis of peer-reviewed journal

articles, book chapters, and doctoral dissertations (published from 2007–2018), Lam and Zhou (2019) found that most researchers studying grit used the *Grit-S Scale* (Duckworth & Quinn, 2009), followed by the *Grit-O Scale* (Duckworth et al., 2007). Both instruments can be found on Duckworth's website (Angela Duckworth, 2021; https://angeladuckworth.com/).

The *Grit-O Scale* consists of 12 items that equally measure "effort in the face of adversity … [and] consistency of interests over time" (Duckworth et al., 2007). After taking the questionnaire, add up the points and divide by 12 for a grit score ranging from 1 (not at all gritty) to 5 (extremely gritty). When they were validating the instrument, Duckworth et al. (2007) found that the Consistency of Interest subscale ($\alpha = .84$), the Perseverance of Effort subscale ($\alpha = .78$), and the overall instrument ($\alpha = .85$) exhibited high internal consistency.

Two years later, Duckworth and Quinn (2009) selected a subset of eight items in the original 12-item *Grit-O Scale* (Duckworth et al., 2007) and found that the two-factor structure (Consistency of Interest and Perseverance of Effort) of the original scale was maintained in this abbreviated measure. The eight items are still evenly split across the two factors, although Duckworth recommends the use of the 12-item instrument over the abbreviated version (Duckworth, 2021). The correlation between the original *Grit-O Scale* and the shorter *Grit-S Scale* was high ($r = .96$) and the internal consistencies of Perseverance of Effort subscale ($\alpha = .70$), Consistency of Interest subscale ($\alpha = .77$), and all eight items ($\alpha = .82$) were reasonable.

Sturman and Zappala-Piemme (2017) found that the items on the *Grit-O Scale* were written at too high of a reading level for younger or developmentally delayed individuals. They also did not see the need for consistency of interest to be included as a grit factor and constructed the *Grit Scale for Children and Adults* (*GSCA*). The *GSCA* consists of 12 items written at a fourth- or fifth-grade reading level. The scale demonstrated high reliability ($\alpha = .84$) and was moderately correlated to the *Grit-O Scale* ($r = .50$), the *Grit-O Scale* perseverance of effort subscale ($r = .37$), and the *Grit-O Scale* consistency of interest subscale ($r = .28$) in their initial study.

Interested in whether grit manifests itself differently within collectivist societies, Datu et al. (2017) asked Filipino undergraduate students to describe times in their lives when they persevered through challenges. The students described the importance of perseverance and maintaining consistency of interests but also indicated that "adaptability to situations" was an important characteristic. Based on this data, the *Triarchic Model of Grit Scale* (*TMGS*; Datu et al., 2017) was created. The instrument consists of ten items to measure three factors: consistency of interest, perseverance of effort, and adaptability. Datu et al. (2017) describe adaptability as "expecting challenges, accepting challenges, being flexible, and displaying a drive to overcome any new difficulties" (p. 199). Based on data gathered from a sample of university students ($N = 146$), each dimension of the scale demonstrated reasonable reliability ($\alpha_{\text{perseverance}}$ (3 items) = .84; $\alpha_{\text{consistency}}$ (3 items) = .84; $\alpha_{\text{adaptability}}$ (4 items) = .88).

When considering grit, resilience, and other socially desirable psychological constructs, we often want to know (1) why they are important, (2) how we can

measure them, and (3) how we can improve them. Considering how we measure them allows us to better conceive of what these constructs actually are. While there is not a universally agreed upon definition or measurement model of grit, hopefully you have a conceptual understanding of what it is. From here, we will consider why we should care about it.

Grit and Academic Achievement

Schools continue to be under pressure to demonstrate improvement in students' academic outcomes. In many cases, funding for school programs tends to decrease or stay the same over time, yet the public and legislative pressure to show improvement continues to increase. This leaves school administrators and teachers left to identify and target specific variables that will hopefully positively influence those academic performance indicators. Most of the research that explores the relationship between grit and academic achievement typically examines grade point average (GPA) or course grades. Furthermore, the samples included in studies on grit and academic achievement tend to include older adolescents and adults.

In multiple studies, grittier high school students reached higher levels of academic achievement (Cosgrove et al., 2018; Li et al., 2018; MacCann & Roberts, 2010; Rimfeld et al., 2016; Sheehan, 2014; Wang et al., 2017). In a study focused on the subscales of the *Grit-S Scale* (Duckworth & Quinn, 2009), Steinmayr et al. (2018) found that perseverance of effort alone was significantly predictive of high school students' GPA. Additionally, middle and high school students with higher scores in that same subscale (perseverance of effort) had higher GPAs and participated in more extracurricular activities (Quinn & Duckworth, 2007).

Perseverance of effort, measured by the *Grit-S Scale* (Duckworth & Quinn, 2009), was a statistically significant predictor of college satisfaction, college sense of belonging, college GPA, and academic achievement in undergraduate students (Bowman et al., 2015). Interestingly, consistency of interest was not notably predictive of those same variables. However, Williams (2017) found that each of the grit subscales was separately significantly predictive of the first-year GPA of college undergraduate students. Additional studies have similarly reported the predictive power of perseverance of effort on college GPA (Akos & Kretchmar, 2017; Chang, 2014; Lounsbury et al., 2009). Results of additional studies also indicate that overall grit is predictive of undergraduate students' GPA (Duckworth et al., 2007; Hill, 2016; Lee, 2017a; Lee & Sohn, 2017; Schmidt et al., 2017) and course grades (Hodge et al., 2018; Lee, 2017b; Mason, 2018; Rojas, 2015).

Grit has also been found to be statistically significantly related to the GPA of doctoral students (Cross, 2014) and pharmacology students (Pate et al., 2017) and to the Academic Program Score (APS) of West Point students (Kelly et al., 2014). This makes sense when considering the foundational grit studies conducted by Duckworth and her team. In their creation and validation of the original *Grit Scale* (*Grit-O Scale*), Duckworth et al. (2007) found that adults ($N = 1545$) who scored

higher on the scale had earned higher levels of education; specifically, participants who were post-college graduates had higher grit scores than most other levels of education (bachelor's degree, some college, high school graduate, some high school).

Course grades and GPA are not the only academic variables that have been studied in relation to grit. High school students with higher scores in overall grit had fewer school absences than those students with lower grit scores (Batres, 2011). Eleventh-grade students with higher grit scores had higher graduation rates than students with lower grit scores (Eskreis-Winkler et al., 2014). West Point cadets ($N = 1308$) who scored higher on the *Grit-O Scale* had a higher likelihood of completing their first summer at West Point (Duckworth et al., 2007). Participants' total scores even predicted the final round achieved in the Scripps National Spelling Bee (Duckworth & Quinn, 2009).

Domain Specific Grit

Duckworth and Quinn (2009) introduced the possibility that grit is domain specific, suggesting that a person may be gritty in one area of their life, but not all. It is likely that you can name someone who demonstrates perseverance of effort and consistency of interest when playing a sport, engaging in a hobby, or pursuing a career, but that same level of grit does not transfer to other domains.

Based on their study of university student athletes ($N = 251$), Cormier et al. (2019) recommended that, while they found consistency of grit scores across a variety of contexts, grit should be measured within specific subject areas when attempting to predict GPA. They revised the original *Grit Scale* (Duckworth et al., 2007) and modified the directions to indicate their agreement with each statement "as an athlete in sport" for the *Sport Grit Scale* and how each statement describes their "academic pursuits at school" for the *School Grit Scale* (p. 350). They found that their sample of student athletes demonstrated higher levels of grit on their *Sport Grit Scale* than on the *School Grit Scale* and the original *Grit Scale* but acknowledge that the overwhelmingly higher levels of grit on their *Sport Grit Scale* can possibly be attributed to the fact that their entire sample consisted of college athletes.

Schmidt et al. (2017) similarly adapted the *Grit-S Scale* (Duckworth & Quinn, 2009) to create a school-specific grit scale. While the researchers did not specifically name these adapted scales, we can conceive of their instruments as the *School-Specific Grit Scale*, the *Subject-Specific Grit Scale*, and the Duckworth and Quinn (2009) original *Grit-S Scale*. Schmidt et al. (2017) found that their *School-Specific Grit Scale* significantly correlated to GPA ($r = .31$). They also tested the predictive ability of the *School-Specific Grit Scale* and the *Grit-S Scale* on GPA, and the *School-Specific Grit Scale* was significantly predictive, while the *Grit-S Scale* was not. The researchers became even more domain-specific with their study and tested whether the perseverance of effort subscale of the *Subject-Specific Grit Scale* (German and math) would predict German and math grades. Interestingly, they

found that the *School-Specific Grit Scale* was more predictive than the *Subject-Specific Grit Scale* (Schmidt et al., 2017).

The research on domain specificity of grit is mixed, which may bring us back to how we define and measure grit. Cormier et al. (2019) and Credé et al. (2017) found that perseverance of effort is a stronger predictor of GPA than consistency of interest.

However, there is research to indicate that grittier high school students earn higher exam grades in mathematics (Al-Mutawah & Fateel, 2018), language, and science (Dumfart & Neubauer, 2016). Is it the presence of grit that leads to higher grades, or is it the nature of these courses that results in an increase in grit?

Grit and Psychological Factors

In addition to the pressure to increase students' academic performance, there has been a resurgence of emphasis on students' emotional health. Now more than ever, administrators, teachers, parents, and the public are engaging in conversations about the whole child, and grit has certainly been a topic of these conversations.

Student motivation and engagement are often characterized by teachers as the elusive remedy to low academic performance. They ask often – in professional development, in the faculty lounge, and on Twitter – about strategies to influence these behaviors. What if grit were a component of this elixir? Datu et al. (2018) found that in a sample of 504 Filipino high school students, grit was positively and statistically significantly related to behavioral, cognitive, and emotional engagement ($r = .52$, $r = .45$, and $r = .43$, respectively). These facets of engagement are based on the framework that students desire to actively work on the task at hand, engage their thinking about the task, and feel positive emotions when engaging in the task (Reeve & Tseng, 2011). Those are the exact behaviors that teachers want to see in their students. An additional team of researchers found that, among primary and middle school students ($N = 1824$), regulation and intrinsic motivation statistically significantly mediated the relationships between students' levels of growth mindset and grit (Zhao et al., 2018). After self-reporting on the *Growth Mindset Inventory* (Dweck, 2006), the *Self-Regulation Questionnaire* (SRA-Academic; Ryan & Connell, 1989), and the *Grit-S Scale* (Duckworth & Quinn, 2009), the adolescent participants with the highest relationships between growth mindset and grit were also intrinsically motivated and demonstrated identified regulation. This affirms the intimation that motivation, growth mindset, and grit are all meaningfully related to one another.

As I have conducted more workshops with parents over the years, I have noticed an interest in helping their children minimize and/or manage stress levels. While the research is still emergent in this area, both of the *Grit-S Scale* (Duckworth & Quinn, 2009) subscales (Perseverance of Effort and Consistency of Interest) negatively predicted the stress levels of college students, suggesting that students with higher levels of grit are more likely to have lower levels of stress (Lee, 2017b).

On a related note, Clement et al. (2020) found that grit was positively and significantly correlated to optimism (r =.44) and hope and negatively related to suicidal ideation (r = -.22) in a sample of 542 college students. Similarly, Tang et al. (2020) reported that the *Grit-S Scale* (Duckworth & Quinn, 2009) subscales (Consistency of Interest and Perseverance of Effort) were statistically significantly negatively correlated with exhaustion, cynicism, inadequacy, loneliness, and depression (all ranging from -.20 to -.40) in a sample of 2,462 adolescents. Grit moderated the relationship between burnout (exhaustion, cynicism, and inadequacy) and symptoms of depression, suggesting that individuals with higher grit scores experienced fewer signs of depression when faced with burnout than those with lower grit scores.

Parents and teachers may also be encouraged by a study of US Military Academy cadets that indicated correlations between resilience and overall grit (r =.42), Consistency of Interest (r =.21), and Perseverance of Effort (r =.53; Georgoulas-Sherry & Kelly, 2019). A separate study was conducted on freshmen West Point cadets, and Duckworth et al. (2007) found that those with higher grit scores also scored higher on the *Brief Self-Control Scale* (Tangney et al., 2004).

Grit and Special Populations

The confidence in the conception of grit as the cure to underperformance and disengagement may not be as enthusiastic as the number of views that Duckworth's (2013) TED talk would lead you to believe. I recently conducted professional development workshops for elementary and secondary school teachers about grit – what it is and how we can cultivate it in our classrooms. The reviews from teachers were positive and the director was pleased. They reported that they found our time together to be practical and thought-provoking and indicated that they felt confident implementing practical strategies to help their students develop grit in the coming school year. I was elated. A couple of hours later, the director sent me a text message that asked, "Does what we know about grit hold true for students from all backgrounds?" She mentioned the professional development to a colleague who studies equity and was told that Duckworth's work may not be relevant to all students.

First, in her *New York Times*' bestselling book, Duckworth (2016) described her research on the predictive validity of grit with samples of individuals in positions where endurance and commitment are often indicative of success, such as West Point students and spelling bee competitors. She catapulted to academic fame as a result of these studies on interesting, but not quite disadvantaged, participants. As scholars who are invested in cultivating resilience in children, it is imperative that we think critically about what it means to be gritty. This is true particularly for children whose lives have been profoundly impacted by poverty or racism. Some argue that by insisting that grit is the answer for all students, we are suggesting that students who come from disadvantaged backgrounds need to stay disadvantaged to ensure their success (Ris, 2015). After all, if grit stems from a perseverance of effort, one could argue that the challenges our disadvantaged students face are only

making them grittier, which could lead them to be more successful. Clearly that is an absurd notion, but we do need to engage in this conversation and identify ways we can meet the needs of all students.

Gorski (2016a) argues that grit is a cousin of deficit ideology, a belief that the individuals who suffer from poverty are to blame (spiritually, ethically, and intellectually) for their disadvantage, essentially blaming poor people for their circumstances. He accurately finds fault with the notion that we (educators, society, etc.) can and should try to "fix" people in poverty. The underlying issue with "grit ideology" that Gorski positions himself against is that one either focuses on grit development or focuses on the structural barriers that prohibit individuals who are living in poverty from being successful (Gorski, 2016b). I argue that this is simply not true. It is possible, and it is our responsibility, to confront the causes of the inequities people in poverty face, but that can also occur while helping students develop grit and other psychosocial skills.

As highlighted by Stokas (2015), it is not that grit should be discounted altogether, but it should not be *THE* answer; we cannot consider the importance of grit in a silo without addressing societal inequities that may also be impacting success outcomes. In other words, if we are approaching students with a plan to develop grit without also addressing issues like underfunded schools and poorly trained teachers, we are failing. Stokas (2015) also emphasizes the importance of ensuring that students understand the influence that an educational environment can have on achievement so that they do not believe that they just have to work harder to be successful.

There is a growing body of research that suggests that grit may not need to be discounted altogether. In one study, high school students from low socioeconomic backgrounds with higher grit scores demonstrated higher academic achievement in mathematics and science (Huang & Zhu, 2017). Tovar-García (2017) found that Russian high school students' grit scores were positively related to their educational attainment. Interestingly, he wanted to explore whether differences in achievement existed between migrant and native students. He found that, among the 2003 participants, grit positively impacted the academic achievement of newcomers (first-generation migrant students). Additionally, Strayhorn (2014) found that higher grit scores of Black male undergraduates were significantly associated to their high school grades and ACT scores, suggesting that grit may matter in the academic achievement of diverse students.

Evidence-Based Interventions

While it is important to read existing literature on grit and resilience, and how they may or may not be related to academic achievement and non-academic factors, it is also imperative that we consider evidence-based interventions focused on the development of these concepts. Before we discuss specific studies, I do want to highlight a strong caution in the use of self-report measures as the basis for organizational

changes. Not only may a participant read an item and offer a socially desirable response, but self-reporting also relies on a participant's ability to correctly interpret what an item is asking. Additionally, a questionnaire is unlikely to capture changes over a short period of time, like one would investigate in a pre- and post-test intervention study (Duckworth & Yeager, 2015).

It may be possible to increase students' grittiness through the use of intentionally designed curriculum with that goal in mind. For example, in Turkey, a curriculum was shared with elementary school students that challenged their beliefs about their innate abilities, the relationship between effort and goal attainment, the value of constructive feedback, and the power of goal setting (Alan et al., 2019). Schools were randomly assigned to deliver this curriculum to their students, and students completed the *Grit-S Scale* (Duckworth & Quinn, 2009) at the baseline and again after completing the curriculum. Teachers indicated that they spent approximately 2 h per week over 12 weeks covering this curriculum. The researchers estimated that the increases they recorded in students' grit scores may have been due to the curriculum (Alan et al., 2019). While it is extremely difficult to establish causal relationships between variables in social science research, it is encouraging to note that students' grit scores increased after participating in the curriculum. Interestingly, the curriculum was not necessarily tied to the specific facets of grit – notice the absence of "perseverance" and "consistency of interest" in the description of it. This suggests that by shaping how students view their talents, the relationship between effort and success, the type of feedback that is helpful, and goal setting, we may also be able to influence how gritty they are.

Grit has also been studied in intervention studies on athletes. Rhodes et al. (2018) assigned 24 professional soccer players to a control group or one of two treatment groups. All participants completed the *Grit-O Scale* (Duckworth et al., 2007) before and after the intervention. The intervention, called Functional Imagery Training (FIT), required participants to imagine a gritty athlete and what they would have to do achieve that level of grit. Participants were also encouraged to use mental imagery to imagine instances when they demonstrated high resilience. The control group's grit scores did not statistically significantly change after the FIT intervention, but those in both treatment groups did (Rhodes et al., 2018). This suggests that using mental imagery to imagine hypothetical gritty individuals while also recalling personal examples of perseverance may have an impact on one's personal level of grit.

The 7 Mindsets: Ultimate Life Summit Program is another intervention that has been studied in grit research (Gamel, 2014). It is a 1-week program that exposes participants to "essential life skills, self-mastery and the mindsets that lead to success" (Ultimate Life Summit, 2019; http://www.ultimatelifesummit.com/youth-personal-development-summit-info/). Grit was measured using the *Grit-S Scale* (Duckworth & Quinn, 2009), and resilience was measured using the *Resilience Scales for Children and Adolescents* (Prince-Embury, 2008). After participating in the program, 45 adolescents' scores improved between the pre ($M = 3.13$, $SD = 0.47$) and post ($M = 3.72$, $SD = 0.33$) grit scores $t(44) = 13.75$, $p < 0.05$, and the pre ($M = 58.13$, $SD = 7.84$) and post ($M = 63.22$, $SD = 11.22$) resilience scores

$t(44) = 2.64$, $p = .01$ (Gamel, 2014, p. 65–66). This again suggests that we may be able to increase students' grittiness and resilience by helping them understand that they control how they perceive their abilities.

There is an apparent need for additional intervention studies focused on grit. Most studies involve the testing of relationships and measurement models, when practically speaking teachers and parents want to know if a student's grittiness can be changed after participating in a particular intervention. On a related note, longitudinal studies in this area are also lacking. In other words, if grit levels can be modified due to an intervention, is that change stable or short-lived? This is especially important since, as Duckworth and Yeager (2015) indicated, it can be difficult to detect adjustments in concepts like grit within short periods of time.

Nurturing Positivity and Well-Being in Children

To situate oneself in an approach that is ready to confront structural inequities while also working to cultivate grit and resilience in children, Gorski (2016a) suggests that we consider one reflective question that is relevant to this chapter: "Am I in any way suggesting that educational outcome disparities can be eradicated by fixing economically marginalized people's mindsets rather than by fixing the conditions that economically marginalize people?" (p. 384). With this question, we are reaffirming the assumption that we cannot "fix" people in poverty by teaching them to be grittier. Instead, we maintain our commitment to ensuring equitable educational opportunities for all students while also nurturing their social and emotional well-being.

Promoting Positive Development in Children's Everyday Lives

When we are talking about grit, we often imagine overcoming obstacles and persevering through serious challenges. If we are asking our children to face a setback and continue moving forward, then we must also regularly infuse them with hope – the hope that they can do this and that things will get better. While there is value in struggle, we cannot allow them to sit in that struggle without also helping them see that they have the tools to emerge from that struggle. And when they don't have those tools, this is when we can step in to help.

We also need to ensure that children know that success and struggle go hand in hand (Sanguras, 2018). Too often, we see what successful people want us to see, and we do not get a glimpse into the setbacks and obstacles that they had to overcome. We can shift this thinking by talking about our own struggles, admitting to times when we wanted to give up or when life felt too difficult. This honest vulnerability will create a space for children to open up about their experiences with failure.

Ideas for Families

Goal setting is an important activity for families to engage in together. When I think about goals, I often think of the "SMART" (specific, measurable, achievable, realistic, and timely goals) acronym (Doran, 1981), but I want to take this a step further. To begin, families can help their children set one personal and one academic super stretch goal. A super stretch goal is an exciting and scary goal that, as adults, we may be shy to say aloud or write on paper. From there, we identify the SMART goals that will help get us closer to the super stretch goal. And then, we list specific daily actions we can take to get us closer to achieving each SMART goal and ultimately the super stretch goal. Another important step in this process is to also identify possible barriers (e.g., finances, time) that could prohibit the reaching of those goals, and then parents can engage their children in a brainstorming process to address those barriers.

When considering passion, also known as the consistency of interest factor of grit, we need to discuss the family's role in this. First, children need to be exposed to different interests. Families can easily do this by discussing hobbies and the way they enjoy spending their time. Oftentimes children's interests mirror the interests of other family members, which can simplify things. In the case when a child is interested in something beyond the family's expertise, mentors and family friends may need to be called in for support. Beyond the identification of interest is the consistency or commitment to that interest. It is important to instill commitment to a task as a family value so that everyone knows that quitting is different from a deliberate change of course.

Ideas for Schools

We know that how we are motivated, whether extrinsically or intrinsically, may have a meaningful relationship to how gritty we are (Zhao et al., 2018). However, I want to encourage us to move away from thinking of a motivation type as a dichotomy, as though we are only motivated in one way or another. In fact, extrinsic and intrinsic motivations are learning motivations that exist on a spectrum from mostly motivated by external goals to mostly motivated by internal goals (Ryan & Deci, 2000). To understand these concepts further, extrinsic motivation can actually be categorized into external regulation (e.g., receiving a reward), introjected regulation (e.g., wanting to please one's parents and to have one's ego boosted), identified regulation (e.g., belief that the achievement will offer a personal reward), and integrated regulation (e.g., to fulfill one's belief of one's abilities). Intrinsic motivation is when one is interested in an activity simply because the activity is stimulating. Of these, identified regulation, integrated regulation, and intrinsic motivation are most likely to lead to positive psychological and academic outcomes (Chia et al., 2016; Ryan & Deci, 2000). When teachers get to know their students and their interests,

they can work to tie those interests to their curriculum. They can also specifically call attention to the behaviors that they would like to see repeated: academic risk-taking, self-discipline, and actively engaging in the day's lesson, especially if they are interested in helping their students intentionally build their capacities to be gritty (Sanguras, 2017).

Mentorship is also important, particularly when working with underrepresented or disadvantaged individuals. While there are many studies that capture the power of mentoring, I want to focus on one specific program. The Fisk-Vanderbilt Masters-to-PhD Bridge Program was designed to support underrepresented minorities move from their master's degree (earned at Fisk) to a PhD (at Vanderbilt) in the physical sciences. After admission into the Bridge program, students are mentored by both Fisk and Vanderbilt faculty advisors. They are provided with financial support and peer mentors, and they actively conduct research throughout their time in the program. Class performance of all Bridge students is closely monitored so that support can be provided as needed (Stassun et al., 2010). The program began in 2004 and has enrolled over 100 students (Furlong, 2015). The most recent statistics indicate that the program has graduated 18 underrepresented minority "PhD"/doctoral students in astronomy, physics, and materials science – more than any other institution in the United States. When considering the goals we have for the students in our schools, we need to anticipate where they will struggle so that we can provide the necessary support. We also need to facilitate relationships between our students and possible gatekeepers they may encounter so that we can equip them with the skills to navigate new and intimidating waters.

Ideas for Growth in the Field

The opportunities for future studies on grit are boundless. As I close out the last two sections focused on how we can cultivate grit in children, I am led to my first recommendation. The field would benefit from a greater understanding of whether grit is a skill that can be developed, like reading comprehension or the ability to hopscotch, or if it is a personality trait that stays relatively stable over time, like introversion or sense of adventure. It seems as though this understanding could really be beneficial in driving future studies related to academic and social outcomes.

On a related note, there is emerging research on the possible heritability of grit (Rimfeld et al., 2016; Tucker-Drob et al., 2016). Researchers have measured the grittiness of twins, and early findings suggest that grit may be more of an inherited trait than an ability that is influenced by environmental factors. This is a fascinating topic that warrants additional attention, particularly because the results of these studies can shift how we conceive of what it means to be gritty.

Another important area of research is examining grit with special populations of students. I briefly touched on this in this chapter, but there is a need for additional studies that investigate grit with students who are racially, ethnically, socioeconomically, and academically diverse. Researchers have found that grit may have a

negative effect on the achievement and emotional well-being of typically underrepresented groups of students (Dixson, 2019; Dixson et al., 2017; Tefera et al., 2019). Additional studies are needed in this area. It is irresponsible to encourage teachers to spend time cultivating grit in students from all backgrounds if we do not have evidence that it matters, especially if the effects may be detrimental to those students.

While the definition of grit and the instruments to measure grit published by Duckworth and her team (Duckworth et al., 2007; Duckworth & Quinn, 2009) are widely accepted and used, there is enough chatter among psychologists to warrant further study into the concept of grit. Specifically, additional studies should be conducted with a variety of samples focused on whether the second factor (consistency of interest) warrants our attention. Additionally, as new instruments are created and validated to measure grit, those should continue to be compared to the *Grit-O Scale* and *Grit-S Scale* (Duckworth et al., 2007; Duckworth & Quinn, 2009).

And finally, studying domain-specific grit is an area worth pursuing. We considered research that touched on this, but there is still work to be done here. At the macro level, it is of interest to understand whether the grittiness of an individual differs based on the environment (e.g., school, work, athletic field). From there, I am curious about whether there are micro-level differences in grit, specifically whether a student may be gritty in one subject area but not another.

Conclusion

Grit is a psychological concept that has garnered a great deal of attention over the years. There is collective interest in the possible impact that grit can have on one's success, which has driven countless studies on individuals of all ages. However, from the definition to how it is measured to whether we can actually increase it, grit is a complex phenomenon (Sanguras, 2018).

Most researchers agree that grit consists of two factors: perseverance of effort and consistency of interest (Lam & Zhou, 2019). Grit has been found to have a positive and statistically meaningful relationship to attendance, academic achievement, educational attainment, resilience, and engagement (Batres, 2011; Cosgrove et al., 2018; Datu et al., 2018; Duckworth et al., 2007; Georgoulas-Sherry & Kelly, 2019; Li et al., 2018; MacCann & Roberts, 2010; Rimfeld et al., 2016; Sheehan, 2014; Wang et al., 2017). It has also been reported that individuals with higher levels of grit had lower levels of stress, depression, and suicide ideation (Clement et al., 2020; Tang et al., 2020; Lee, 2017b). The research on grit with diverse and disadvantaged populations is limited.

Strategies to foster grit and well-being in children include goal setting opportunities, interest investigations, and mentorship programs. Future research should focus on grit with special populations of students, the feasibility of individuals' grit development, and the possibility of the domain specificity of grit.

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Chapter 5
Discovering Resilience and Well-being in School Communities

Kathy Marshall

Discovering Resilience and Well-being in School Communities

Education globally has been upended by the pandemic and unprecedented political unrest. To date, more than 700,000 Americans have already died as COVID-19 rapidly escalates. Veteran educator Linda Dierks (personal communication, January 8, 2021) describes one school system this way:

> Classroom teachers—online and in person—are overwhelmed. Social-emotional learning, equity, trauma-informed teaching, and restorative practices are initiatives. Instructional, personalized, and/or digital coaching is mostly optional. Professional learning communities focusing on building and district goals are required. About 30% of students are failing. Teachers and parents are not equipped for this kind of learning. A high percentage of teachers are considering retiring or leaving education.

Nationwide educators, with little warning, pivoted to hybrid and online classrooms, and continuously juggle changes in every aspect of school operations. The process for reopening schools is uncertain in every community. Parents depend more than ever on schools for children's academic instruction, special education, support services, behavior management and discipline, childcare, nutrition, extracurriculars, COVID-19 management, and more.

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This systemic upheaval is in the context of personal economic, health, and mental stresses for every educator, student, parent, service provider, and community leader. Across all of these sectors, a *universal, general approach* to *a* commonsense personal understanding of resilience and well-being is needed. Current research tells us a raft of positive internal protective factors could support "the ways in which people are sustained and strengthened" through crises like the pandemic (Waters et al., 2021, p.1). Resilience initiatives in school communities have precipitously declined steadily for the last 10 years. Educators, parents, and caregivers are often the forgotten stakeholders in the discussion of resilience (Matsopoulos & Luthar, 2020). Therefore, this chapter purposefully provides a research-based, commonsense understanding of resilience to update overwhelmed and stretched school community professionals. As Harvard's Laura Kubzansky says, there is real and immediate value in understanding resilience as a capacity that is exercised, "in the process of living and making one's way in the world" (Denckla et al., 2020, p. 4).

At the National Resilience Resource Center, we know educators with a simple, clear, practical, and lived experience of resilience, who tap the natural resilience of students. A basic, commonsense, naturally and instinctively familiar understanding of resilience benefits students and adults alike. When school staff members discover and live the principles behind resilience, they impact not only students but the system of colleagues, parents, community professionals, and their own family members as well (Marshall, 1998, 2004, 2005, 2013; Marshall Emerson 2020b).

This discussion's simplicity may seem counter to new and emerging, increasingly complex, multidisciplinary, and specialized resilience research. Researcher Ann Masten (2021) notes in times of disaster resilience research surges. She stresses the importance of defining resilience for "portability across system levels and disciplines" in order to integrate knowledge and prepare for the challenges disasters pose to children and youth. "*A scalable definition of resilience is recommended: The capacity of a dynamic system to adapt successfully to challenges that threaten the function, survival, or development of the system*" (Masten, 2021a, p. 1).

This big picture, while wise and needed, may seem daunting to individual educators. Michael Ungar, a global leader in social-ecological resilience research in clinical, community, and residential settings, said, "Helping young people change is as much about changing the people and institutions with which they interact as it is about changing individuals themselves. …" and we may need to "change the environment first … before we try to change individual thoughts, feelings, or behaviors" (Ungar, 2021, p. 8). Both schools and families play an important role in providing a multitude of resources and relationships directly supporting and also nurturing child resilience (Masten, 2021b; Masten et al., 2021; Ungar et al., 2019). Educators know firsthand that children and adults are interacting with, and impacted by, a multitude of systems. Children, adults, families; school classrooms, buildings and districts; neighborhoods, faith communities, public and private organizations, health and human service in cities, states, and the nation are all systems in perpetual motion.

In school communities, it is practical and doable, at first, to think of each student, school staff member, parent, or community service provider as an individual system. Every person can learn to discover their own capacity for natural resilience and well-being.

Simplifying Resilience Research for Educators

Selected resilience research can point all of us to a practical day-to-day understanding of resilience one step at a time. The ultimate goal is for students, educators, parents, and others to have a *lived* understanding of resilience and well-being with which to navigate life successfully. Formal and informal natural leaders can *learn*, *live*, and *share* their own personal understanding of resilience with students, staff members, community professionals, and parents (Marshall, 2004).

Bonnie Benard's groundbreaking *Fostering Resiliency in Kids: Protective Factors in the Family, School, and Community* in 1991 introduced school and community professionals to resilience. She analyzed 135 publications to learn how families, schools, and communities promoted student resilience. She instinctively and innovatively followed multidisciplinary research on these three interconnected systems. The profile of a resilient child that emerged from this review included social competence, autonomy, and sense of purpose and future. Most importantly, Benard discovered that three critical protective factors clearly stood out – caring and supportive relationships, high expectations, and meaningful opportunities for participation.

The prospective longitudinal pioneering research of Emmy Werner featured prominently in Benard's (1991) summary along with that of Norman Garmezy, Michael Rutter, and many others. Benard also drew early attention to Roger Mills' Health Realization principles-based work in schools and public housing communities (Mills & Spittle, 2001; Pransky, 2011). Mills' effort, a precursor to the *inside-out understanding* discussed later, was federally recognized as a research-based "general approach applied in different settings" to foster resilience (Davis, 1999, p. 48).

The protective factor approach identified by Benard contrasted sharply with the prevailing social and behavioral problem-focused, pathological approach to studying social and human development. From 1990 to 1994 Benard's short essays, published as *Turning the Corner: From Risk to Resiliency* (1994) reached American grassroots school-based prevention specialists, state and federal grant project officers, community youth workers, and classroom teachers, student services personnel, and administrators.

Benard (1994) ignited national education and community attention by calling for *changing hearts and minds* to shift our personal perspectives and paradigms from a focus on risk to a focus on protection and strengths. "My concern is that the movement toward resiliency – toward creating family, school, and community environments rich in the protective factors of caring, high expectations, and opportunity for meaningful participation – not dissolve into more add-on, quick fix programs, and strategies" (p. 27). World-renowned resilience researcher Emmy Werner voiced a similar concern. "It can't possibly ever be an organized program. … you need to think of stepping-stones along the way that need to be provided nationally as a policy" (Werner, 2003, p. 3).

To tackle the problem within school communities, Benard and Marshall (1997), associated with U.S. (United States) Northwest and Midwest Regional Educational Laboratories, created a conceptual planning framework for integrating resilience into the fabric of the school and community systems. They grappled with fundamental life-changing questions. How do adults become caring, have high expectations, and create opportunities for students? Do individual adults in any system *see* a child or youth as *at promise* or *at risk*? (Marshall, 1998, 2020a)

Marshall established the National Resilience Resource Center (NRRC) at the University of Minnesota in the 1990s with a goal of leaders in school community systems learning to see all students, employees, residents, clients, or organizations as *at promise* rather than as *at risk*. The original NRRC mission acknowledges:

> The process of tapping resilience is deeper than prevention strategies, wellness programs, community empowerment, collaborative initiatives, youth development programs, or interventions, such as traditional therapy. Resilience is an undergirding *inside-out* process. To successfully foster resilience, it is essential to focus on the natural, internal, innate capacity of young people and adults for healthy functioning. The process of personal change – or self-righting – is documented in the continuously evolving, broadly multidisciplinary, international body of resilience research. (Marshall, 2021)

Benard published *Resiliency: What We Have Learned* in 2004 to synthesize what she called the previous pivotal decade of resilience research. Familiar with the prospective classic resilience research, and also Roger Mills' Health Realization principles successfully introduced to public housing and school communities (Mills & Krot, 1993), Benard (2004) began defining resilience as a universal "capacity all youth have for healthy development and successful learning" (p. 4).

For more than 25 years, Bonnie Benard was the information bridge between school communities and resilience research. No one has filled that unique role since. Well after retirement she wrote:

> I naively thought that when people saw these research findings, policy would follow. … But lo and behold as is usually the case when bridging the gap between research—falls the shadow of politics. … we still have not created policies that make children and those who serve them a priority. We still do not have a strengths-based, human development, and health promotion perspective. Rather we are stuck in a deficit-based, problem-focused perspective. This means we are still trying to "fix" broken schools, broken teachers, and broken students … I ask you … to open your head, heart, and soul to the light that resilience theory and practice can bring to you as a person and professional in service to our most precious resource: our children. (Truebridge, 2014, pp. xii-xiii)

Emmy Werner, in a 2003 interview with Kathy Marshall at the University of Minnesota, also reflected on her lifetime of resilience research. "We really need to do … some things earlier, and … *beyond* isolated programs within the context of national policy. That's where I'm completely out of step because we don't have a national policy." Several protective factors, research indicates, seem to work no matter what—maternal education, good health, a basic sense of trust from interacting with a caring person, ability to read, a sense of faith, and a community where you learn to care for others. "If you like school, if you've got a teacher who cares for you, that will be with you whether you're five or 50. … These are all things we

know. We don't really have to do any more studies [on these]" (Werner, 2003, pp. 3–4).

Like so many teachers, Emmy Werner (2003) knew her calling:

> If you want to be really honest about how you do research and why I get interested in a phenomenon … A lot of the *knowing* may be deep down really in your heart [rather] than in your head. … I think if you are a researcher who does their work because of passion in your heart … you just follow that passion … What does your heart tell you to do? (pp. 1-2)

Educators surviving the pandemic may one day strongly identify with Werner (2003) explaining:

> As a child, I lived through WWII in Europe. It wasn't the greatest experience, but those who did survive, I think all probably shared in common the fact that *they hadn't given up hope*. Just think of it, just think! That's why I feel so much with children today. After that war was over even though there were many child casualties, the ones who came back to school, seemed to share something in common: the fact that they were able to not look back at the bad things that had happened to them, but forward to what they could make now out of the opportunity to go back to school, even though there was rubble all around them. I probably had that sort of perspective unconsciously and brought it with me to this country. (p. 1)

On the day of this interview, Emmy Werner was 74 years old. We talked about her world-famous 40-year longitudinal study of Kauai babies, *Journeys from Childhood to Midlife: Risk, Resilience, and Recovery* (Werner & Smith, 2001). She energetically described new books in progress. In the end, she shed a tear of gratitude and went across campus with her husband to find archived documents on the history of Hmong children. Yet another book was in the works. That was the last time I saw her. Her words still ring in my ears. "The vast majority of human beings seem to veer toward a form of basic normal development. In other words, what we have sort of taken for granted – that everyone who has been faced with a problem will be a casualty – is just not so" (Werner, 2003, p. 8).

Werner and Smith's (2001) Kauai longitudinal study indicates extraordinary resilience and a capacity to recover from and overcome problems that shaped the journey to midlife for most of the study's 489 participants born in 1955.

> What lessons did we learn? Most of all … they were lessons that taught us a great deal of respect for the self-righting tendencies in human nature and for the capacity of most individuals who grew up in adverse circumstances to make a successful adaptation in adulthood. (Werner & Smith, 2001, p. 166)

Ann Masten, a generation younger than Werner, had a similar view. Almost foreshadowing her current focus on resilience in dynamic systems, in 2001 Ann Masten coined the phrase *ordinary magic*:

> The great surprise of resilience research is the ordinariness of the phenomena. … Resilience does not come from rare and special qualities, but from ordinary everyday magic of ordinary, normative human resources in the minds, brains, and bodies of children, in their families and relationships, and in their communities. This has profound implications for promoting competence and human capital in individuals and society. (Masten, 2001, pp. 227, 235)

Werner and Masten's independent findings give pause in light of the decade-long sweeping school focus on trauma-informed teaching rather than healing-centered engagement (Ginwright, 2018). Kelly and Pransky (2013) describe a hopeful principles-based view of trauma recovery using an inside-out approach to discovering natural inner resilience in line with Werner's (2003) and Masten's (2001) surprising discoveries. Similarly, finding this ordinary magic of child and adolescent resilience in extraordinary times is crucial to scientific and public health responses to COVID-19 (Dvorsky et al., 2020). The University of Minnesota Institute for Translational Research in Children' Mental Health stands ready to connect school community professionals and others with evidence-based practices addressing children's mental illness including trauma; TRANSFORM Research Center does so with a focus on those who have been or may be at risk for maltreatment (Cerulli et al., 2021).

In her seminal book *Ordinary Magic: Resilience in Development,* Masten (2014) recognized, "Now, after a half century of research, it is time to take stock of what has been learned from research on resilience in young people: the evidence and the surprises, the conclusions and the controversies and" she emphasized, "the gaps and the future goals, and the implication to date for practice and policy" (p. 6–7). There she identified four waves of resilience science briefly summarized this way: 1. *Descriptive* (What is resilience? How do we measure it? What makes a difference?) 2. *Process* (How questions: What processes lead to resilience? How do protective, promotive, or preventive influences work? How is positive development promoted in the context of risk?) 3. *Interventions and Testing* (Are our theories on target?) 4. *Dynamic Systems Orientation* (Focus is on interactions of genes with experience, persons with contexts, connecting levels of analysis, and multidisciplinary integration.)

"As more disciplines engage in research on resilience, there is interest in adopting common terminology… . The uniting theme would be adaptation in dynamic and developing systems" (Masten, 2021b, p. 262). Key researchers, understandably outside of education, have collaborated in search of a common definition of resilience (Southwick et al., 2014; Denckla et al., 2020; Twum-Antwi et al., 2020).

One of Masten's first 2021 publications discusses the impact of the classic resilience researchers. She focuses on the famous 1987 review written by Michael Rutter, a contemporary of Emmy Werner and Norman Garmezy (Masten, 2021b; Rutter, 1987). Rutter was a highly respected clarifying mentor and constructive critic for other resilience researchers, often pointing them to what became new waves of research, while also warning of pitfalls. Masten further adds Rutter "was arguably the leading international psychiatrist of his generation. … Rutter also wrote of this complex subject matter with exceptional clarity, like a beacon lighting the way through foggy waters" (Masten, 2021b, p. 257). Rutter clearly distinguished between risk and protective mechanisms. This in part meant:

> The focus of attention should be on protective *processes* or mechanisms, rather than on variables [risks]. These processes, by definition, involve interactions of one sort or another. … the limited evidence available so far suggests that protective processes include [among other things] … those that promote self-esteem and self-efficacy through the

> availability of secure and supportive personal relationships or success in task accomplishment and those that open opportunities. Protection does not reside in the psychological chemistry of the moment but in the ways in which people deal with life changes and in what they do about their stressful and disadvantaged circumstances. (Rutter, 1987, p. 329)

The *inside-out* process of personal thinking is vital and often overlooked in studies of resilience. In fact, "individuals do not just react passively to what happens to them. Rather, they actively process those experiences, and the ways in which they do so may constitute an essential part of the risk mechanisms" (Rutter, 1994, p. 933). Meaning-making is "a key mechanism that mediates interactions between individuals and their ecologies" and involves "an individual's beliefs, goals and subjective feelings about the world and their place in it" (Liebenberg, 2020, pp. 1365,1368). McCubbin & Patterson (1983) found a family's definition and meaning of a crisis was a critical component in coping. Ryff (2014) indicates resilience research has given limited attention to essential activities of meaning-making and self-realization in the confrontation of life adversity.

John Hattie's Visible Learning early research on student achievement included over 1200 meta-analyses examining more than 65,000 studies including one-fourth million students worldwide (Hattie 2015, p. 79). By 2021 Corwin reports Visible Learning includes 1,700 meta-analyses comprising more than 100,000 studies involving 300 million students around the world. This work highlights the importance of both student and teacher thinking. An update with 252 influences and effect sizes shows collective teacher efficacy, student self-reported grades, and teacher estimates of student achievement are the three top impacts on student achievement (Hattie, 2021). "It is less what teachers do in their teaching, but more how they think about their role. It is their mind frames or ways of thinking about teaching and learning that are most crucial" (Hattie, 2015, p. 81). Jenni Donohoo (2016) notes the powerful impact of educators' collective efficacy. "The way school leaders think about what they do is more important than what they do" (Hattie & Smith, 2021 p. 2).

Understanding of resilience continuously evolves. "There are undoubtedly more research waves out on the horizon, building strength unseen" (Masten, 2021b, p. 262). Powerful elusive words thread through this review: passion, changing hearts and minds, knowing, thinking, self-righting, ordinary magic, seeing, at promise, innate capacity, hope, trust, faith, gaps, and foggy waters. A new wave of resilience research could explore critically important characteristics of our *inner landscape*, the *inside-out* nature of how children and adults in school communities experience life.

Resilience Initiatives in School Communities

American school-based resilience programs, trainings, and initiatives, often grant-funded, have nearly disappeared in the last 10 years (Bonnie Benard, personal communication, February 9, 2021). Resilience, youth development, and prevention have perhaps taken a back seat to what may inadvertently be a focus on "brokenness" and

"fixing problems" with social-emotional learning, trauma-informed teaching, and the growth of essential personal and digital coaching. Schools' tight budgets and classroom schedules, a trend toward in-house coaching, highly regulated teacher responsibilities, increasing online technology, and the pandemic itself, have profoundly changed professional development and program adoptions in schools. "In our ever complex and contentious world, we can no longer afford to separate well-being and learning. … well-being is far more than the absences of ill-being" (Fullan, 2021, p. 14).

In this context, it is notable that the inner life of children has yet to be fully understood. Masten and others emphasize "the hesitance of the scientific community to approach the spiritual dimension as a subject of study. … our understanding of what will promote recovery and foster resilience will be more comprehensive when we incorporate 'spiritual' processes in the biopsychosocial approach" (Crawford et al., 2006 p. 367) As I have noted, "Each human being has an inner life. The path to wellness recognizes, nurtures, and articulates a quest for personal spirituality [distinct from religion]. … Spirituality is formless—universal experiences of knowing and being" (Marshall, 2007, p. 12). The importance of understanding human spirituality in clinical practice and educational settings is documented by Kelley et al., 2021a, b. Robert Coles, author of *The Spiritual Life of Children,* reported "it was harder for me to obtain funding for this research than other work I had done" (1990, p. xviii). Search Institute's leadership team of Benson, Roehlkepartain, and Hong found spiritual questions "difficult, even uncomfortable in both science and practice" (2008, pp. 1–2). Lisa Miller as director of the Clinical Psychology Program at Columbia University Teacher's College, founder of the *Journal of Spirituality in Clinical Practice,* author of *The Spiritual Child* (2015), and president of the newly formed Collaborative for Spirituality in Education (2021) may be bringing new life to the discussion of spirituality and resilience research.

Looking Inward: Selected Resilience Initiatives for School Communities

It is time for an updated and renewed practical focus on resilience and well-being in school communities. Despite the current obstacles to resilience training generally in school communities, the following selected very reputable, established, research-based external programs focus directly or indirectly on the *inner landscape* of personal resilience and well-being. All facilitate in-person and online professional trainings for adults including educators and helping professionals. Some have curriculum, activities, and resources for K-12 students. Program descriptions with impressive research and outcomes are posted online. These providers have stood the test of time and thrived.

Global Center for Resilience and Wellbeing was founded by Dr. Amit Sood, M.D., formerly with Mayo Clinic. He developed *SMART: The Four-Module* ***S****tress*

***M**anagement and **R**esilience **T**raining Program* (Sood, 2019). There is a digital version, *Resilient Option* (https://www.resilientoption.com/), and a training institute. SMART is research-based and grounded in neuroscience, psychology, philosophy, and spirituality and has been tested in more than 30 published clinical trials. Dr. Sood lightheartedly proposes, "Resilience is doing well when you shouldn't be doing well" (2018, p. 360). Dr. Sood's programs have reached more than a half-million participants, approximately 50,000 per year. Health care professionals and patients, educators and students, business and industry groups have received this training. Dr. Amit Sood states:

> When science has matched spirituality, it creates a milieu for transformation. This is … timeless wisdom that sages have told us, that scientists are finding. Science is nothing but the study of spirituality. That's what I believe. Science doesn't know it. Science will know it at some point. I believe this is what the children of the world need. They want us adults to be grateful, to be compassionate, to be accepting, to live our lives with meaning and have forgiveness. And if we do that, we will create a wonderful world for them. (Sood, 2015, May 11)

As this author has seen, Dr. Sood easily traverses such foggy waters with humor, engaging graphics, and carefully researched resources. He effortlessly builds the bridge from science to each participant's inner spirit and capacity for resilience, reduced stress, and greater well-being and happiness.

Center for Healthy Minds at the University of Wisconsin-Madison was founded by neuroscientist Richard Davidson (https://centerhealthyminds.org/). He describes well-being as a skill. Four neuroscientifically validated constituents of well-being include resilience (rapidity of recovery to adversity), positive outlook (seeing others as having innate goodness), attention, and generosity. These are rooted in specific brain circuits exhibiting neuroplasticity that gives us the opportunity to enhance our well-being with practice (Davidson, 2016). A new training-based framework for the cultivation of human flourishing includes awareness, connection, insight, and purpose (Dahl et al., 2020). The Center researches how the mind can be trained through secular mediation to be more focused, calm, and resilient. Access the Center's online free mindfulness-based interventions for children, the workplace, or personal well-being (Center for Healthy Minds, 2021). The free preschool *Kindness Curriculum* (https://centerhealthyminds.org/join-the-movement/lessons-from-creating-a-kindness-curriculum) improves student social competence and report card grades in learning, health, and social-emotional development (Flook et al., 2015).

Davidson worked closely with the Dalai Lama in planning to study the relationship between neuroscience and meditation. With an extraordinary insight while viewing an MRI experiment, the Dalia Lama asked a graduate student to voluntarily move his right-hand fingers; the MRI scanner showed activation of the motor cortex in the left hemisphere of the brain. Then he asked the student simply to imagine his fingers were moving. The Dalia Lama wanted to see if the brain activated with pure mental activity and it clearly did. "It's all going on inside one's head, so to speak … these are powerful tools which can be used to measure changes in mental activity

that may be produced through practices designed to transform the mind" (Davidson, 2013).

Center for Courage and Renewal was founded in 1997 by Parker Palmer, author of *The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life* (2007). The Center offers a vibrant global network of online and in person facilitated workshops and retreats for educators, school administrators, and others (http://www.couragerenewal.org/). For decades the Center's extensive research and evaluation documents very successful work with both staff and students in school communities (Center for Courage and Renewal, 2021). The Center's popular *Circle of Trust* program (http://www.couragerenewal.org/touchstones/) "gives you a chance to explore your own inner landscape at your own pace and with your own resources discovering that you have what you need" (Palmer, 2021). "By spiritual, I mean the diverse ways we answer the heart's longing to be connected with the largeness of life – a longing that animates love and work, especially the work called teaching" (Palmer, 1998–1999, p. 5). He explains, "Spirituality – the human quest for connectedness – is not something that needs to be 'brought into' or 'added onto' the curriculum. It is at the heart of every subject we teach, where it waits to be brought forth" (Palmer, 1998–9, p. 8). We are reminded, "The most practical thing we can achieve in any kind of work is insight into what is happening inside of us as we do it" (Palmer, 2007, p. 7).

Search Institute former President, Peter Benson, inspired youth development leaders in school communities globally to see the spark inside each and every young person. "The best of development is *from the inside out*, *not the outside in*. … The real question of human development is letting this emerge in life; and what is this 'fire' … this inner light, that human spark?" (Benson, 2011). The science of human thriving has guided the Search Institute for 60 years. Search Institute partners with organizations to conduct and apply research that promotes positive youth development and advances equity (https://www.search-institute.org/vision-mission-values/).

Search Institute's 40 *Developmental Assets*, designed for four student age groups, are translated into 30 languages and have reached more than five million young people in 70 countries. The goal is for children and youth to become their best selves (https://www.search-institute.org/our-research/development-assets/developmental-assets-framework/). Under the leadership of Search President Kent Pekel (2019), *The Developmental Relationships Framework* includes five elements expressed in 20 actions that make strong, positive relationships powerful in young people's lives (https://www.search-institute.org/developmental-relationships/developmental-relationships-framework/). Such relationships are seen as the roots of youth development (Pekel, 2019). These documents are downloadable in English and Spanish. Search also offers workshops and schedules speakers, including Senior Scholar Gene Roehlkepartain, editor of *The Handbook of Spiritual Development in Childhood and Adolescence* (Roehlkepartain et al., 2006). The Institute provides

extensive published research, student surveys, free tools, resources, and more online. The program has a vigorous social media presence.

Collaborative for Academic, Social, and Emotional Learning (CASEL) develops and disseminates the influential *Guide to Effective Social and Emotional Learning Programs* (https://casel.org/guide/). The guide identifies preschool through high school evidence-based Social Emotional Learning (SEL) programs that have met rigorous application standards. SEL has been described as a public health approach to education (Greenberg, et al., 2017). CASEL's review program designations are SELect (program met or exceeded all criteria), Promising (met or exceeded most criteria), and SEL-Supportive (aligned with SEL, primarily emphasizing interpersonal or intrapersonal competence). *SPARK: Speaking to the Potential, Ability & Resilience Inside Every Kid* categorized as a Promising program for teens (http://secondaryguide.casel.org/description-page.html#spark), is the only listing with a focus on resilience (CASEL, 2020). SPARK specifically emphasizes resilience "inside" every kid. The child and pre-teen versions of SPARK will be reviewed by CASEL in 2021 (Brooke Wheeldon-Reece, personal communication, February 7, 2021). SPARK research has been published (Green et al., 2021b) or manuscripts submitted for publication (Ferrante et al., 2021; Green et al., 2021a). SPARK, like the National Resilience Resource Center, relies on a principles-based understanding of resilience.

Promoting Resilience in School Community Systems: National Resilience Resource Center Suggestions

With the current focus on resilience in dynamic systems (Theron, 2021; Ungar et al., 2019), overwhelmed educators need to see an example of how this can be simple and doable in education. There are small personal steps to take during the pandemic, and a classroom or schoolwide process post-pandemic. Nearly 30 years ago, the University of Minnesota's prevention grant-funded small National Resilience Resource Center (NRRC) was founded; it is now an independent entity. Our unique systems changing resilience training includes both educators and helping professionals. These collaboratives focus on the *health of the helper*. Learning communities in schools can do the same thing in a simplified, scaled-down way.

We "believe human beings are *at promise* because there is a core of spiritual and mental well-being to be discovered. … Few community projects have attempted to improve the inner well-being of helpers" (Marshall, 2015, p. 6). Participating school and community staff members completing NRRC trainings become familiar with the *inner landscape* Palmer (2007) describes. These adults learn how they operate and experience life from the *inside out* and thereby discover an inborn *capacity* for natural resilience and well-being.

The seminal resilience research of Werner, Masten, Rutter, and others discussed earlier is also part of our training program. Benard initially pointed NRRC to the

community empowerment work of Roger Mills grounded in three simple principles behind resilience articulated by Sydney Banks (1994). These principles and a basic understanding of resilience research are the bedrock of NRRC school community resilience training. The NRRC training is fully described and illustrated in an earlier publication, *Resilience in Our Schools: Discovering Mental Health and Hope from the Inside Out* (Marshall, 2005). An overview follows including discussion of the NRRC definition of resilience, explanation of basic principles behind resilience, description of resources for adults and students, and summary of program evaluation outcomes.

NRRC Definition of Resilience

We recognize the definition of resilience is continuously evolving (Masten 2014, pp. 9–10). NRRC honors and builds on current definitions of resilience found in research. Because we believe there is an important *inner landscape* at play in human resilience, we define resilience this way for adults and students in school community trainings:

> "Resilience is our natural, innate capacity to navigate life successfully. The opportunity to learn how we operate makes a critical difference whether one realizes resilience or not" (Marshall, 2015, pp. 6-7).

This basic definition, focused on an "innate capacity for resilience" in all individuals, is hopeful, understandable, and useful. It emphasizes having the "opportunity to learn" about resilience can be life-changing. We have learned this definition is equally helpful to children and adults in all systems. A kindergartner responded to an age-appropriate resilience mini lesson saying, "Nobody's a burnt cookie" (Marshall, 2013, p. 8). Everyone appreciates that no one is left out; this is a matter of discovering what is already inside each one of us. We are *at promise*, not broken or waiting to be fixed.

We also stress the importance of evidence-based protective factors, processes, and dynamic systems in fostering resilience. When all systems players discover their innate capacity for resilience, essential protective factors are much more likely to appear in school communities: caring and supportive relationships, encouraging high expectations, and opportunities for meaningful participation. Kathy Marshall recalls a school administrator (confidential personal communication, n.d.) reporting he could no longer ethically withhold this understanding from his alternative high school students. The administrator and five students forged ahead with his first simple weekly resilience principles book discussion. Soon a student reported her parents saw such positive change in her that they wanted to read her class book!

NRRC Focus on Principles Behind Resilience for Adult and Student Learning

NRRC teaches basic principles for realizing natural resilience and well-being so adults and ultimately youth are able to tap their natural resilience. This is a practical educational process of learning that life happens from the *inside out*. This means we create our own experience of life events with the thinking we choose to hold on to. If we begin to understand we are *thinkers* with a natural ability to *notice that we are thinking rather than what we are thinking,* the world begins to be a very different place. We each have 60,000 thoughts a day. By habit, we hold on to a few stressful thoughts and frequently make tornados of the mind. In this insecure state of mind, we begin to believe what seems to us as real and permanent. From this perspective, we blame the circumstances in our lives, when in fact, it is our invisible habitual attachment to particular thoughts creating the experience. At such times our state of mind may plummet so that separate realities innocently held by others seem like conflicts rather than understandable differences, or we may be stuck on a thought and mistakenly conclude our feelings and moods must be in the driver's seat.

At these times it is so important to remember we cannot change a thought. The moment we notice a thought, it has already happened. But the hopeful lesson is that we are more than our thinking, that every thought will pass, that another more helpful insight will become apparent. We can begin to trust we are hardwired with sufficient "knowing" to meet life's ups and downs. It is important to trust the unknown to deliver a fresh idea or insight. "Wait, the wisdom will come." In the process, we hold onto our peace of mind and have a better chance of discovering the way out of the internal thicket. This approach is discussed more fully by Marshall (1998, 2004, 2005) and Marshall Emerson (2020a).

In simplest terms, we can learn to trust the unknown, to invoke the still small voice within. As Holocaust survivor Viktor Frankl (1959) said, "Man can preserve a vestige of spiritual freedom . … there are always choices to make … any man can … decide what shall become of him – mentally and spiritually," and "It is this spiritual freedom – which cannot be taken away – that makes life meaningful and purposeful" (pp. 104–106).

This *inner landscape* makes our future hopeful and promising. Our capacity for resilience involves more than risk and protective factors typically addressed in research. A natural and illusive internal protective mechanism is also at play. Human beings do life from the inside out. We all are *knowers*, *thinkers*, and *noticers*. The more formal Three Principles – terms used by Sydney Banks (1994) – are *Mind*, *Thought,* and *Consciousness*. These three principles operating behind resilience are simply a description of how we all create our experience of life from the *inside out* as depicted in this visual (Fig. 5.1):

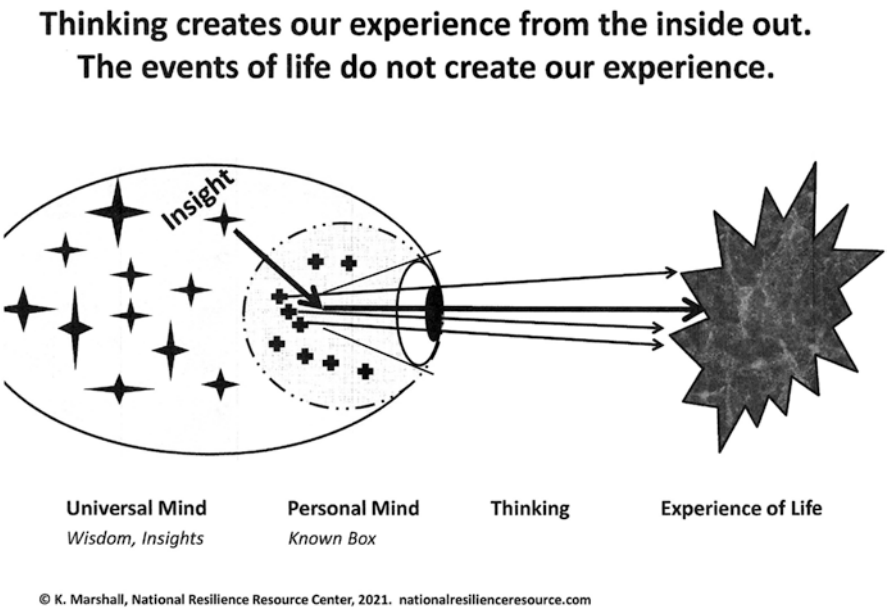

Fig. 5.1 Visual of the creation of life experience from the inside-out

Sydney Banks' (1994) basic principles operating behind resilience are described in research by Kelley et al. (2020, 2021a, b); Pransky and Kelley (2014); Pransky and McMillen (2009); Pransky (2011), and Kelley et al., (2015). Mills and Krot (1993), Mills (1997), and Mills and Spittle (2001) outline applications in schools and public housing communities.

Resources for School Communities

In addition to National Resilience Resource Center training and technical assistance services, NRRC offers a massive website (www.nationalresilienceresource.com) with free audiovisuals, print resources, and resilience research publications. We also have collaborated closely for several years with selected colleagues such as Bonnie Benard, Barbara Aust, Christa Campsall, and others to develop the following principles-based resilience resources for professional development, student learning, and parent education in school communities:

Educators Living in the Joy of Gratitude (2018) includes more than 20 NRRC recorded webinars featuring veteran educators describing learning, living, and sharing the principles with students and educators (http://www.nationalresilienceresource.com/Educator-Preparation.html). A companion handbook, *Ordinary Miracles:*

The Quiet Work of the Three Principles in Schools by Barb Aust (2021), presents stories from these classrooms collected over four decades.

My Guide Inside (2021) K-12 principles-based curriculum, includes student books and teacher manuals for primary, intermediate, and secondary grades. It meets educational learning objectives and competency requirements and may carry academic credit in a variety of subject areas. Co-authored by Christa Campsall et al., (2021), the curricular resource is available in print, e-book, and on-demand formats (https://www.myguideinside.com/mgibooks). Educators familiar with the principles do not need special training. Translations in several languages are available globally.

The Essential Curriculum: 21 Ideas for Developing a Positive and Optimistic Culture by classroom teacher and principal Barbara Aust (2013) supports busy school administrators in learning, living, and sharing the principles in school systems. This short book accommodates busy schedules.

Parenting with Heart by Kathy Marshall Emerson (2020b) introduces the principles in everyday language to parents. It may also be used in facilitated parent book discussion groups.

The Secret a letter written by Mavis Karn (1999) for juveniles learning the principles while in a correctional facility is presented as an educational video created by Wendy Robinson. It is highly effective with students and educators alike.

Selected Supplemental Books include *Whooo … Has a Guide Inside?* (Campsall & Tucker, 2018), *What is wisdom? And Where do I find it?* (Pransky & Kahofer, 2016), *What is a Thought? A Thought is a Lot* (Pransky & Kahofer, 2013) for young children. *The Great Remembering* (Rees-Evans, 2021) is for teens. Adults appreciate *Insights: Messages of Hope, Peace, and Love* (Tucker, 2021).

NRRC Evaluation Outcomes with Adults

NRRC's ongoing longitudinal independent program evaluation is solid (http://www.nationalresilienceresource.com/Outcomes.html#anchor_83). Adult focus groups document enhanced mental and physical well-being, enriched inner life and reflection, improved relationships with others, and increased satisfaction with the workplace or daily life (Marshall, 1998, 2004, 2005). The statistically significant pre-/post-introductory school and community adult training survey ($N = 797$) shows a positive impact reducing stress, improving life quality, and producing a more secure state of mind essential to well-being and healthy living. It follows that these changes in perception would indicate significant changes in the behaviors that proceed from these perceptions or beliefs. An additional follow-up survey ($N = 143$) with participants tests from 10 months to 6 years after training ($M = 3.1$ years) indicated that positive perceptions were maintained over time. As such, "the overwhelming evidence is that the changes in perceptions, thinking, and behavior that were reported

by participants following their training remain intact over time. The principles of resilience … become internalized and continue to bear fruit and effect change long after the initial training is over" (National Resilience Resource Center Outcomes, 2021). Extensive qualitative comments from these surveyed adults are also presented with this research (http://www.nationalresilienceresource.com/Outcomes.html).

My Guide Inside Curriculum Student Outcomes

Table 5.1 presents secondary, intermediate, and primary students' comments describing the impact of *My Guide Inside* classes. High school students completing the course participated in the Gulf Island Secondary School (2018) focus group; a three year follow-up is in process (http://www.nationalresilienceresource.com/Curriculum.html). Intermediate students completed written posttests, and primary students were interviewed in person.

Finally, it is helpful to know that parents who have learned the principles behind resilience in NRRC trainings also describe important changes in their lives:

> One parent said, "I don't know how I would have made it through the personal crisis our family has been in if I did not have this understanding!" Another added "My family is living proof this theory is a reality. My daughter is a healthier and happier person these days. … We come from a long line of dysfunctional families and I believe our family will be the break in that cycle."

A mother concluded by saying, "One of the biggest things for me … if I just listen to [my children] they will solve their problems. … It's seeing their resilience, knowing that they have it. It's intuitive knowing that they have it" (Marshall Emerson, 2020a, 2020b p. 23).

Additional Support Programs for School Communities

We draw attention to two other independent resilience service providers. Both globally offer very successful school and community principles-based training programs conducted for students, staff members, and parents.

The *SPARK Mentoring Program* (2021), based in Florida, is dedicated to cultivating human potential and resilience through education, mentoring, and coaching (https://sparkcurriculum.org/). SPARK director Brooke Wheeldon-Reece (personal communication, February 7, 2021) indicates their evidence-based program has been implemented in schools, jails, drug rehabilitation centers, and social service organizations. There are 100 certified trainers in eight countries. The teen program has been designated a CASEL Promising program. Other SPARK programs for children and preteens are under review. SPARK research results indicated that a majority of

Table 5.1 *My Guide Inside* Student Reports of Curriculum Impact

High school focus group students	"I am able to stay calm and think things through more clearly before immediately getting stressed out or frustrated which is really helpful especially in high school."
	"It's made a huge difference within my rowing capabilities and my successes."
	"It's great to see the outcome within friends and really know [I can] support them properly."
	"The single most important thing – I am a lot less judgmental of people and I feel more compassion."
	"I am no longer as afraid to think about stressful things because I can approach it in a more unbiased way rather than actively trying to not think about things or push things back."
	"I have become very focused in a direction that has helped me mentally and physically. My overall health has improved a lot and my mental wellness as well."
	"A lot more internal things that have been happening … my relationships with my parents have been a lot better and with my friends as well. Overall, I have been a lot happier."
	"We miss the most important piece of education, which is teaching one person about themselves, about their thought and … their emotions and how they have the ability to change. This is what this [learning] enables you to do."
	"I think if this was taught we would be able to be more successful students and also be more fulfilled in our every day because we have the capacity to change and that's critical."
Intermediate surveyed students	"Knowing there is a power within to help us out is the most meaningful thing for me."
	"If you have a calm mind you can work it out."
	"This class has helped me … to not let myself get mad and to have another person have an effect on me to ruin my day."
	"The ideas we have shared in this class could help not only me but most likely everyone in the world."
	"The best thing I learned was being a-okay is natural."
Primary interviewed students	"The best thing I learned is my guide inside solved all my problems. And my problem was I worried too much."
	"Wisdom whispers to me."
	"The sun behind that bad cloud is always shining."
	"I trust what I think, and I feel good about it. I am feeling more brave. You have to trust to be brave."
	"I didn't know about tornado thinking. I tornado think a lot; now I know how to get over it."

youth, ages eight through 18 showed they gained an understanding of how the mind works, increased ability to regulate their emotions and, improved their abilities to communicate with others and solve problems, have compassion for others and cope in difficult circumstances. SPARK's impact on student perception of well-being and school climate is documented by Kelley et al. (2021b). The SPARK Initiative's impressive *2020 Annual Report* may be downloaded (https://sparkcurriculum.org/wp-content/uploads/2021/03/2020-Annual-Report-updated.pdf).

The program *iheart* (*Innate Health Education & Resilience Training,* 2021) founded in London, UK, by Terry and Brian Rubenstein, helps young people uncover their innate resilience and mental well-being (https://www.iheartprinciples.com/). CEO (Brian Rubenstein, personal communication February 10, 2021) reports they work closely with schools and educational leaders to build a sustainable culture of resilience and well-being embedded across the whole school environment including students, staff members, and parents/carers. Over 7,500 young people and more than 500 educators in 227 schools and educational organizations in 14 countries have participated in the program. Facilitators are trained and certified. An independent iheart survey (see Research@YouthSight.com evaluation at https://www.iheartprinciples.com/news/study-iheart-proves-successful-during-covid-19/) indicates that during the pandemic, iheart trained students are retaining high levels of positive emotions, managing to remain calm, and more likely to be very good at working together with others, even those that they do not agree with. This compared to 83% of untrained young people saying the pandemic made their mental health worse. This survey indicates during the pandemic trained teachers report enhanced understanding of emotional well-being and resilience and better communication with students using the principles of the iheart program. The organization advocates for national policy to support mental wellness and enhanced psychological well-being and resilience.

Conclusion

School community systems everywhere have been upended by the pandemic. This crisis is an opportunity for school staff and students, parents, and collaborating community professionals everywhere to discover, perhaps for the first time, their own natural capacity for resilience and well-being. A basic understanding of even the most fundamental aspects of resilience research points in the right direction. Traditional protective factors of caring and supportive relationships, encouraging high expectations, and self-chosen opportunities for meaningful participation in programs or projects can take on new meaning.

These are pandemic lessons lived every day if we pay attention. Children and adults who are clearheaded and calm do know who needs special attention, a hug, and encouragement. Opportunities for meaningful participation abound as students, families, friends, or strangers pull together, help each other or reach out to someone in need. We all know someone who is alone and needing support. Parents and

teachers, once they find their own resilience, can encourage and expect students to do well online or in person. These are the fundamentals of resilience.

This horrific global crisis is the laboratory for resilience lessons already learned. What teacher has not crumbled and cried? Who has not listened and comforted someone else in this time? These hard experiences are the fertile ground for school systems deciding to go deeper and truly discover natural resilience—not to sideline it. There will be an opportunity for weaving the principles behind resilience into student curriculum, staff professional development, and relationships with parents.

Renewed systemic focus on resilience is a decision. What priority does it merit? The best supportive resources are all available. Every child and adult already has real, lived resilience stories from the pandemic to share. The basic understanding of resilience research and the principles behind resilience offered here are enough to begin either personally or professionally. There is hope and possibility. Every child and adult is *at promise*. Trust that we do all live from the inside-out—our *inner landscape*—and can discover this hopeful truth together. It is possible to learn, live, and share the principles behind resilience and realize well-being personally and collectively one doable step at a time.

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Chapter 6
Enhancing Resilience for Young Children Facing Toxic Stress

Susan Damico and Jennifer L. Robitaille

Enhancing Resilience for Young Children Facing Toxic Stress

In recent decades, advances in science have revealed just how critical the first few years of development are for an individual's life-long health and happiness. Specifically, it is in the first 5 years of life when the architecture of the brain is being wired, setting either a healthy or compromised foundation for functioning across multiple domains (Center on the Developing Child, 2007; Shonkoff & Phillips, 2000). It is in these earliest years that young children are learning a set of essential life skills including how to engage in healthy, supportive relationships; how to control impulses; and how to focus, plan, set, and achieve goals (Cohen, 2017). These first few years are also when children learn how to cope with mild or moderate stress, another essential life skill (National Scientific Council on the Developing Child, 2014).

When young children experience mild and even moderate stressors while in the care of safe, loving, and trusted adult caregivers, a healthy stress response system begins to develop (National Scientific Council on the Developing Child, 2014). This healthy stress response system is characterized by brief and mild physiological changes including increased heart rate and elevated stress hormone levels, which then return to baseline (Franke, 2014). Examples of events that build this system include activities such as getting a shot from the pediatrician, meeting new people, and learning a new skill that took some time to master and caused frustration. Healthy brain architecture relies on children experiencing these stressors which are

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infrequent, short-lived, mild, and occurring while in the safe and loving care of responsive caregivers (National Scientific Council on the Developing Child, 2014).

While children's healthy development relies on experiencing mild and moderate levels of stress (often described as *positive* or *tolerable stress*), a child's development is derailed when the stressors are severe. Severe stressors include experiences such as abuse, neglect, living in poverty, exposure to violence, poor nutrition, and lack of access to adequate medical care. Tragically, far too many young children experience these severely stressful events without the protection, or buffering, of a trusted and dependable caregiver. When this happens, these experiences can lead to *toxic stress*, which refers to strong, frequent, or prolonged activation of the body's stress management system (Franke, 2014; National Scientific Council on the Developing Child, 2014). This excessive or prolonged activation of stress response systems in the body and brain can result in both short- and long-term negative health effects (National Scientific Council on the Developing Child, 2014; Shonkoff et al., 2012). As a result, young children may have difficulty learning or concentrating, and their behaviors may be difficult for adults to understand. In some instances, a child's poorly developed stress response systems may overreact, and the child will feel threatened when no real threat exists. In other instances, the stress response system is slow to shut down, and the child will remain excessively anxious well after a threat has passed (Johnson et al., 2013; National Scientific Council on the Developing Child, 2014). In both instances, the child's behavior can be confusing to adults who may not be familiar with the child's trauma history, and therefore they are unprepared to support the child.

As children mature into adults, the long-term negative effects of toxic stress are equally troubling. The groundbreaking Centers for Disease Control-Kaiser Permanente Adverse Childhood Experiences (ACE) Study concluded that there is a strong and persistent relationship between the more ACEs a young child experiences (e.g., abuse, neglect, household violence) and their increased chance of poor health outcomes in adulthood including risk of heart disease, diabetes, obesity, depression, substance abuse, and early death (Felitti et al., 1998). Since this initial study, a growing body of research has linked these traumatic events to a wide array of health outcomes, including physical and mental health impairments, as well as engagement in poor or risky health behaviors (Franke, 2014; National Scientific Council on the Developing Child, 2014; Shonkoff et al., 2009). Given that toxic stress can cause changes to a child's physiology that compromises long-term health outcomes suggests devastating consequences not only for the individuals and their families, but for the overall health of our nation. As the country continues to debate solutions for skyrocketing costs related to health care, incarceration, special education, and other public health expenses, we assert that toxic stress should be at the center of the conversation.

It is neither sufficient nor just to discuss toxic stress without directing our attention to the disparities around the children who are impacted at higher rates. In America, toxic stress disproportionately impacts Black, brown, LatinX, and children living in single-parent families (Glass, 2020; Miller, 2020). Systemic racism, social injustice, and our nation's long history of policies and programs that have not

only failed to support historically marginalized families but in some cases intentionally compromise a family's ability to overcome adversity all play a role. There is a growing body of evidence indicating that repeated experiences of racial and ethnic discrimination are associated with increased health problems across the life span (Center on the Developing Child, 2016; Paradies et al., 2015). Practitioners, policymakers, advocates, students, and all who care about the well-being of our nation's children and families need to better understand these historical and current failures. Future progress and the health of our country depend on a critical understanding of historical wrongs and the devastation that they perpetuate.

With a lens on social justice, it is critical that we also gain a deeper understanding around the science of resilience, which offers us tremendous hope and inspiration for supporting children who are and/or who have experienced toxic stress. Resilience can be defined as "the capacity for doing well under adversity, the processes of coping with challenges, recovery from catastrophe, posttraumatic growth, and the achievement of good outcomes among people at high risk for failure or maladaptation" (Masten, 2014, p. 9). Dating back to the 1950s, researchers began to examine children at high risk and learned that many were thriving in the face of formidable odds (Masten, 2014; Werner & Smith, 1992). Since then, studies of resilient individuals have identified a consistent set of attributes and assets that contribute to resilient outcomes (Masten, 2014). These protective factors have been defined as characteristics that moderate or buffer the negative effects of risk factors (Masten & Garmezy, 1985). Garmezy (1985) suggested that protective factors could be divided into three categories: (1) community systems such as high-quality schools, (2) a supportive family, and (3) child attributes (e.g., physical health, intelligence, problem-solving skills).

Resilience research continues to expand our knowledge and understanding around how to help reduce the levels of risk and stress that young children experience and, at the same time, how to best support children who have experienced adversity. While more recent studies challenge us to think about the dynamic and complex interactions that influence a child's outcomes, they also solidify a consistent list of attributes that are observed in the lives of young children who demonstrate resilience. Masten (2014, p. 148) refers to this list as the "short list" and includes factors such as effective caregiving and parenting, close relationships with capable adults, effective schools, problem-solving skills, self-control, self-efficacy, hope, and motivation to succeed. A close examination of this "short list" may look similar to a list of protective factors that all children, not only those who experience toxic tress, require for healthy development. In fact, Masten would support such a conclusion writing, "I have argued that this recurrent list suggests that there are fundamental adaptive systems that protect human development under many different circumstances. These adaptive systems include families, schools, community organizations and individuals' internal beliefs about their own self-efficacy and their capacity for healthy relationships, self-regulation and problem-solving" (p. 148).

The growing body of research that continues to support Masten's "short list" offers compelling data around how to best support the overall health and well-being

of vulnerable children and their families. It is well beyond the scope of this chapter to discuss all the protective factors and their associated adaptive systems that deserve attention. Rather, we will first highlight promising work that is taking place around how to strengthen the parent-child relationship, a foundational protective factor that exists for a child's healthy development. We will then focus on protective factors drawn from within the child, including abilities such as self-regulation and initiative. We will discuss how capable adults, including parents and others who play a consistent role in the life of the child, can teach children these skills and abilities within the context of everyday activities and interactions within the home and early care settings. Promising practices and interventions will be presented, and we will conclude by discussing recommendations for growth in the field.

Evidence-Based Interventions to Enhance Resilience

More than half a century of research and program evaluation studies inform the evidence base for interventions focused on reducing early childhood toxic stress and promoting resilience in young children. The evidence continues to mount around the urgency to intervene as early in life as possible and ideally before a child is born. Advances in the science of early childhood development and its underlying biology demonstrate that certain parts of the brain must be built in a predictable sequence and be strong enough so that a solid foundation is created early in life that can support a child's continued development into adulthood (Center on the Developing Child, 2007; Shonkoff & Phillips, 2000). While science also helps us to understand how a child's brain can adapt and change throughout life, this capacity decreases as children get older (Center on the Developing Child, 2016; Nelson & Bloom, 1997). The later we wait to support children, the more costly the damages, and less effective we may be at preventing the emergence of mental, emotional, or behavioral challenges (National Research Council & Institute of Medicine, 2009). This compelling research informs the need to focus on the most critical relationship during the early childhood years – the parent-child relationship.

Strengthening the Parent-Child Relationship

Research has consistently demonstrated that one of the most significant protective factors for children is the presence of a loving and effective caregiver (Masten, 2014; Weir, 2017). Most children who end up "beating the odds" and overcoming childhood adversity have at least one stable and responsive relationship with a parent, caregiver, or other adult (Center on the Developing Child, 2016; Luthar & Eisenberg, 2017). Supportive caregivers provide the foundation for the development of critical skills like healthy attachment and emotion regulation (National Scientific Council on the Developing Child, 2004; Osher et al., 2020). They also can protect

children from the potentially damaging effects of stress while, at the same time, helping children develop their own coping skills (Center on the Developing Child, 2016; National Scientific Council on the Developing Child, 2014). It is these important findings that have led many researchers and practitioners alike to focus their resilience-building initiatives on the child's primary caregivers (Luthar & Eisenberg, 2017; Morris et al., 2017). Evidence-based interventions that focus on caregivers must be comprehensive and include efforts that reduce stressors on the family and increase access to needed services and supports while also strengthening parenting skills through effective parenting programs (Cohen, 2017; Weir, 2017). It is this last area, effective parenting skills, that we focus on next.

Parenting Skills

Numerous studies demonstrate the vital role that responsive and nurturing parenting behaviors play on children's development, well-being, and later outcomes (Morris et al., 2017; National Research Council & Institute of Medicine, 2009). A key interaction that many parenting programs are increasingly focusing on is the "serve and return" dynamic that exists between children and their adult caregivers (Cohen, 2017). This powerful metaphor describes attentive, responsive caregiving in a way that is easy for parents, and the general public, to understand. Children naturally *serve* when they initiate interaction through gaze, vocalization, and action; adults *return* the serve when they respond in developmentally supportive ways (Fisher et al., 2016). Based on the existing evidence, there is widespread agreement among resilience researchers and practitioners that enhancing "serve and return" interactions between caregivers and young children, particularly those living in high-risk environments, is a fundamental building block of resilience (National Scientific Council on the Developing Child, 2015). Although interventions commonly focus on the child's primary caregiver, it is also important that all adults who play a consistent role in a child's life learn how to engage in consistent, nurturing interactions (Center on the Developing Child, 2016).

One very promising intervention focused on teaching the "serve and return" interaction is being researched at the University of Oregon. The Filming Interactions to Nurture Development (FIND) intervention is a video coaching program designed to be used with infants and young children and their caregivers (Fisher et al., 2016). This behavioral intervention focuses on using the video coaching process to teach parents very specific behaviors including how to notice what the child is focusing on (the serve) and then to show interest and respond in encouraging ways such as praising the child or offering help and comfort (the return). The videos are used to show parents how they can keep this interaction going back and forth as well as how continuing this process results in sustained, ongoing, reciprocal interactions (Fisher et al., 2016). Unlike some traditional interventions, FIND uses the videos and coaching to highlight to parents what they are already doing well rather than what they need to learn and do better. This strength-based approach is designed to build

the parent's confidence and encourage them to see that they already have the capacity to be nurturing parent.

Strengthening Children's Protective Factors

The "serve and return" dynamic that supports responsive and nurturing caregiving sets the stage for children to acquire skills and abilities that serve as powerful protective factors. Competencies such as healthy relationships, self-regulation, initiative, motivation to succeed, and self-efficacy are examples of protective factors that are drawn from within the child and are strengthened through ordinary, daily interactions with nurturing adults. Parents, grandparents, foster parents, and early care and education professionals can support a child's capacity to learn these skills and behaviors through their everyday interactions within the home and school settings. Although these protective factors are numerous, we will limit our discussion to two key protective factors in young children.

Self-Regulation

Developing and learning the skills and behaviors associated with self-regulation may be perhaps one of the most challenging tasks for young children. Self-regulation can be defined as "the act of managing one's thoughts and feelings to engage in goal-directed actions such as organizing behavior, controlling impulses, and solving problems constructively" (Murray et al., 2016, p. 7). Children are not born with these abilities but acquire them within the context of healthy, nurturing relationships (Center on the Developing Child, 2016). The capabilities and essential skills that are part of healthy self-regulation include the ability to focus, plan for and achieve goals, adapt to changing situations, and resist impulsive behavior. When these skills are well developed, children are more likely to make healthy choices and to be successful at learning (Cohen, 2017). All children, including children who have risk factors in their lives, can learn these skills within the context of supportive relationships with adults. Adults can facilitate the development of these skills by establishing routines, modeling appropriate social behavior, and creating and maintaining supportive, reliable relationships (Cohen, 2017).

A 2016 US Department of Health and Human Services report focused on self-regulation and toxic stress provides a detailed overview of evidence-based interventions to promote children's self-regulation (Murray et al., 2016). The ability for adult caregivers to co-regulate is identified as the most important characteristic of early childhood interventions that target self-regulation. Co-regulation is defined as "an interactional process in which a caregiver provides support, coaching, and modeling that facilitates a child's ability to understand, express, and modulate their feelings, thoughts, and behavior" (Murray et al., 2016, p. 9). For example, co-regulation strategies used with infants may include behaviors such as interacting with a child

in a warm and responsive manner, both anticipating and responding quickly to the child's needs, offering physical and emotional comfort when the child becomes distressed, and modifying the child's environment to reduce potential sources of stress. As children grow, these co-regulation strategies would naturally increase in difficulty to fit to the child's developing skill set. Interventions that include teaching parents and caregivers to support their children's self-regulation skills have demonstrated encouraging results, particularly for those children experiencing toxic stress.

Initiative

In addition to healthy relationships and self-regulation, another important protective factor that is drawn from within the individual and strengthened through adult-child interactions is a child's ability to take initiative. Initiative can be defined as the child's ability to use independent thought and action to meet their needs and includes a set of behaviors related to problem-solving, motivation, and self-efficacy (LeBuffe et al., 2013). Infants demonstrate their initiative through interactions with their environment. When this natural curiosity and exploration are supported, bringing pleasure and positive results, children will naturally want to continue these efforts (Carlton & Winsler, 1998). This intrinsic motivation, defined as the desire to participate in an activity simply for the enjoyment derived from that activity and not for any extrinsic rewards, is associated with greater learning and achievement (Pintrich & Shunk, 1996). For example, intrinsically motivated children are more likely to experience greater gains in knowledge, enjoy learning more, and persist in their activities compared to their extrinsically motivated peers (Deci et al., 1991).

A variety of strategies are available for parents and caregivers to support the development of children's initiative through everyday interactions (Carlton & Winsler, 1998). For example, adults can create an environment that encourages young children to freely explore toys and activities that allow them to see the effect of their actions (e.g., toys that have visible changes when moved). Adults can also provide activities or create situations that give children developmentally appropriate challenges. Gradually increasing the difficulty level while providing support can be motivating for children as they began to succeed at more and more challenging tasks. These and other parenting strategies can support the development of this important protective factor.

Building Adult Caregiver Capacity

There is sufficient evidence to substantiate the need to teach parents and other adult caregivers about their essential role in promoting the protective factors that are found within children. The question for researchers, policymakers, and practitioners alike is how to go about this task in ways that are effective, practical, culturally responsive, and fundable. Luthar and Eisenberg (2017) compiled recommendations

from multiple experts on ways to promote resilience of children at-risk for maladjustment. These findings highlighted several key characteristics related to building and supporting the capacity of adult caregivers to effectively support children's resilience.

First, parents themselves need to feel a sense of support. Strength-based approaches that emphasize encouragement, praise, and connection to other individuals in their everyday lives support parents through their parenting journey (Luthar & Eisenberg, 2017). A second critical element of effective practices rests with the personnel delivering the intervention. Whether a therapist, trainer, coach, or mentor, the professional delivering support must embody compassion and empathy while gently guiding parents as they learn to embrace more effective parenting skills (Luthar & Eisenberg, 2017). Consistent with the emphasis on co-regulation discussed above (Murray et al., 2016), experts agree that effective parent training focuses on teaching parents' healthy self-regulation skills. Well-regulated parents are more likely to provide supportive, nurturing care to their children that are, in turn, associated with positive outcomes for children (Luthar & Eisenberg, 2017).

In addition to interventions that focus on parents, early care and education professionals are another key group of caregivers that can strengthen children's protective factors. High-quality early care and education programs that offer safe, stimulating, and nurturing environments overseen by skilled teachers who are trained to implement age-appropriate curricula have been shown to enhance social and cognitive development for children from low-income families (Center on the Developing Child, 2007). A tremendous challenge is ensuring that these classrooms are staffed by qualified teachers who understand their critical role and who receive support and training necessary to teach them the skills required to provide warm, responsive, high-quality care. One promising strategy to achieve this is the increased access to Infant and Early Childhood Mental Health Consultation (IECMHC), which can be best defined as a "problem-solving and capacity building intervention implemented within a collaborative relationship between a professional consultant with mental health expertise and one or more caregivers, typically an early care and education provider and/or family member" (Duran et al., 2009). The role of the mental health consultant is not to work directly with children but rather to support and empower early care and education professionals, providing them with the confidence, skills, and the overall capacity to strengthen children's social and emotional skills and reduce the use of behaviors that are challenging.

In efforts to advance work in this important area, the Center of Excellence for Infant and Early Childhood Mental Health Consultation (2020) has compiled and published a reference guide that summarizes the evidence behind IECMHC and the positive outcomes achieved for both children and adults. Based on findings from dozens of studies reviewed, IECMHC has been shown to positively improve children's overall social and emotional health, including social skills, self-regulation, protective factors, and adaptive behaviors. Early childhood educators who receive consultation demonstrate changes in their knowledge, attitudes, and behaviors that align with fostering social and emotional development.

The evidence to date on the effectiveness of training for parents and other caregivers should be used to guide the implementation of all services. However, as we look to the future and to improving outcomes for at-risk children and families, we must acknowledge the current limitations. A comprehensive review of programs and services recently undertaken by the National Scientific Council on the Developing Child and the National Policy Forum on Early Childhood Policy and Programs (Center on the Developing Child, 2016) concludes that while current best practices at multiple levels can help direct us, we need to implement and evaluate new interventions. The report states "The widespread preference for 'evidence-based' programs, many of which have produced small effects on random categories of outcomes that have not been replicated, seriously limits the likelihood of achieving increasingly larger impacts at scale over time. Indeed, many of the most compelling challenges facing the early childhood field today are linked to the absence of sufficient professional and political incentives for developing and testing new ideas" (Center on the Developing Child, 2016, p. 6). It was a desire to translate the science and evidence behind early childhood and resilience into a practical system that could be realistically implemented by parents and early childhood educators that drove the development of the Devereux Early Childhood Assessment (DECA) Program.

Suggestions for Nurturing Positivity and Well-Being in Children

After more than 20 years of work to support the resilience of children and families, the Devereux Center for Resilient Children (DCRC; www.CenterForResilientChildren.org) remains committed to our focus on providing adults (including parents, teachers, and all individuals who play important roles in the lives of young children), with research-informed and practical tools that assess and strengthen key within-child protective factors related to resilience in young children. The promotion of these protective factors takes place within a comprehensive, systemic understanding of the environments where children and families live, go to school, and receive support (Devereux Center for Resilient Children, 2018). We will focus on two key facets of the DECA Program: (1) the promotion of children's resilience through everyday interactions and (2) the promotion of resilience in family members, particularly parents, relatives, and other adult caregivers.

Promoting Resilience in Children's Everyday Lives

The DECA Program is a strength-based assessment and planning system for use in home and classroom settings to promote the healthy social and emotional development and capacity for resilience in children from infancy through preschool (LeBuffe & Naglieri, 1999/2012). Informed by resilience researchers such as Ann Masten, the DECA Program is guided by an understanding that resilience can be nurtured through building children's protective factors during everyday events and interactions (Cairone & Mackrain, 2012).

Central to the DECA Program are a series of nationally standardized behavior rating scales designed to measure these key within-child protective factors in young children (Naglieri et al., 2013). This includes the Devereux Early Childhood Assessment for Infants and Toddlers (DECA-IT; Mackrain et al., 2007), the Devereux Early Childhood Assessment for Preschoolers (DECA; LeBuffe & Naglieri, 1999/2012), and the Devereux Early Childhood Assessment Clinical Form (DECA-C; LeBuffe & Naglieri, 2003). Complementary school-age assessments, referred to as the Devereux Student Strengths Assessments (DESSA), extend this measurement through the high school years (LeBuffe et al., 2009/2014; LeBuffe et al., 2018). Each of these assessments meets or exceeds professional standards for reliability and validity (American Educational Research Association, 2014). Studies have demonstrated the validity of these measures for identifying protective factors related to positive developmental outcomes in the context of risk (LeBuffe & Shapiro, 2004; LeBuffe et al., 2013).

The DECA measures are completed by parents and early care and education providers by rating the frequency with which children engage in behaviors related to three important protective factors related to resilience in young children: (1) healthy relationships, (2) self-regulation, and (3) initiative (LeBuffe & Naglieri, 1999/2012). For example, behaviors related to *healthy relationships* include smiling at familiar adults and asking adults to play or read; behaviors related to *self-regulation* include showing patience and handling frustration well; and behaviors related to *initiative* include trying to do new things and choosing to do a task that was hard. The items are strength-based (measuring positive or desirable behaviors) and developmentally appropriate with different behaviors included on the DECA for Infants, Toddlers, and Preschoolers.

Results of the DECA assessments enable early childhood professionals and parents to better understand children's existing protective factors and opportunities for further development. This information can then be used to help identify children who are at-risk of developing social and emotional difficulties due to low protective factors and to guide the selection and implementation of strategies within a multi-tiered framework to promote the resilience of all children (LeBuffe & Naglieri, 1999/2012; LeBuffe et al., 2013). This data-based approach has been found to lead to positive improvements in children's social-emotional development. Specifically, Gadaire et al. (2020) found that children whose preschool teachers received DECA feedback combined with recommended strategies showed greater social-emotional

gains over a school year compared to children whose teachers did not receive this feedback.

The research-based strategies offered in the DECA Program (Cairone & Mackrain, 2012) are based on developmentally appropriate practices and are practical, with a very strong appreciation for the limitations that many teachers and parents confront (Jones et al., 2017; Luthar & Eisenberg, 2017). Ultimately, the goal of the DECA Program is to help adults pause and reflect long enough to understand the meaning of the DECA scores within the context of all other information gathered about a child and then to focus and take action to put a few practical changes into place. For example, if a parent's DECA rating indicates their child has a need in self-regulation, a suggested parent strategy may be to ensure a consistent, predictable daily routine is in place. Similarly, if a teacher's DECA rating indicates a child has a need in initiative, a classroom strategy might be to very intentionally comment on the child's abilities to support confidence-building or to listen for any themes that emerge in the child's conversations and use that information to guide a new classroom project or activity. These strategies highlight a foundational principle that Ann Masten emphasizes in *Ordinary Magic* (2014), which is that when done with intention, with love, and with consistency, it is these ordinary daily routines, activities, conversations, and interactions that provide the basis for building a child's protective factors. The reasons that some children "overcome the odds" and show resilience in the face of adversity are because at least one, if not more, important adults in the child's life made sure that enough of the child's early life experiences incorporated these ordinary moments.

Ideas for Promoting Resilience of Families

The effectiveness of parents and teachers in promoting the social and emotional competence and resilience of children is directly influenced by their own social and emotional well-being and resilience (Jennings & Greenberg, 2009; Fleming et al., 2013). Adults who are having difficulty coping with risk factors may be less able to effectively promote the resilience of children for at least three reasons: (1) they are less available to the children, both physically and emotionally, (2) they have greater difficulty in modeling social and emotional competence, and (3) their stress can have direct negative effects on children (Fleming et al., 2013). And particularly for children facing adversity or toxic stress, a stable, responsive, and supportive adult is critical (Center on the Developing Child, 2016; Luthar & Eisenberg, 2017). Therefore, the importance of adult resilience has been emphasized in DCRC's work and the DECA Program more specifically.

Recognizing this critical need, DCRC developed *the Devereux Adult Resilience Survey* (*DARS*; Mackrain, 2007), a self-reflective survey designed to help adults, including parents and teachers of young children, reflect on the presence of important protective factors in their own lives. Focusing on four protective factors (relationships, initiative, internal beliefs, and self-control), the *DARS* provides useful

information to guide adults in selecting strategies to enhance their resilience. It is accompanied by a self-reflective journal, *Building Your Bounce: Simple Strategies for a Resilient You* (Mackrain & Bruce, 2009). The self-directed and self-reflective nature of these resources enable adults to personalize their selection and use of strategies in a private and practical way, enabling discovery of which strategies work best for them (Fleming et al., 2013).

Ideas for Growth in the Field

It is important to recognize the progress that has been made around the translation of research findings into practices that benefit children and the professionals dedicating their careers to strengthening families. We celebrate the increased focus on understanding trauma, toxic stress, and resilience and the groundswell of training related to ACEs and trauma-informed care. At the same time, we must acknowledge how much more needs to be done and to make sure that research and practice are focusing as much on "resilience-informed care" as trauma-informed care (Masten & Barnes, 2018).

A vital area for ongoing and future research must focus our attention on how social emotional assessment and interventions help and/or harm children of color based on their unique experience with America's legacy of inequity. Due to systemic racism, children of color are disproportionately impacted by toxic stress, and therefore more funding and attention must be made to ensure that interventions are effective within various cultural identity groups. While we focused on the protective factors that can be cultivated from the family system and from within the child, we must also support resilience research that specifically explores the unique environmental factors that contribute to the success of children of color. The next generation of research and practice efforts needs a more explicit equity focus on which we seek the answers to questions including *what works* and *for whom*?

Improving future practices will undoubtedly include a focus on neuroscience and using technological advances to understand how children's brains and bodies are impacted by stress and how interventions can moderate the negative effects of trauma and ACEs. This information is critical and could lead to entirely new solutions and innovations to improve services for children and families. It is essential, however, to maintain a balance between funding technologically innovative advances and recognizing that decades of research have already solidified what we know children need for healthy development. Researchers and practitioners agree on the significance of children's early experiences and relationships in setting a solid foundation for healthy growth and development (Center on the Developing Child, 2016).

Consistent with the report from the National Scientific Council on the Developing Child and the National Policy Forum on Early Childhood Policy and Programs, future research should focus on striking a balance between the rigorous, large-scale randomized control trials and smaller-scale feasibility studies and pilot testing of

promising intervention strategies (Center on the Developing Child, 2016). The benefits behind researching programs that are too costly and too difficult to scale in real-life settings should be more thoroughly scrutinized. On the other hand, programs that are based on existing evidence and realistically can be expected to be implemented with fidelity in a cost-effective manner should be prioritized.

Conclusion

Far too many of our nation's children are exposed to toxic stress, and a pandemic has exacerbated what was already a national disaster to crisis levels. Future generations will look back at this time and know how our nation's leaders and the American public responded to this watershed moment in American history. In response to COVID-19, Dr. Fauci, the Director of the National Institute of Allergy and Infectious Diseases, has consistently voiced that "we will never know the number of lives we have saved by putting the right prevention measures in place--- wear a mask, wash your hands, and stay socially distanced." This same message is true about measures that strengthen families, provide life skills, and reduce the overall levels of stress on families. We will never know the exact number of Americans who will avoid dying from stroke, heart attack, and Alzheimer's because their parents had access to safe housing and proper medical care during their early childhood years; the number of adolescents who will avoid drugs, alcohol, and other unhealthy lifestyle habits because their families had access to high-quality preschool programs, safe playgrounds, and libraries; or the number of children who will avoid developing emotional and behavioral problems because their caregivers accessed parent training that focused on teaching skills to ensure children were growing up in safe, loving, nurturing home environments with high levels of serve and return interactions and opportunities to explore and problem-solve. What we do know is that the science of resilience clearly informs us that these evidence-based strategies produce positive results.

Future resilience research will undoubtedly provide additional evidence to guide effective interventions. We will learn more about the impacts of dosage, timing, and the nuances of interventions that produce the greatest benefits. However, children and families now cannot wait for the science to be completed, and adults in helping roles must act based on the best evidence available (Masten & Barnes, 2018). Based on decades of research, a core set of three objectives have emerged that should underlie all programs and services targeting vulnerable children and families including (1) supporting responsive relationships between children and adults; (2) strengthening core life skills; and (3) reducing sources of stress in the lives of children and families (Cohen, 2017). Programs that are based on these principles, that are adequately funded, and that are executed by properly trained professionals who understand and leverage all the evidence to date require our investment.

It can be difficult to remain hopeful and optimistic knowing how many children are suffering from toxic stress and that the needed changes in policies, programs,

and services will not come fast enough for all who need them. While this is true, it is also true that research on toxic stress and resilience is being translated into action. There is currently an outpouring of training related to ACEs and trauma-informed care that is happening in communities across the country. High-quality, user-friendly, free or low-cost resources are accessible to parents, practitioners, advocates, and the general public through national organizations such as the Substance Abuse and Mental Health Services Administration (SAMHSA; https://www.samhsa.gov/) and the Center on the Developing Child at Harvard (https://developingchild.harvard.edu/). Both organizations have translated the latest in scientific research into practical and actionable information that should be shared widely.

Each of us has a choice every day to practice our own resilience-building skills and to choose hope and optimism in the face of adversity. And, if we have chosen careers that focus on supporting vulnerable children and families, it is also our obligation. Resilient children need resilient adults. Fortunately, the resilience research can guide us as we strengthen our own protective factors, providing us with the skills, thoughts, and behaviors to remain hopeful, curious, engaged, and connected to others who are committed to making these same choices. As individuals committed to creating a more just, fair, peaceful, and joyful America for our nation's children and future generations of children to come, we must remember that hope and optimism are protective factors that we must nurture within ourselves and in the families and children we serve each and every day.

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Chapter 7
Association Between Family Relationships and Childhood Resilience

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Introduction

The concept of resilience has increasingly become more commonplace in academic and practice settings, especially as we endure multiple, ongoing, national crises (e.g., structural racism, natural disasters, and, more recently, COVID-19) (Ager, 2013; Prime et al., 2020). Though there are many definitions of resilience, most have focused on individual resilience. In this chapter, we instead rely on the *family resilience framework*, which turns greater attention to the ecological relationships, resources, and systems that support individuals across time (Walsh, 2016). This framework defines resilience not as a trait that families and individuals can possess but as "dynamic processes involving strengths and resources that family members can mobilize" (p. 8). Further, the family resilience framework acknowledges that there is no singular approach to cultivating resilience in all families. Instead of comparing families against one another, family resilience may be best understood by examining change within families across time and contexts (Walsh, 2002).

The family resilience framework (Walsh, 2016) also departs in several ways from other resilience theories that have been applied to families. Prior conceptualizations of resilience in families have focused more intently on changing family functioning without recognizing that some adaptations that families make in response to adversity are adaptive to their context (Patterson, 1988; McCubbin & McCubbin, 1988). For example, the initial response of increased parental monitoring to an adverse context (e.g., community violence) may be considered an adaptive behavior and a family strength. However, the continued use of increased parental monitoring may become maladaptive as the family context shifts. The family

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resilience framework recognizes this complexity, taking into account both initial responses and adaptations that families make as circumstances change. Additionally, other models of resilience in families have focused solely on extreme cases of adversity or families at high risk for adversity, suggesting that building resilience in families is more about restoring families that have been through trauma than a promotive practice (e.g., family stress theory) (McCubbin & McCubbin, 1988). The family resilience framework instead conceptualizes families as a supportive base for resilience in children.

Mechanisms for Supporting Family Resilience

In addition to the family resilience framework, an abundance of literature highlights the importance of family in children's lives. Families have long been considered a critical component of children's development and have been the focus of building resilience and other positive attributes in children (Ager, 2013; National Scientific Council on the Developing Child, 2015). Today, there are continued calls to investigate further the interaction between the child and family level components that contribute to resilience in children (Afifi & MacMillan, 2011; Masten & Monn, 2015). This contribution is noteworthy in part because families can be mediators of risk and are the epicenter of many interconnected protective factors (Masten, 2014; Ungar, 2019). This has led many programs to focus on cultivating specific parent/caregiver knowledge, behaviors, and attitudes as mechanisms for supporting resilience for children (Macphee et al., 2015; Zolkoski & Bullock, 2012).

While families may create a supportive base for children's emerging resilience, they are not solely responsible for these optimal conditions. Often resilience is contextualized in response to an adverse event (e.g., death of a loved one, earthquake, witnessing a violent attack); yet, for some families, adversity is a chronic, cascading experience (e.g., racism, chronic illness, immigration status, poverty) (Center on the Developing Child, 2020; Cronholm et al., 2015; Hazel et al., 2008; Obradović et al., 2012). These ongoing challenges are often perpetuated through systemic functions that operate at the macro-level of influence and are detrimental to families' ability to thrive. Many developmental theories (e.g., ecological theory, unified theory of development, phenomenological variant of ecological systems theory) recognize that these macrosystems are part of a larger nested set of influences, with family and individual influences nested within more overarching systems (Bronfenbrenner, 1979; Sameroff, 2010; Spencer et al., 1997). Therefore, there is a need to acknowledge that building resilience in children through families should be addressed on multiple levels (i.e., through policy and communities), not only at the individual or family level.

Scope of Our Review

We review evidence-based programs and promising practices that have addressed promotive (fostering competence when significant risk is not present) and protective (fostering competence despite significant risk) processes (Henry et al., 2015). We have narrowed our focus to include only families of children birth to the third grade, given the importance of early development and family relationships during those years (Center on the Developing Child, 2008; National Scientific Council on the Developing Child, 2015). We take an inclusive view of the family that includes mothers, fathers, grandparents, foster parents, and other family members that positively contribute to building children's resilience. We recognize that most extant research has oversampled mothers and has thus downplayed other types of caregivers' contributions (Cabrera et al., 2018). Consequently, we intentionally highlight programs that support additional family members and caregivers whenever possible.

Building from the family resilience framework, we focus on programs and practices that are strengths-based and culturally responsive to the families they serve. Additionally, we were interested in evaluations that not only attended to family outcomes but reported on children's outcomes. As mentioned, we were more interested in the improvement within individuals across time than improvement between individuals and families. By reflecting on the improvements within individuals and families, we can partially account for the multifinality (having the same starting point can lead to different outcomes) and equifinality (multiple routes to a single outcome) of individual and family experiences (Cicchetti, 2011; Whitchurch & Constantine, 1993).

This review of programs and practices is not exhaustive. Yet, we have included programs that promote positive child-caregiver relationships, family-level programs, and community-level supports for families. Other systematic reviews of protective factors and programs that seek to build resilience in children and families exist in the literature (see Benzies & Mychasiuk, 2009; Khanlou & Wray, 2014; Luthar & Zelazo, 2003; Zolkolski & Bullock, 2012). Within these categories, we are interested in how these relationships at each of the individual, family, and community spheres of influence can improve resilience in children. In the following sections, we review a set of evidence-based programs that attend to these areas. We then discuss key areas for developing resilience in children and families and conclude with emerging areas of practice.

Evidence-Based Interventions

In this section, we review evidence-based programs that support three intertwined areas related to family resilience: (1) responsive relationships, (2) family environment, and (3) community context. We selected evidence-based programs that were evaluated using either a randomized controlled trial or a rigorous quasi-

experimental design. We report effect sizes in evaluating contributions to the field, with 0.2 considered a small effect size, 0.5 a medium effect size, and 0.8 a large effect size (Cohen, 1988). While effect size is a common metric of group difference, it should be noted that the contexts of these group differences are also meaningful. For example, outright comparisons of programs by effect sizes may not be appropriate if they do not share similar samples and measures. For each program, we highlight goals, populations, methods, and outcomes.

Programs Supporting Child-Caregiver Relationships

Promoting responsive relationships can be accomplished in various ways within families. Current research in the resilience literature has paid particular attention to improving caregiver-child attachment, communication, and cohesion at this dyadic level (Masten, 2018; Masten & Monn, 2015). Programs with elements of home visiting and parent coaching seem particularly promising. Specifically, we found that programs that attend to improving parents' self-efficacy and parent-child secure attachments are an established way to build resilience in children.

One such long-standing program, Nurse-Family Partnership (NFP), has goals to improve mothers' and their children's health, relationships, and economic stability (Olds et al., 2004). The program is delivered by a nurse to first-time mothers of low-income families in the family's home. The delivery of NFP consists of one-on-one, hour-long visits starting prenatally and lasting for up to 2 years. Ideally, nurses are able to make 60 visits in these 2 years, with weekly visits in the first month and bi-weekly visits subsequently. NFP is offered in both English and Spanish and has been evaluated in three US (United States) cities to represent a predominantly white, rural population (Olds et al., 1986), predominantly black population (Olds et al., 2004, 2014), an urban population of Hispanic and white women (Olds et al., 2002), and a few European countries (Mejdoubi et al., 2013; Robling et al., 2016; Sierau et al., 2016). The primary goal of these visits is to reduce child maltreatment and improve child development by improving parental self-efficacy and secure attachment. There are positive results from randomized controlled trials that have assessed children's behavioral and emotional functioning. For example, across two studies and six scales, there was an average effect size of 0.18 for improved child functioning (range of −0.01 to.51) (Olds et al., 2004, 2014). In one evaluation (Olds et al., 2004), a small effect was detected in improving positive parenting. However, NFP has a narrow focus on first-time, low-income mothers. This limitation has implications for caregivers that do not meet those criteria, as there are fewer evidence-based options available to them.

While NFP examined residential, biological maternal parents, other programs aim to support a diverse range of family arrangements. For example, Attachment and Biobehavioral Catch-up (ABC) – a home-based video coaching program – has been used with foster parents of young children (Dozier et al., 2009). This videotaped ten-session program is delivered in families' homes by trained social workers.

ABC aims to support (1) reframing caregivers' understanding of their foster child's behavior, (2) promoting foster-care parents' nurturing behaviors, and (3) creating an environment for children to develop regulatory capacity. The ABC program recognizes that foster parents may have different mindsets when responding to their child. More specifically, they may misinterpret a child's cue or avoidant behaviors, which can result in a less secure attachment. Evaluation studies have found that those that received the ABC program showed less avoidant behaviors (medium effect) and more secure behaviors (small effect) than those that received an educational control intervention.

Programs Supporting Family Context

Some programs extend beyond supporting dyadic caregiver-child relationships, focusing more broadly on supporting the family context. The premise of these programs is that supporting families more holistically will help create a broader environment of protective relationships, thereby tipping the "resilience scale" toward more positive outcomes (The National Scientific Council on the Developing Child, 2015).

One of these programs is Family Check-Up (FCU), which aims to improve family management practices and prevent child and youth adjustment challenges. It is unique in its ecological approach and use of motivational interviewing techniques to highlight family strengths and areas of improvement (Dishion & Stormshak, 2007). Motivational interviewing is a therapeutic approach in which the provider uses a number of encouraging techniques to strengthen the family's motivation to change behavior. For example, motivational interviewing strategies typically include engaging the client with open-ended questions, active listening, and discussions about intentions to change. FCU is relatively brief (i.e., typically 2–3 sessions) and has been successfully implemented in a wide range of service settings, including public schools, WIC clinics, and Native American tribal communities (Arizona State Research Institute, 2021). The program has three primary touchpoints with families: (1) an initial contact session, (2) a multi-informant assessment, and (3) a feedback session. In the feedback session, families review parenting and family strengths, consider areas of possible change, and consider a tailored menu of additional supports (e.g., individualized parent training, school consultations, community referrals). Several RCTs have shown small to moderate improvements in a range of behavioral and mental health outcomes during early childhood and the elementary years (e.g., Dishion et al., 2008; Garbacz et al., 2020). FCU has also been associated with improvements in caregiver depression, social support, and relationship satisfaction (McEachern et al., 2013; Shaw et al., 2009).

Another evidence-based model, the Strengthening Father Involvement (SFI) program, aims to reinforce positive co-parenting and father involvement as a means to improving parent-child relationships and child outcomes. Group sessions begin with a 30-min check-in followed by 1.5 hours focused on a specific topic. The

program includes four sessions on fathers' involvement and parenting, five sessions on couple relationship quality and co-parenting, three sessions on fostering parents' individual well-being, two sessions on preventing negative intergenerational cycles, and two sessions on handling external stressors and building support systems. The 16-week curriculum for fathers and couples has been evaluated through three RCTs. Effects on child behavioral outcomes have ranged from the .20s to mid- .40s across studies (Cowan et al., 2009, 2014; Pruett et al., 2017, 2019). Though modest in size, these effects are above average for effects of parenting programs on child outcomes. Parents participating in SFI's couple groups have also reported more father involvement, lower levels of parenting stress, and better couple satisfaction (Pruett et al., 2017).

Programs Provided at a Community Level

Expanding on these family-level interventions, community programs with a group component have proliferated partly due to their relatively low-cost, wide reach, and promising outcomes. These programs leverage a social setting to support family resilience through several pathways: (1) helping families identify local, tangible resources, (2) facilitating a sense of connection and belonging while reducing isolation, and (3) offering a collective space to reflect, explain, and reframe the daily challenges of parenting (e.g., Kalland et al., 2016; Landau, 2007). Additionally, the focus on social connection means such programs can occur in a wide range of settings, given that the family members can be bound together through shared culture, life experiences, geography, faith, ancestry, or a particular institution (McMillan, & Chavis, 1986).

Schools are one setting conducive to these community programs, as families are bound together through geographical and institutional ties. One such program is Families and Schools Together (FAST). In FAST, families convene after school weekly for structured parent-peer and parent-child activities with a trained facilitator (Kratochwill et al., 2009). Sessions begin with play and homework time for the children. At the same time, parents participate in a one-on-one conversation with another parent, followed by a group conversation among all the parents. Parents then reunite with their children for a period of child-directed play. Sessions close with a shared meal and community announcements. The first 8 weeks of the program are known as the FAST cycle stage, followed by the FASTWORKS stage, a 2-year period where families continue to gather after school once a month for similar parent-led sessions. By nurturing positive parent-child relationships, facilitating friendships between families, and increasing peer networks, the program targets multiple outcomes across settings. Some of the outcomes include better peer relationships with fewer behavioral issues for children, improved family cohesion, increased parent engagement at school, and mutual aid development within communities.

To evaluate the FAST program, researchers have used a randomized cluster design in multiple studies, either in specific cities, e.g., San Antonio, Phoenix, and Philadelphia (Bos et al., 2018; Gamoran et al., 2012; López Turley et al., 2017), or specific populations, including children with behavioral issues (Kratochwill et al., 2009); a Latino subsample from low-income, urban schools (McDonald et al., 2006); and American Indian families (Kratochwill et al., 2004). Regarding family functioning, participation in FAST resulted in small increases in conflict, large improvements in flexibility, but no effects on cohesion or use of supports. This suggests that while the program initiates changes in family functioning, it does not alone guarantee targeted outcomes. With regard to parent peer networks, FAST had small to medium effects on increasing the size of and shared expectations within those networks, but no effects on trust and inconsistent effects on reciprocal exchanges. Those who benefit most are the parents who had a relative lack of social capital to begin with (Gamoran et al., 2012; López Turley et al., 2017). The improvements in parent-school relationships have been small and are either short-lived or site-specific. When effects on child outcomes appear, they range from medium to large for internalizing behaviors (0.51–1.84) and small to medium for externalizing behaviors (0.25–0.70) and remain small for social skills (Gamoran et al., 2012; Kratochwill et al., 2004, 2009; López Turley et al., 2017; McDonald et al., 2006). Small to large effects have been observed in child academic outcomes as rated by teachers. Overall, FAST seems to expand peer networks for parents who may not have otherwise met the parents of their children's classmates and help children with several key skills that support relationships at school and home.

Another strategy at the community level that uses a group-based intervention is creating a community around adverse experiences and setting the program at institutional touchpoints, such as health-care facilities, shelters, child welfare services, or courts. One such example is the Strengthening Families Program, in which multiple families get together for weekly skills training sessions (Kumpfer et al., 2007). The program ranges from 7 to 14 weeks and seeks to improve family functioning by promoting specific skills in parents (e.g., managing developmentally appropriate expectations of a child's behavior, praising positive behavior, consistently applying appropriate consequences for unacceptable behavior, listening to children, and participating in child-directed play) and children (e.g., identifying their feelings, effectively communicating with family members, peers, and teachers, future thinking and problem-solving, coping with stress and anger management). During the 2.5-hour sessions, families share a meal together and then separate into a parent group and a children's group for individual skills lessons and practice. Parents and children reunite to practice family skills, applying what they have individually learned to joint exercises with coaching from facilitators if they get stuck. After leaving the session, parents and children practice these skills at home and report their experiences at the next session.

Multiple RCTs have been conducted to test the effectiveness of SFP with children ages 6–11 (i.e., SFP 6–11). In a study of rural families, Kumpfer et al. (2002) found small effects on family functioning, large effects on parenting skills, and medium effects on children's social and behavioral outcomes (0.35–0.69).

Gottfredson et al. (2006) specifically looked at SFP 6–11 with African American families in Washington, D.C., finding a small effect on family functioning, a minimal effect on parenting skills, and small to moderate effects for children's social and behavioral outcomes (0.11–0.31). Kumpfer et al. (2010) conducted an additional statewide study of SFP with a population of families with at-risk youth. In this iteration, participants in SFP 6–11 had large effects on family functioning and parenting skills, with an average medium effect on children's behavioral, social, and emotional outcomes. Across populations, the SFP 6–11 program seems to have consistent moderate to medium effects on child outcomes. The program's range of small to large effects on family functioning and parenting skills may be moderated by families' reasons for entering the program or the population they belong to.

Suggestions for Nurturing Positivity and Well-Being in Children

Our suggestions for nurturing positivity and well-being in children derive from the key components we see working in the three areas of evidence-based programs we previously discussed: (1) promoting responsive relationships, (2) improving family context, and (3) developing support networks through community-based group programs. These programs have similar key components that can help build resilience in children in different contexts and be used in ways that are relevant to the families they are serving.

Promoting Positive Development and Well-Being in Children's Everyday Lives

Perhaps the most central finding of promoting children's positive development and well-being in everyday lives is the critical importance of caring adult relationships. As the National Scientific Council on the Developing Child (2015) notes, "children who end up doing well have had at least one stable and committed relationship with a supportive parent, caregiver, or other adult. These relationships provide the personalized responsiveness, scaffolding, and protection that buffer children from developmental disruption" (p. 1). Several different adults can provide these important supports for children, including mothers, fathers, foster parents, grandparents, or other significant adults in children's lives. The importance of caring adult relationships starts from birth when parents/caregivers attend to their baby's cues. These relationships continue to serve as an anchor in children's lives throughout early childhood and beyond. Strengthening these relationships can be built in the context of everyday moments within families, such as mealtime or shopping at the grocery store.

In order for positive relationships within families to flourish, caregivers also need to be supported. Thus, programs that take a dual-generation approach to support families seem most promising (Chase-Lansdale & Brooks-Gunn, 2014; Fisher et al., 2016). Like many of the programs reviewed in this chapter, dual-generation approaches attend to both the needs of children and caregivers to build family resilience. The most common form of evidence-based dual-generation programs focuses on providing caregivers with skill-building support, such as coaching, modeling, and goal-setting (Shonkoff & Fisher, 2013). However, there is increasing evidence that programs should go beyond skill-building alone and move toward also supporting families in meeting basic needs in their everyday lives to make a larger impact (Holmes et al., 2020; Narayan, 2015). In our review, the program that most directly aimed to meet basic needs was "Family Check-Up" though some of the other programs also offered resource navigation as a service. In the future, we hope to see more dual-generational programs provide direct services to meet basic needs, including mental health services and economic supports (Shonkoff & Fisher, 2013). We know from decades of research that parental depression, for example, can disrupt responsive relationships and impact child outcomes (Beeghly & Tronick, 2011; Shaw et al., 2009). Therefore, providing mental health services for adults in children's lives is critical for supporting family resilience. Economic support can also impact children's daily lives, such as the food or housing that is available to them, as well as reducing parental stress about meeting these basic needs (Conger et al., 2010; Garlinghouse, 2013).

Promotion of Family Resilience Across Contexts

One of the most common spaces for promoting family resilience is within families' homes. This is particularly true during early childhood, as children and caregivers spend more time at home together than in later years. Indeed, several of the programs we reviewed (e.g., Nurse-Family Partnership, Attachment and Biobehavioral Catch-up, and Family Check-Up) had home-based components. Programs that focus on the home context are natural settings for parents to examine their dyadic relationship with their child, the home environment, and what currently or could in the future contribute to a positive relationship and family management. Ideally, within these programs, there is a relationship with the same visitor or coach over an extended period of time, offering predictability through periods of developmental change and challenge. Simultaneously, programs have gotten increasingly innovative in extending their reach beyond home-visiting models to serve families. The programs we reviewed occurred across various settings as well, including during visits with medical providers, in schools and after school programs, and community mental health clinics. These settings offer some advantages over home-based models. For example, in community-based programs, parents have a group space to get feedback from peers who are going or have been through similar circumstances. Schools and medical providers are in a unique position to identify and work with

families more universally since nearly all families interface with these two contexts. Supporting families across settings and contexts can meet families where they are and offer multiple opportunities to deliver relevant programs to address families' needs.

Ideas for Growth in the Field

The field of family resilience has seen some positive shifts in the past two decades. In particular, there has been a movement away from the notion of resilience as an inherent characteristic and instead has been moving toward recognizing the important role that ecological factors play. Additionally, several seminal reports have called for programs that promote family resilience to be adapted to the families being served (National Academies of Sciences, Engineering, and Medicine, 2016; National Research Council and Institute of Medicine, 2000). Building on this progress, we see two key areas for growth in the field: (1) program design and evaluation and (2) policies to support and fund family resilience programs.

Revisiting Program Design and Evaluation

One major challenge in designing programs is that family constellations, history, and present circumstances combine uniquely in families (Pew Research Center, 2015), meaning that no prescriptive program can be applied universally to fit the entirety of exponentially unique combinations of families' needs. Such a challenge calls for a return to the design of programs. The traditional method has been to create packaged programs that follow a strict set of training and curricula that must be implemented with fidelity. Though this method of program design is important for keeping key components of programs intact, there is a growing need to develop programs that are more adaptable to different families and contexts. One approach is to create guiding frameworks, such as the Strengthening Families Approach, from which relevant practices can be developed for communities (Harper Browne, 2016). Another is to move away from developing packaged programs and toward the identification of programs' active ingredients or modular program applications for specific families (e.g., see Bentovim et al., 2020; Schindler et al., 2017). In other words, the identification of program components that can be more easily interchanged based on the needs of families and plugged into existing systems (e.g., early learning systems) has the potential to have a greater impact.

Such a paradigm shift in the design of more modular programs also requires a change in evaluation practices, which may lend itself less to large-scale accountability mechanisms from most funders but increase local relevance and allow for application in additional contexts and populations (see Jacobs, 2003). The typical approach in evaluating whether a program works or not fails to address the more important questions about what works best (or does not work) for whom, when, and

why (Center on the Developing Child, 2016; Schindler et al., 2017, 2019). Shifting to examine these features of programs could strengthen the programming offered to families.

Expansion of Policies to Support Family Resilience

Effective policy is another critical layer to building resilience in children through families. Reiterating an earlier point, it is not the sole responsibility of parents and their immediate communities to ensure that children are resilient beings. Families can be better equipped to handle difficult moments when a secure social safety net is in place. By either preventing some of the long-term adversities families face or alleviating specific stressors when confronted with adversity, policies play an essential role. For example, recent legislation, Family First Prevention Services Act 2018, aims to keep families intact and provide therapeutic, evidence-based services to parents and families (Family First Prevention Services Act, 2018). While this policy has not yet been fully enacted (funding to states has yet to be dispersed), it directly ties to building family resilience. Family First Legislation is promising because it builds on the community and family programs with strong evidence bases and redistributes funding to preventative services. One program approved for this funding is Nurse-Family Partnership (NFP). This is unsurprising, as NFP has previously been federally and state-funded through Medicare and Temporary Assistance for Needy Families (TANF) since the late 1990s and can also be funded through the Affordable Care Act. NFP reported that in 2019, they received $275 million in public funding to serve over 60,000 families (Nurse-Family Partnership, 2019).

We suggest that policymakers should continue to invest in programs that support families. However, we also suggest that the policymakers expand funding beyond evidence-based programs so more culturally responsive and strengths-based programs can be made available on a broader scale through public funding. Only a handful of other programs have similar name recognition or number of randomized controlled trials (RCT) as the NFP. While some promising results from NFP evaluations exist, these results do not represent the diversity of caregivers of young children. Despite these limitations, it is one of only a few options for states to choose to implement. An RCT is necessary to qualify a program as evidence-based and then added to a clearinghouse or approved programs to implement. Further, many evidence-based programs are decades old and may not fit the diverse range of cultures, experiences, and needs of present-day families. Because of this, some newer promising models of local government funding are emerging. For example, two of the authors of this chapter work with a local levy-funded initiative that is partnering with community-based organizations. These organizations are implementing and evaluating community-driven innovations to support children birth to five, families, service providers, and communities (King County Best Starts for Kids, 2019). More of this type of flexible government funding is critical for supporting the ongoing development of programs that have the potential to support family resilience.

Conclusion

In this chapter, we have discussed several different approaches to building resilience in children through families. Promising, evidence-based strategies include promoting responsive relationships, improving family cohesion, and connecting families to community resources and support. Across the programs reviewed, we note a need for programs not only to support caregivers' skills and knowledge but to attend to meeting families' basic needs to promote positive relationships. We recognize that a relationship with a caring adult is of key importance in acting as a buffer against adverse experiences and promoting resilience in children. Additionally, continuing to attend to building resilience across settings allows families to encounter services organically and in a way that meets their perceived needs. There is a need for more modular programming for families as the field advances. With a focus on potential active ingredients in programs, the field will also need to adapt its reliance on typical evaluation practices to critically reflect on questions of for whom, when, and why. This potential change in evaluation also has policy implications, as continuous and steady funding streams should be sustained and expanded to evaluate programs that intend to serve more diverse family definitions and experiences.

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Chapter 8
Promotion of Resilience for Children in Low-Income Communities

Rebecca Graber and Buket Kara

Introduction

The global health gap is widening between rich and poor (Kondo, 2012). Children and young people (CYPs) in low-income communities (LICs) face significant physical and mental health disparities that emerge in childhood, the consequences of which persist well into adult life even if there is later mobility across socioeconomic class (Evans et al., 2013; McGowan & Shahab, 2019; Pickett & Wilkinson, 2015). Mental distress and depressive disorders are a leading cause of disease burden in low- and middle-income countries (Ferrari et al., 2013). Resilience promotion with socioeconomically marginalized CYPs is therefore a priority for many psychologists/health professionals, educators, social workers and other practitioners. We review findings, methodologies, theoretical frameworks and efficacy of evidence-based resilience-promoting interventions with CYPs in low-income communities. We identify and explore examples of good practice, attending to multiple levels of intervention as appropriate, and welcome moves towards participatory, relational and transformative approaches to resilience promotion.

While there are numerous definitions of resilience, researchers generally agree it is a complex developmental process wherein assets and resources are used for positive adaptation despite adversity. Ann Masten (2011) defines resilience as 'the capacity of a dynamic system to withstand or recovery from significant challenges that threaten its stability, viability, or development' (p. 12). 'Resilience' has provided a framework to understand CYP's capacity for overcoming challenging life

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experiences and adversities and accumulated evidence-based practice and policy to improve mental health and well-being. What started as investigating personal qualities correlating with better-than-expected outcomes in CYPs experiencing adversity has increasingly grown to recognize and focus on the role of social, economic and cultural environments surrounding the individual. This evolution is particularly pronounced when applied to the specific risk factor of socioeconomic marginalization, which has gradually attracted a specific approach drawing on the articulation of ecological systems of Urie Bronfenbrenner. Bronfenbrenner (1979) brought greater recognition of the family, community and the wider culture to resilience research by nesting the CYP within interlocking levels of context along developmental trajectories. Causal pathways through which socioeconomic marginalization impacts health outcomes can be distal (systemic and pervasive) as well as proximal (individual-specific) across material, behavioural, psychosocial and biological domains (McGowan & Shahab, 2019), making an ecological conceptualization of resilience meaningful for understanding and supporting CYPs in low-income communities.

Adapting and expanding on Bronfenbrenner (1979), socio-ecological approaches to resilience have led to an emerging consensus that resilience is a multi-dimensional and dynamic process, involving the interaction of individual characteristics and ecological features in a given social context and culture to navigate individual- and community-level adversities. For example, Michael Ungar (2011) emphasizes diversity in resilience as a function of cultural/contextual variations in how individual-level characteristics interact with the environment. Here, 'in the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their well-being, and their capacity individually and collectively to negotiate for these resources to be provided in culturally meaningful ways' (Ungar, 2011, p. 4). Certain protective mechanisms might therefore be effective in one context but not in others, while culturally meaningful definitions of resilience are invited for theorization and application. Finally, some contemporary researchers (Cefai et al., 2015; Hart et al., 2016; Wadsworth et al., 2018) have extended a social justice-oriented understanding of resilience, acknowledging that many adversities that CYPs are exposed to are caused or worsened by social and structural inequalities. In this conceptualization, resilience is "overcoming the adversity, whilst also potentially changing, or even dramatically transforming (aspects of) that adversity" (Hart et al., 2016, p. 3). For interventions to be successful, and their impact sustainable, therefore requires challenging social and structural inequalities alongside conducting ameliorative work with CYPs.

In this chapter, we focus on resilience-promoting interventions tailored for children and young people in low-income communities, engaging with differences between low- and middle-income countries (LMICs) and high-income countries (HICs) as relevant. We consider CYPs in low-income communities across LMICs and HICs because, whatever their many differences, they share exposure to the risk mechanism of socioeconomic marginalization. Socioeconomic marginalization is a *process* through which children and young people are granted a lower status and are therefore permitted less access to social power, resources and capacity to engage

productively with society, because of their socioeconomic status or that of their families (Kagan & Burton, 2010). It is conceptually distinct, but related to, 'socioeconomic status', which refers to markers of income, attainment, prestige and subjective class perceptions that consistently and reliably predict an array of outcomes across the lifespan (American Psychological Association Task Force on Socioeconomic Status, 2007) but which ultimately masks *processes* of disempowerment and oppression. Socioeconomic processes exert effects on CYPs through many pathways, including poverty, unemployment, material deprivation and low housing quality, as well as family-level risks such as poor parental mental health (Bradley et al., 2001). 'Marginalization' restores a sense of dynamism and human agency over these processes and, encouragingly, their disruption. We acknowledge and attend to important caveats to considering LMICs and HICs together, as transportability of interventions from high-resource settings may discourage attention to contextual factors including historic colonialism, specific health risks and significant shortages in mental health infrastructure and human resources (Kuo et al., 2019).

Broadly speaking, socioeconomic marginalization creates vulnerabilities and risks through structural disadvantages, intergenerational transfer of adversity and the establishment and perpetuation of individual-level risks. Vulnerability to trauma may arise with a spiralling loss of resources across domains (Hobfoll et al., 2011). Intergenerational transfer of adversity can occur through nutrition, parental monitoring of health behaviours, temperament, parenting style and heritable characteristics from parents influenced by their own prior disadvantage (Serbin & Karp, 2004). Persistent, inherited inequalities can also be traced to the effects of colonialism and discriminatory state policies upon economic and psychosocial contributors to distress (von Fintel & Richter, 2019). Vulnerabilities and risks may cluster such that multiple disadvantages co-occur simultaneously or accumulate over the lifespan. LICs may be nested within, or particularly vulnerable to, global challenges of climate change, prolonged conflict or indeed global public health crises. For example, the impact of full or partial school closures related to the COVID-19 pandemic, which affected over 90% of the world's student population, has been particularly severe for socioeconomically marginalized CYPs (UNESCO, 2021). Alongside broader differential impact of the pandemic on LICs, closures worsened existing social, economic and educational inequalities via interrupted learning, limited resources, inadequate housing conditions for distant education or home schooling, widening achievement gap, unfair/biased assessments of learning, high economic costs due to childcare and poor nutrition due to withdrawn access to free or discounted healthy school meals (UNESCO, 2021; Van Lancker & Parolin, 2020).

Because socioeconomic marginalization intersects with many other forms of adversity and discrimination, children and young people in LICs may face a matrix of challenges (but also, crucially, protective and adaptive mechanisms) by virtue of their other identities and characteristics such as refugee or unsettled status; LGBTQIA+ identity; identity as Black, indigenous or person of colour; gender; religious identity; disability status; neurodivergence; etc. (Goodkind et al., 2020; Liebenberg, 2020; Ungar & Theron, 2020; Wadsworth et al., 2018). Therefore, while we take a broad scope to permit learning across contexts, we acknowledge a

diversity of lived experiences nested within the broad label of LIC and encourage researchers and practitioners to proceed accordingly.

Evidence-Based Interventions

We review evidence-based interventions working with (i) family, (ii) school or community organizations and (iii) across multiple levels to permit learning at different ecological levels.

Studies used a range of methods to evaluate feasibility, acceptability or efficacy at different phases of intervention development. Efficacy evaluation methods favor randomized controlled trials, cluster randomized controlled trials and quasi-experimental designs. Evidence from systematic reviews (e.g. Barry et al., 2013) and mixed-methods studies contribute to knowledge of intervention efficacy. At earlier stages of intervention development but also to explore preliminary efficacy, analytical techniques include qualitative analysis of interviews, focus groups and autobiographies to triangulate findings and provide holistic understanding of CYP's experiences; interviews and focus groups with families, CYPs and key informants; and quasi-experimental reporting of descriptive data (Kuo et al., 2019; Sitienei & Pillay, 2019; Vásquez et al., 2014). Examples of co-productive or participatory elements to intervention design can be seen in some interventions with low-income, disadvantaged communities in HICs (Kara et al., 2021; Wadsworth et al., 2018) and in LMICs (Fournier et al., 2014).

Family-Based Interventions Bronfenbrenner's (1979) ecological systems theory is popularly applied within family interventions to encourage attention on how a breakdown in macrosystem support in the family (such as due to parental bereavement from HIV/AIDS or maternal depression) may constrain a child's ability to access support from other ecological systems without external intervention (Sitienei & Pillay, 2019; Valdez et al., 2013). Ecological systems theory further underpins how sociocultural processes such as family separation and acculturative stressors impact development (e.g. Valdez et al., 2013). Interventions applying resilience theories drawing on Bronfenbrenner suggest families can be supported to skilfully navigate resources (e.g. Kuo et al., 2020). Theories of change in risk reduction and family involvement in prevention can sit alongside a resilience-based approach emphasizing coping, education, healthy family interactions and future-oriented strategies (Kuo et al., 2020), while a number of interventions use the theory of change for home visiting to structure parental mental health support during the infant years (Raikes et al., 2014 as cited in McKelvey et al., 2015).

Family interventions typically include a combination of skills development, psychoeducation, peer support and mental health support. Families are strengthened at inter- and intrapersonal levels through improvements in family communication, enriched parenting style, strengthened marital and family relationships, reduced stress from the parenting role, increased parental perceived social support, enhanced

CYP coping abilities, positive family engagement and psychological well-being (Kuo et al., 2020; McKelvey et al., 2015; Valdez et al., 2013; Vásquez et al., 2014). Working separately with CYPs and caregivers can permit development of family members' awareness and understanding of family life with respect to stress, mental health and sociocultural history and context; develop skills to improve family life through positive interactions, communications, problem-solving and conflict resolution; and provide opportunities to reinforce learning with supported reflection (Valdez et al., 2013). Combined adolescent-parent interventions effectively deliver psychoeducation on HIV/AIDS prevention, depression awareness, relationship skills and sexual health (Kuo et al., 2020). For children orphaned by HIV/AIDs and their families, interventions may include life skills training, psychoeducation about sexual health, peer group support with other orphaned and vulnerable children and individual-level psychological support from mentors for those in greatest distress (Sitienei & Pillay, 2019). Many interventions (except for McKelvey et al., 2015) included a peer support component as families and/or CYPs engaged in groups.

By contrast, McKelvey et al. (2015) delivered a manualized Early Head Start intervention to parents of infants in low-SES communities from a home visitor but *without* peer interaction for CYPs or families. The programme effectively developed skills for healthy relationships, enhanced parents' coping and signposted additional instrumental support, but authors reported a curious subsequent shift in support seeking among participants away from informal networks towards formal service providers. It was not clear whether this was due to more effective access to instrumental support or disincentivization from drawing on informal relationships (McKelvey et al., 2015).

Limited research suggests that vulnerable families and CYPs may even be supported to transform conditions of adversity through increased parental coping skills for advocacy (McKelvey et al., 2015) and through direct financial and food support to CYPs, developing CYP life skills and providing families with resources for engagement with education (Sitienei & Pillay, 2019). Family-based resilience-promoting interventions can effectively support the family to mitigate, challenge or disrupt social and structural risks facing CYPs. Even at adolescence, involving parents and caregivers is developmentally appropriate given the continued influence on CYP's motivations, decisions, health behaviours and relationships (Kuo et al., 2020; Moretti & Peled, 2004). Peer influences and community processes will also impact resilience processes; children living in a stressful family environment may encounter significant challenges in other spheres, which family-focused resilience interventions can impact only indirectly (Valdez et al., 2013). Nevertheless, family-based interventions show changes to specific health behaviours that disrupt existing risk pathways for adolescents, such as consistent condom usage, increased HIV testing and decreased depression (Kuo et al., 2020).

Early-year interventions engaging parents to support children's development and well-being and foster positive parent-child interactions have potential to improve developmental trajectories. For example, the Mother-Child Education Programme (Kagitcibasi et al., 2001), originating in Turkey and later implemented in Europe and the Middle East with low-income families, delivered a cognitive education

programme to 5- to 6-year-olds and a concurrent mother support programme (MSP). The MSP focused on increasing maternal sensitivity to child cognitive, social and emotional development, assisting mothers in providing home environments to support child development, in part through consistent and positive interactions with children. The MSP was associated with greater school attainment, more favourable attitudes towards school and better family and social adjustment at 7-year follow-up.

School- and Community-Based Interventions Even within the broad realm of resilience, school- and community-based interventions apply a variety of theoretical frameworks to directly supporting CYPs. These include trauma and symptomology reduction (Ellis et al., 2013; Maalouf et al., 2020; Mitra & Hodes, 2019), universal mental health prevention (Barry et al., 2013), adaptation to poverty-related stress (Wadsworth et al., 2018; Wadsworth et al., 2011), personal construct theory (Cooley et al., 2019), transformative frameworks of collective resilience and empowerment (Goodkind et al., 2020) and whole-town approaches to promote resilience (Kara et al., 2021). This wide scope is reflected in the operationalization of resilience outcomes and approaches for intervention. For example, Goodkind et al. (2020) focused on girls' empowerment, operationalizing this as *collective resilience* (awareness of structural inequalities facing Black girls/women), reducing adherence to ideologies of individual striving and personal responsibility, engagement in collective action, reflection on experiences of oppression, development of mutual support and development of positive gendered racial identity. Reflecting a more typical approach, Leventhal et al. (2015) show the efficacy of a Girls First Resilience Curriculum in developing adolescent girls' resilience as operationalized by psychosocial assets and subjective well-being.

Resilience-focused school- and community-based interventions develop and enhance effective protective mechanisms such as social, emotional, problem-solving and coping skills (e.g. Barry et al., 2013; Kara et al., 2021; Leventhal et al., 2015), collective empowerment (Goodkind et al., 2020), self-efficacy (Mueller et al., 2011), community engagement (Yeh et al., 2015) and social connection (Mueller et al., 2011). Effective resilience-building interventions may impact and interrupt specific risk pathways through addressing sexual health awareness (Barry et al., 2013), improving academic performance (Guan & Deng, 2019), enhancing physical health and fitness (Barry et al., 2013; Guan & Deng, 2019), reducing depression and/or anxiety symptoms (Ellis et al., 2013) and offering enhanced therapeutic support to CYPs with greatest need (Mitra & Hodes, 2019). In LMICs facing armed conflict, community-based interventions may effectively reduce psychosocial difficulties and aggression, increase prosocial behaviour and increase hope, with some gender and age effects (e.g. Jordans et al., 2010).

Resilience-promoting interventions in school and community settings, as with families, can use a mix of methods including creative and expressive arts (e.g. Meyer DeMott et al., 2017), cognitive behavioural training (e.g. Maalouf et al., 2020), community engagement and parent outreach (Ellis et al., 2013) and skills development (Barry et al., 2013; Ellis et al., 2013; Kara et al., 2021). Some interventions used peer education, peer support and peer ambassador schemes (e.g. Balaji

et al., 2011; Brady et al., 2007; Kumakech et al., 2009; Mueller et al., 2011). As with family-based interventions, most of the interventions involved repeated engagement with young people and other intervention targets over a period of weeks or months. This is likely to be important for relationship development, skills acquisition and transformative changes to beliefs.

Multi-level Interventions These interventions are not commonly utilized, but evidence suggests promise for supporting resilience in LICs, particularly when these address resource inequalities through advocacy, access and provision. In a multi-tiered intervention targeting left-behind children in rural China, activating endogenous resources and paraprofessional social service workers effectively supported children's well-being (Guan & Deng, 2019), while microfinancing initiatives helped improve children's mental health in other LMICs (Barry et al., 2013). Other multi-tiered interventions provided critical benefits for children. Among refugee children in a HIC, Ellis et al. (2013) demonstrated that stabilizing resource hardships was associated with significant improvements in symptoms of depression and PTSD among CYPs with significant psychological distress. Similarly, in a review of interventions to support unaccompanied refugee minors, higher support in living arrangements was associated with lower distress (Mitra & Hodes, 2019).

One approach to multi-level interventions has been to embed school-based resilience interventions within conceptually aligned comprehensive health promotion schemes, such as the WHO Health Promoting Schools (HPS) scheme which has overlap with some key resilience processes (e.g. supportive social environment and strong community relationships). Comparing HPS and non-HPS schools in low-income regions of Hong Kong, Wong et al. (2009) found the HPS programme effective in promoting resilience along dimensions including peer support, assisting teachers in developing a positive school environment, personal skills building for youth and effective partnerships with community organizations. An emerging option is to use a multi-level, whole-town approach co-produced with CYPs and community organizations, for example, the Resilience Revolution (RR) which focuses on a low-income town in England. Using a social justice-oriented resilience approach (Hart et al., 2016), the RR embeds resilience-building interventions across the town and mobilizes collective action and social change to tackle structural inequalities. Interventions also support those in the care system, such as CYPs at risk of, or who are, self-harming and those with special educational needs and disability. The programme additionally targets CYPs during school transitions and supports schools to develop and prepare whole-school resilience action plans. Preliminary efficacy evaluation suggests potential for social change to promote resilience in the town's CYPs (e.g. HeadStart Blackpool, 2021; Kara et al., 2021).

Areas of Progress and Strengths Altogether, the resilience-promoting interventions summarized above reflect good diversity in terms of geographic regions, bringing compelling evidence particularly for adolescents from LMICs and HICs. A number of interventions provided training for intervention providers, whether staff or peers, and optimally regular opportunities for reflective supervision (e.g. Kuo

et al., 2020; McKelvey et al., 2015; Valdez et al., 2013). As perceived social support is a robust protective mechanism across risk factors, many interventions specifically nurture supportive relationships, whether between CYPs, within families, or between families and caregivers sharing similar experiences. A wide range of universal and contextual risk and protective mechanisms are addressed in these interventions, particularly CYP life skills, coping, psychoeducation about specific risks, relationship skills, maternal mental health as well as universal mental health promotion and engagement with targeted support for highly vulnerable CYPs. Outcomes measured are also diverse, and even though some of these outcomes were not among typical psychological resilience outcomes (e.g. enhancing physical health and fitness), they may well be critical for building resilience in CYPs with respect to their potential for interrupting specific risk pathways implicated in health disparities due to socioeconomic marginalization. Working with families enables a rich and comprehensive approach to complex mechanisms of resilience to potentially interrupt intergenerational transfer of vulnerability. It seems effective to work with families over time with opportunities for shared learning and bonding both across and within family units. School-based interventions appear to hold particular utility, with evidence particularly robust for CYPs aged 12+ years (Barry et al., 2013). Interventions geared towards addressing multiple domains and layers have become more favourable as they bring higher impact. Some interventions show good transportability between high- and low-resource contexts. Recent approaches also bring attention to intersectionality and social justice, which hold great potential for challenging structural inequalities and social transformation.

Areas for Growth for Future Research and Practice Efforts The evidence base for primary school-aged children is comparatively underdeveloped to that of adolescence, presenting an obvious area for growth (Barry et al., 2013). Despite the range of well-designed studies, there are a dearth of randomized control trials or robust equivalents reporting efficacy for interventions in LICs. However, we acknowledge substantial challenges in undertaking these in low-resource environments. Analytical paradigms emphasizing standardized implementation when investigating efficacy may not be a preferred choice for such contextually dependent practice (Liebenberg, 2020). Multiple and mixed methods to explore efficacy, perhaps utilizing participatory methods or co-production at various stages of intervention development, would be a methodologically rigorous yet feasible alternative. Qualitative and participatory methods can be used even with young children to inform research and practice (Johnson et al., 2014). Co-producing interventions holds great potential in establishing contextual understanding and intervention relevance, addressing the needs of the target community with their support while overcoming potential barriers in the implementation process and engaging community for sustainable change (Hart et al., 2016; Public Health England, 2015). Interestingly, only a minority of interventions appear to be designed with input from young people or the community, presenting a possible missed opportunity to enhance intervention feasibility and acceptability or identify mechanisms of resilience promotion of particular salience to CYPs (e.g. Balaji et al., 2011; Bonhauser et al., 2005; Yeh et al., 2015). In prac-

tice, it is typical to consult with community stakeholders in intervention development; therefore, we encourage researchers to share descriptions of consultations with participants and stakeholders in developing interventions. These may be informal or may comprise empirical research with families and practitioners on how to support engagement, for example, by ensuring accessibility to safe and suitable premises and providing childcare, transport support and food (Kuo et al., 2020; Valdez et al., 2013). Even within a broad resilience lens, a wide range of theoretical frameworks were used to underpin the programmes discussed here. Development of knowledge and best practice could be strengthened by ensuring correspondence between theoretical framework, selection of risk or protective mechanisms to target, mechanisms of intervention and outcome measures. We invite empirical engagement with contextual responses to intervention provision (e.g. acceptability, alignment with cultural practices, implications for wider support networks) to aid novel intervention development, assist adaptation of empirically sound interventions to other contexts and explore changes to a CYP's wider ecological setting. For example, while schools are common intervention settings, school culture is rarely described or assessed. However, given the importance of schools as sites for learning, development, social activity and interaction, the school itself (with its climate, dynamics of relationships with peers and teachers) should be regarded as a prevention and intervention mechanism to promote resilience. Finally, while a number of interventions addressed peer support, opportunities for CYP-led facilitation were few, and it was not always clear whether programme facilitators were community members, missing opportunities for wider skill development, sustainability and community input.

Suggestions for Nurturing Positivity and Well-Being in Children

(a) Promoting positive development and well-being/resilience in children's everyday lives

Supporting responsive caregiver relationships from infancy to adolescence can be a useful target for resilience promotion, as socioeconomic strain and distress may interfere with supportive parenting practices, parental availability, warmth and emotional sensitivity, which altogether may contribute to insecure parent-child attachment patterns and sustain intergenerational inheritances of distress due to socioeconomic marginalization (von Fintel & Richter, 2019; Wray, 2015). Attachment-oriented interventions may focus on helping parents gain sensitivity towards their child and helping children regain responsiveness. During preschool years attachment is particularly crucial in developing emotion understanding, emotion regulation and social development. Although peer relationships become increasingly salient at adolescence, secure attachment with parents remains vital during this developmental stage for healthy transition to autonomy and adulthood

and is associated with social, cognitive, emotional and behavioral competence (Moretti & Peled, 2004). Therefore, reducing parent-child conflicts and supporting parents' conflict negotiation can be especially beneficial. While many such interventions focus specifically on mothers, interventions may be a welcome option for other caregivers within the family. We recommend these incorporate peer support elements for parents and caregivers, especially more vulnerable families, to reduce social isolation and facilitate the formation of supportive informal social networks.

The World Health Organization (2020) identifies early childhood development as a priority area of work to improve health, well-being and equity because of implications for supporting social and emotional competence, self-regulatory capacities, adaptive skills and prosocial behaviour. These factors, in turn, play a vital role in resilience and well-being in childhood and over the lifespan. Through psychosocial education sessions and home visits during infancy, parents can be supported to create a safe space where infants explore, play, develop motor skills and form secure attachments. Providing nurturing early years education, intellectually stimulating facilities at home (e.g. books, educational toys) and in the neighborhood (e.g. parks, playgrounds, libraries) and simply time together can support children to reach their developmental potential and promote well-being. During middle childhood, children gain access to new settings (e.g. school) and roles (e.g. tasks and responsibilities) and develop a sense of self-awareness and self-agency. Supporting children in developing self-regulatory skills, self-efficacy and self-esteem can help promoting well-being and resilience at this stage, as can developmentally and culturally appropriate focus on resilience to sexual health risks, substance misuse awareness and mental health. In adolescence, emphasis on identity development and civic engagement has indications of being successful to be protective against institutionalized discrimination and inequalities. Whatever the stage, it appears important to secure provision of counseling, supportive adults and dedicated advocates to the most vulnerable CYPs (Mitra & Hodes, 2019; Sitienei & Pillay, 2019). Of course, efforts to promote healthy development, well-being and resilience in CYPs can start as early as the prenatal period. As maternal distress and malnutrition during pregnancy are associated with epigenetic changes that increase the likelihood of developing affective and mood disorders (Thorsell & Nätt, 2016), preventing or reducing maternal distress and malnutrition during pregnancy, particularly in LMICs, may interfere with risk pathways to psychological disorders later in life.

(b) Ideas for promotion of resilience in different contexts

Socio-ecological approaches to resilience emphasize the interaction of individual characteristics and ecological systems. Hence, resilience can be promoted in the immediate systems (e.g. family, peers, and school), as well as in wider systems (e.g. neighbourhood, community, religion and culture) surrounding a child. We therefore first turn to recommendations for resilience promotion at a systems level. Evidence suggests that direct ameliorative resolution of resource scarcities, such as employment support, food support, provision of resources for educational engagement and housing stability holds potential to directly increase CYP engagement with education and services, decrease socioeconomic burden on the family and reduce parental

and CYP distress. Targeted need-based programmes are one way of delivering this support, but whole-community interventions and policy advocacy for universal provision of essential services are within the purview of psychologists/health professionals to recommend in order to enhance the agency of systems in promoting resilience (Ebersöhn, 2017). Where CYPs and stakeholders propose that intervention take-up may be enhanced with access to safe spaces, transport and food (e.g., Sitienei & Pillay, 2019), these suggests that such issues may require addressing at root cause.

While the most marginalized CYPs may not be engaged with formal schooling, broadly speaking, schools and community-based settings are effective sites for promoting young people's mental health and social well-being. Underscored by the impact of COVID-related closures, they offer a focal point for preventative mental health promotion in LMICs (Barry et al., 2013; Maalouf et al., 2020) and for socioeconomically marginalized youth in HICs (e.g., Kara et al., 2021; Meyer DeMott et al., 2017). Schools are useful contexts for interventions promoting global mental health and targeted risk interventions for sexual health, substance misuse and refugee settlement, additionally enabling identification of pupils requiring further support. However, it is important to shift from a risk reduction or abstinence perspective towards a complementary resilience promotion approach. Developing community-based and whole-school resilience promotion interventions that attend to protective mechanisms across domains of basic needs, supportive relationships and development of coping and life skills alongside a focus on education (Hart et al., 2016) may be of special importance given the wide-ranging impact of COVID school closures to widen inequalities and pathways of health disparities across domains. Resilience promotion may involve facilitating CYPs to understand the links between physical and mental health (Kuo et al., 2020).

Programmes focusing broadly on physical health and well-being, such as the HPS framework, may be particularly attractive to schools in LICs because of a broad range of benefits to children and strong evidentiary support in interrupting pathways of marginalization. Such programs may need further adaptation for resilience promotion as additional work may be required to effect build capacity in parents and to support teachers in acquiring resilience-promoting values (Wong et al., 2009). Addressing school culture, resource provision, policies and practice is therefore vital for promoting resilience in CYPs in LICs. Encouraging community connectedness and school pride and providing school *and* community spaces for social interaction may assist in promoting well-being (Ebersöhn, 2017). School administrations should provide opportunities for students to thrive intellectually, socially and emotionally; organize accessible after-school activities; promote supportive peer relationships and prosocial behaviour; and prevent bullying. One neglected area is usually the burdens that teachers experience in high-poverty contexts from low pay, barriers to teaching, work overload, threats to emotional and physical safety and job (dis)satisfaction (García & Weiss, 2019). Addressing teacher well-being and working conditions may help foster better teacher-student relationships. Parental involvement in school life and education additionally enhances the child's academic performance and motivation and may positively affect the child's attitude

towards school (Fan & Chen, 2001), but care should be taken to identify and redress barriers to parental participation. Successful implementation of these recommendations likely requires a multi-level, participatory approach.

Traversing school and neighborhood domains, CYPs also need opportunities to develop supportive relationships *with each other*. Since many CYPs have experienced fragmentation or disruption of the family through bereavement, displacement or resettling, connection with peers and development of supportive social relationships may be especially important for them (e.g. Sitienei & Pillay, 2019). Supportive friendships are associated with development of adaptive coping skills and psychological resilience among socioeconomically marginalized CYPs in an HIC, and meaningful connection with a peer group is for resilience promotion in stigmatized CYPs in an LIC (Graber et al., 2016). Peer education and peer support programs may be particularly useful here, but so too is providing safe, financially accessible physical and virtual spaces for informal social interaction in school and neighborhood localities. This involves providing time and opportunities to play and interact with peers, rather than focusing on academic progress. In particular, but certainly relevant beyond this historical moment, COVID-related school closures have limited the opportunities for social activity and peer interaction that are essential for CYP's learning and development. Developmental psychologists recommend CYPs' transitioning back to school should support their social and emotional well-being and development ('Let the children play', 2021).

Supporting warm, communicative, attentive relationships between the CYP and their family is a useful target for resilience promotion efforts of both global mental health and specific physical health risks. The literature provides good evidence for programs encouraging development of interpersonal skills, encouraging reflection on shared challenges and psychoeducation about specific mental and physical health risks and scaffolding the practice of new ways of relating. Family meetings, especially where this practice aligns with existing cultural practices, such as the Fortalezas Familiares and Our Family Our Future interventions, are particularly useful (Kuo et al., 2020; Valdez et al., 2013). This may involve work directly with CYPs alongside concurrent or combined work with parents and caregivers to develop and use coping strategies, strengthen emotional connectedness and supportive relationships between family members and assist families to establish a social support network and/or link them to community support groups. Resilience-based approaches can support parents to develop skills for effective coping, reflect on their own attachment experiences and healthy relationships and tend to their own mental health (e.g. McKelvey et al., 2015; Valdez et al., 2013; Vázquez et al., 2014). While most family-based interventions focus on the mother, fathers may welcome engagement with such programmes (Valdez et al., 2013). Evidence also supports greater use of peer-based interventions for families to enable parents and caregivers to develop trust, normalize their experiences, support each other and incentivize participation of additional family members (Valdez et al., 2013). Among adults, using peer facilitators can enhance acceptability and sustainability and promote wider behaviour change, providing a useful complement to formal care (Graber, 2019). The use of non-professional facilitators is an opportunity to address the

community stigma that can be attached to CYPs and families in accessing interventions (e.g. Sitienei & Pillay, 2019). While these interventions may support families in coping with adversity, persistence of inequality through, for example, job discrimination, job insecurity and unequal access to healthcare retains a disproportionate effect on CYP outcomes that families cannot be expected to remedy on their own (von Fintel & Richter, 2019; Wadsworth et al., 2018).

Looking to empirical studies of protective mechanisms, we see possible contributors to CYP resilience in LICs that could be integrated into future resilience promotion interventions especially operating across levels. These include community bonding practices, cultural traditions and behavioral practices of happiness (Choudhry et al., 2018); enhancing pride in social, cultural or ethnic identities (Choudhry et al., 2017; Zirkel & Johnson, 2016); promoting hope, meaning-making and challenges to stress-enhancing mindsets (Hamby et al., 2018: Jiang et al., 2019); engagement with key cultural values of faith, family unity, morals and honor (Eggerman & Panter-Brick, 2010); religious faith and practice (Theron & van Rensburg, 2018); peer group membership, gaining societal recognition, and empowerment to contribute to and transform one's own life and society (Kahn & Denov, 2019); and political participation and involvement (Nguyen-Gillham et al., 2008; Seider et al., 2018).

Ideas for Growth in the Field

An overall challenge for researchers and practitioners seeking to promote resilience among CYPs in low-income communities is to engage dynamically across levels and cultural specificity, despite the methodological and practical challenges posed by this complexity. First, most interventions understandably put CYPs as the targets for change in their resilience promotion efforts. However, both theory and evidence suggest that *catalysts* or *mechanisms* at the individual level may necessitate changes in support, practice and policy in other persons, in varying contexts and across multiple levels. Unfortunately, few resilience studies empirically investigate what protective mechanisms at ecological levels beyond the family promote CYP resilience (Ungar & Theron, 2020), despite a comparatively sophisticated understanding of how socioeconomic marginalization exerts deleterious effects. Comparatively, few interventions operationalize the resilience-promoting qualities of sites or attempt to catalyse enduring change at this ecological level, whether in non-CYP actors (e.g. teachers, administrators, practitioners) or in educational practice beyond intervention components. However, we can conceptually differentiate between schools and communities as *sites of intervention delivery* and as *targets of transformative change*. Greater understanding of the interrelationships between school culture and resilience would therefore be welcome, particularly as resilience promotion interventions may be offered as a complement to, or challenge of, existing approaches and draw upon relational practices underrepresented in the literature (Liebenberg, 2020). If focus remains on individual child outcomes *and* mechanisms, this may be

a missed opportunity to harness enthusiasm and energy to shift practice and policy at school and community level, perhaps addressing other risk factors such as stigma, parental mental health, exclusionary disciplinary policies, systemic racism, etc. In sum, this may contribute to a disciplinary emphasis on individual- and family-level responsibility for resilience capacities that is misaligned with the complex systemic mechanisms of disadvantage which CYPs cannot, in themselves, change (Hart et al., 2016; Wadsworth et al., 2018).

At the same time, family-based interventions show success across developmental stages and cultural contexts for working directly and indirectly with CYPs. A direction for future research and practice would be to work with families to acknowledge how poverty and accumulated stressors impact parental functioning and introduce risks that directly affect CYP outcomes while supporting them to cope and even flourish under adversity (Kuo et al., 2018). While parents may struggle with feelings of inadequacy and struggle to support their children as they wish, this is a broader structural and social issue, not strictly one of individual and family capacities. Psychologists/health professionals have purview to consider how to empower families through income-generating activities and otherwise ensure the economic sustainability of their interventions, ideally without perpetuating existing processes of socioeconomic marginalization, to facilitate families and CYPs to navigate resources and instrumental support (Sitienei & Pillay, 2019; Ungar, 2011). Such transformative approaches can usefully complement developmental or trauma-informed perspectives.

A clear area for growth for resilience promotion is to further engage with the protective mechanisms, cultures and contexts of resilience indigenous to LICs. LMIC interventions may be culturally adapted from evidence-based HIC interventions such as the FRIENDS programme through careful partnership working and content adjustment (e.g. Maalouf et al., 2020) but are rarely indigenously derived (e.g., Yeh et al., 2015). Considered and thoughtful adaptation of programs developed in HICs or specific populations can occur through qualitative research with families and sustained partnership working to ensure that empirically robust interventions are revised to be culturally meaningful, feasible and effective at incorporating cultural assets participants wish to emphasize such as pride, extended family support and abilities to cope with discrimination (e.g. Kuo et al., 2019; Valdez et al., 2013). Yet predominant theorizations of resilience, while clearly useful, are nonetheless typically situated within an HIC context. Indigenous theories rarely provide frameworks for health-promoting interventions, with processes of change and intervention activities typically explained through HIC, Westernized theoretical frameworks (Allen & Mohatt, 2014).

Therefore, we specifically welcome a direction of learning from LICs to high-income contexts. For example, Kuo et al. (2019) identified concepts of *ukuthanda* (love), *inkathalo* (care), *ukubakhathalela* (care for more than one person), *ubumbano* (unity), *ukwankelana* (acceptance) and *ubuntu* (reciprocity within social networks) as crucial components to family positivity as a resilience resource by Xhosa families in South Africa and used this conceptualization to inform their effective intervention. Given the results, how could such practices be transportable into other

contexts? It would be interesting to explore broader application of indigenous mechanisms of resilience to interventions within LMICs and indeed of diaspora and minority ethnic cultural mechanisms of resilience to interventions with low-income communities within HICs. Recent interventions in HIC-based low-income communities draw on critical consciousness theory, Black feminism and intersectionality theory, integrating empowerment approaches into effective research and practice. This presents a challenge to the values, practices and structural inequities that contribute to mental distress and intergenerational transfer of adversity, as well as a recognition that it cannot be strictly down to socioeconomically marginalized individuals and families to express resilience simply through skill in coping with continual, prolonged insults to well-being.

Conclusion

Resilience promotion among children and young people in low-income communities is a complex, necessarily incomplete undertaking. The mechanisms of adversity are diverse and suffuse. However, there is optimism in the opportunities for change across developmental stages, through multiple actors, within diverse domains and through multiple levels. Increasing diversity in resilience theorizations and articulation of culturally meaningful protective mechanisms in indigenous and diaspora communities present important complements, evolutions and challenges to mainstream resilience discourses. Resilience theories drawing on an ecological systems framework are particularly well-represented in the interventions discussed here. Yet despite the popularity of ecological systems approaches in this context, it has been understandably difficult to put multi-level theorizations into practice, particularly within a policy paradigm and discipline of psychological research that emphasize individualistic, over collectivist or relational, processes and outcomes (Liebenberg, 2020). Although most interventions focus on individual-level outcomes and processes, multitiered/multi-level interventions hold particular utility for addressing structural risk factors such as belonging to a low-income community (Hart et al., 2016; Zimmerman, 2017). Traversing multiple ecological levels poses a number of methodological and operational challenges. Multi-level approaches can be resource-intensive. Depending on their focus and orientation, they may require a degree of institutional, or even political, commitment. Arguably, programmes must be feasible and cost-effective to be realistic options (Srikala & Kishore, 2010).

However, addressing material and socio-emotional needs concurrently is vital to directly and indirectly promoting CYP resilience and, ultimately, to preventing intergenerational transmission of poverty, cycles of inequality and the physiological and psychological costs of being expected to survive and demonstrate resilience in the face of continual adversity (Brody et al., 2013; Ebersöhn, 2017; Hart et al., 2016). Families and children need *both* immediate support for emotional well-being and mental health and systemic-level solutions (Sitienei & Pillay, 2019). Transformative change in the conditions of adversity must be a goal of research and

practice if resilience and well-being promotion is to be sustainable across the lifespan. In considering directions for concentrating therapeutic efforts and research agendas, we suggest that alongside initiatives to enhance social support, coping skills, resource promotion, life skills and resilience to contextually specific risk factors (e.g. sexual health), transformative approaches which may change existing power structures, create opportunities for supportive relationships and intervene across multiple levels may be especially useful to disrupt the manifestations of socioeconomic marginalization upon children and young people's health.

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Chapter 9
Interventions to Promote Resilience in Children with Chronic Illnesses

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Introduction

Approximately 15–19% of the children in the United States face chronic illnesses (Churchill et al., 2010; Martire & Helgeson, 2017). A chronic illness is a physical or mental condition that does not remit spontaneously, lasts for a period of time, may not be cured, prevents involvement in daily activities, and requires hospitalizations and medical care (Compas et al., 2012; Trowbridge & Mische-Lawson, 2014). The frequent hospital care can be a traumatic experience for children and their families (Stenman et al., 2019), and children with chronic illnesses may be at higher risk for experiencing internalizing disorders, such as depression (Wolock et al., 2020). Although they are dealing with trauma and chronic stress, children with chronic illnesses and their family members may show resilience, in terms of positive coping in the face of a significant stressor (Masten & Monn, 2015; Mullins et al., 2015; Nabors et al., 2018). Similar to Masten and Monn (2015), we define resilience as a capacity to adapt in the face of trauma, adversity, and stress.

Likewise, McCubbin and McCubbin (1991) perceive family resilience as involving adaptation and a potential strengthening of the family unit as members of the unit cope with a stressor, such as a child's chronic illness. Increasing or drawing upon family strengths may be important for the child with a chronic illness, because when the child receives family support, he or she may be more personally resilient and thus have better health outcomes (McCubbin & McCubbin, 1991). We believe that children and their families adapt and show resilience as they cope with risk

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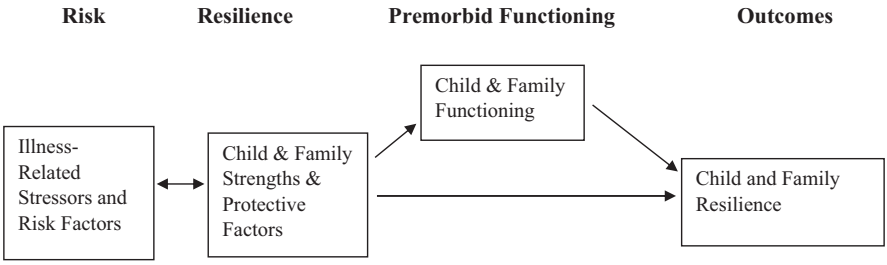

Fig. 9.1 Model depicting factors related to child and family resilience

factors and enhance their own resilience or protective factors. Our model is presented in Fig. 9.1 and incorporates the notion of balancing risk and resilience factors and enhancing positive functioning for all members of the family, as well as the interactive and bidirectional relationships among stressors, protective factors, functioning, and resilience (Masten et al., 2009).

Relationships among risk and protective factors have a bidirectional arrow, because the "mix" of risk and protective factors is fluid or dynamic and changes over time (see Fig. 9.1; Masten et al., 2009). Moreover, risk and resilience factors influence each other (Traub & Boynton-Jarrett, 2017). For example, a child with an adult mentor may be resilient in the face of adversity, because he or she has social support. Additionally, risk factors and protective factors for the child and family are often on a continuum, such that positive adaptation for the factor is resilience and negative adaptation is risk. Masten et al. (2009) proposed that there was a risk gradient, which is consistent with the continuum idea. They also stated that risk and resilience factors could be additive and interactive, and as such, looking at each child's "mix" of risk and protective factors to promote their resilience will help to minimize risk and emphasize life "assets" (Masten et al., 2009). Some assets include social support, school support of the child, school and family connectedness, and income level. In addition, there are unique risk factors, such as child exposure to adverse experiences. In addition to child-level factors, there are "protective" family factors, including support from neighbors, having child care, having extended family that can help (a multigenerational influence; Rolland and Walsh, 2006), or having caregivers with high health literacy who can maneuver a child with a chronic illness through the complexities of medical and hospital care. Family-level risk and protective factors are conceptualized as being on a continuum, such that a lack of support from neighbors, not having or rarely having child care, not having extended family support, etc. enhance levels of risk for the family unit, which may impact the child.

The notion that children and their family minimize risk factors, enhance protective factors, and move toward resilience that is depicted in Fig. 9.1 incorporates ideas from Jessor (1991), Walsh (2006, 2015), McCubbin et al. (1997), and Rolland and Walsh (2006). For example, we incorporate information from Jessor's theory proposing that risk and resilience factors impact individual functioning, which we have also broadly applied to family functioning, because, in our view, the child and

family interact in a synergistic fashion. Jessor identified risk and protective factors in five domains: (1) biology/genetics, (2) social environment, (3) perceived environment, (4) personality, and (5) behavior. Resilience factors in the social environment, perceived environment, personality, and behavior are influential. For instance, perceptions of support from family and friends, positive coping behaviors (e.g., playing games, art, prayer), and a "fighting" spirit can be very helpful for children facing medical procedures and a long course in the hospital (Nabors & Liddle, 2017; Nabors et al., 2019a). McCubbin et al.'s (1997) view that child functioning is inextricably tied to family resilience is critical. They posited that children with chronic health conditions are more resilient if they have support from their family members. We also draw from Walsh's (2006) theory, and she proposed that the coping of family members is influenced by family functioning and adaptation when the family faces stressors. Rolland and Walsh (2006) recommend a focus on family strengths and help us recall that multigenerational influences may either support or be detrimental to family functioning. Similarly, child and family functioning, both during stressful events and before the events (i.e., premorbid functioning), may be associated with resilience (which we are conceptualizing as adaptation in the face of stress, such as a child having a chronic illness or undergoing hospitalization; Masten & Monn, 2015). Several types of behaviors may facilitate coping at the child or caregiver level, and facilitating positive coping may increase child or caregiver functioning (e.g., coping behaviors) and subsequently enhance resilience.

Child Coping

Young children cope with hospitalization, and trauma related to hospitalization and medical procedures, in different ways, including through play (Stenman et al., 2019). Distraction through play may be one coping method for young children. Play involves imaginal coping and allows children to play through medical scenarios from a position of control and power (Clark, 2003). Clark defined imaginal coping as occurring when "…a person engages imagination in coming to grips with circumstances that have real, stressful impact" (p. 94). Through stories and their "make-believe" play, children can recreate medical experiences so that they gain mastery over upsetting events, such as when the child assumes the role of doctor and the child recovers quickly. Telling their own stories through play also may provide emotional release, and the child can express emotions or work through emotional scenarios as he or she plays and tells the story of what occurred to characters in his or her play story. In these ways, play may promote trauma coping and emotional coping, which is positive in nature, thereby contributing to children's resilience (Clark, 1998; Stenman et al., 2019).

Children who face hospital procedures may rely on other family members, especially parents, for support (Wilson et al., 2010). Parents provide caring and emotional support, as well as providing physical support by giving medications and taking children to appointments and helping with recovery from medical

procedures. Support from siblings also may enhance child coping (Henry et al., 2015). Siblings can be play partners, and they can provide encouragement and friendship, which may be especially important when children are in the hospital and physically separated from friends. Siblings are friends who visit at the hospital and help ease parent burden by providing help with medical care of the child who faces an illness (Nabors & Liddle, 2017). As such, parents and siblings often form a network of support. It is noteworthy, however, that sibling coping needs to be monitored, because they can experience stress and anxiety related to their brother or sister's hospitalization (Besier et al., 2010; Incledon et al., 2015). Additionally, our observations have indicated that when a child is hospitalized, other family members, such as grandparents and aunts and uncles, often support through in-person visits, FaceTime visits, cards, and telephone calls. More research on the uplifting nature of extended family support may add to literature helping us understanding protective family support of a child who has a chronic illness. Taking a family-oriented approach and monitoring the family unit, including the child, siblings, parents, and other family to capitalize on factors that maximize positive coping, and then to help those in the unit problem-solve concerning risk factors may be a way for clinicians to help with fostering resilience for the child and his or her family. Our literature search revealed a dearth of information on the father's role in supporting children with chronic illnesses, and although research on the role of the father in child development and chronic illness is increasing, this is an area for continued study (Taylor et al., 2020).

Problem-solving training may help young children with chronic illnesses face pain and problems related to their illness and help them develop an orientation that will "arm" them with a tool in fighting the waxing and waning course of their illness, and its unexpected turns, for years to come. In our experience, adopting a problem-solving approach can facilitate coping, as it may serve to minimize emotion-based avoidance coping, which may inadvertently increase anxiety and negative responses in children coping with illnesses and pain related to illnesses or medical procedures (e.g., Lim et al., 2019). Positive coping is critical for children with chronic illness. Compas et al. (2012) reported that coping was a group of purposeful, willful efforts to regulate the self and one's environment in the face of stress. As such, having a problem-solving orientation emphasizes volitional effort that may facilitate coping.

Cowen et al. (1995) showed that problem-solving skills can decrease stress and improve adaptation for children in urban areas. Their program consisted of 12 sessions in which 36 children from the 4th–6th grade were split into groups of five to eight children. Program curriculum emphasized a problem-solving approach, with group leaders teaching participants to understand their feelings, take the perspectives of others, solve social problems, cope with unsolvable problems, and develop self-esteem. We believe these core concepts could be applied to coping with pain and procedures; understanding the family situation and parents' feelings; thinking about how to solve problems related to communicating with doctors, nurses, and health professionals (social problems); thinking about coping with unsolvable problems related to illness (e.g., painful medical procedures); and building positive

feelings about one's coping skills – thereby improving self-esteem. Cowen et al. (1995) found that their program led to positive changes for urban children. Evaluation of before and after the 12 program sessions indicated significant improvements in children's problem-solving abilities, feelings of self-efficacy, and results indicated decreased anxiety levels. Similar prevention programs may inoculate children with chronic illnesses against stress and teach them positive coping that will buffer them against depression, anxiety, and self-doubt, which would hinder their functioning, thereby decreasing resilience.

Adolescent Coping

A host of factors may influence adolescent coping. For instance, adolescents who problem-solve and regulate negative emotion-focused coping may experience more resilience. Mehboodi et al. (2020) found that adolescents receiving dialysis who learned how to regulate their emotions reported higher levels of resilience and problem-solving than those who did not receive counseling to learn emotion regulation. Other factors may impact adolescent resilience, including positive family functioning, positive functioning at school and a lack of school stress, as well as strong peer relationships (Kaman et al., 2020). Parviniannasab et al. (2020) reported that being spiritual (relying on faith and hope to find meaning in the illness experience), peer support, and learning self-management skills for disease management facilitated coping of adolescents with hemophilia. Similarly, Lee et al. (2020a) found that adolescents who had self-efficacy for coping with their chronic pain reported higher levels of quality of life, and feelings of well-being related to higher quality of life is a resilience factor. More frequent hospitalizations, related to disease severity and flares of symptoms, may weaken coping and resilience (e.g., D'Angelo et al., 2020), and as such, youth facing frequent hospitalizations should be evaluated for need for referrals for counseling to support them and promote coping.

Lee et al. (2020b) compared resilience and quality of life for adolescent "blood cancer" survivors (n = 94) and adolescents with congenital heart disease (n = 81). These researchers found that quality of life was similar for adolescents with either illness. Quality of life was defined as a sense of "well-being." They defined resilience as adapting to and managing one's illness. Lee et al. (2020b) found that resilience of adolescent cancer survivors was lower than that of adolescents with congenital heart disease. Lee et al. also mentioned that higher levels of uncertainty about disease recurrence and course and a lack of certainty related to disease management could also be impacting child cancer survivors. Lee et al. (2020b) concluded that differences in levels of self-regulation, related to type of disease, could impact resilience. Similarly, the longer course of treatment was considered another factor that could negatively impact resilience of childhood cancer survivors. This research indicates that further study, with adolescents with different types of illnesses, is needed to uncover the impact of disease management and how type of disease are associated with resilience.

As mentioned, youth with chronic illnesses often experience internalizing problems (Wolock et al., 2020). In our practice, we have found that to the extent it is physically possible, it is helpful for those with internalizing problems to take an approach featuring behavioral activation. This approach is designed to ameliorate symptoms of depression, by changing the environment to be more positive, and increase opportunities for healthy behavior (Axelrod, 2017). McCauley et al. (2016) posited that behavioral activation is based on adolescents understanding the factors "...contributing to and maintaining depressive behaviors and [gaining knowledge of] what behaviors/events are necessary to curtail it" (p. 292). Behavioral activation has primarily been used to alleviate depression, but we believe it will improve anxiety as well. We believe that a behavior activation approach, by increasing involvement with peers, social support, and increasing positive activities, can assist with alleviating depression (Axelrod, 2017; McCauley et al., 2016), but also serve as a means of distraction for those ruminating about worries related to chronic illness. Ideas for behavioral activation include finding hobbies, playing games online with peers, connecting with others via social media, joining clubs at school, visits with friends, and involvement in after-school activities and sports. These authors have found that becoming active may boost mood and reduce internalizing symptoms for youth with chronic illnesses.

Santos et al. (2016) examined adolescents' (mean age = 14 years, standard deviation = 1.5 years) perceptions of positive involvement in two contexts, school and leisure activities with peers. Adolescents in this study were diagnosed with diabetes mellitus, allergies, or neurological disorders. Santos et al. (2016) indicated that perceptions of being resilient were related to perceptions of high functioning in both school and leisure activities. Interestingly, seeing oneself as having abilities to manage one's illness (i.e., perceiving a high level of self-regulation abilities) may be related to the belief that one belongs in school and can be successful in this setting. As such, improving adolescents' self-management skills may connect them to schools, because they have confidence they can manage their illness in this setting, thereby improving their feelings of resilience and quality of life. Santos et al. (2016) also examined adolescents' perceptions of involvement in leisure activities with peers, and their findings indicated that high resilience and high levels of social support from peers were related to higher levels of involvement in activities with peers. We believe that this indirectly supports the adage that getting busy with friends supports adolescents. Santos et al. (2016) mentioned that increasing social skills or finding other peer supports for youth with chronic illnesses (e.g., clubs or extracurricular activities they can attend) might enhance their involvement in extracurricular activities with peers.

Shortcomings of the research conducted by Santos et al. (2016) were relying on adolescent self-report, without other objective measures or other reports to corroborate findings, and assessment of a narrow range of chronic illnesses, without assessing details about disease severity or family functioning. However, Santos et al. were chiefly interested in adolescents' opinions and were not interested in illness category or severity per se and, therefore, reported that their research provided new information on adolescent perspectives. This research was conducted in Portugal,

and information from youth in other areas of the globe will provide further information on adolescent perspectives as they "voice" their views about the impact of their illness in different "life" contexts. Assessing other life contexts, such as extracurricular activities, sports, and work, and including higher numbers of older adolescents in research will provide information to further advance knowledge.

Others have reported links among spirituality and resilience for youth with chronic illnesses. For instance, Reynolds et al. (2014) conducted a longitudinal study to assess the relationship between spiritual coping and psychological adjustment among 128 adolescents (median age of about 14 years) with diabetes or cystic fibrosis. Reynolds et al. (2014) defined positive spiritual coping as involving "… cognitive strategies such as seeking comfort and strength from God or believing that God is strengthening the individual in the situation" (p. 543). In contrast, negative spiritual coping may involve negative thoughts about the impact of religion or spirit on coping and thoughts of a punishing higher power. In the study by Reynolds et al. (2014), adolescents completed surveys assessing spiritual coping and adjustment two times over a 2-year period. Findings demonstrated that positive spiritual coping at time one was related to decreased levels of depressive symptoms and behavioral problems at time two, whereas the reverse was true for adolescents indicating negative spiritual coping. Reynolds et al. proposed that positive spiritual coping may decrease symptoms of depression by promotion of an attributional style that is optimistic in nature. Higher levels of positive spiritual coping at both time points were related to lower levels of negative spiritual coping. Since religiosity may refer to collective coping, we focused more on spirituality in this chapter. It is noteworthy that spiritual beliefs may operate differently in different situations (Drutchas & Anandarajah, 2014). Thus, this brief "brush-stroke" review of the importance of spirituality is meant to encourage the reader to "dig more deeply" into an extensive literature (e.g., Bakker et al., 2018; Barton et al., 2017).

Caregiver Coping

Despite the trauma related to a loved one being ill and/or hospitalized, many caregivers are resilient and demonstrate positive coping as they deal with stressors related to their child's chronic illness (Gerhardt et al., 2007; Greeff & Wentworth, 2009; Kepreotes et al., 2010; Walsh, 2003). Our model for caregiver functioning or coping is presented in Fig. 9.1. Positive family functioning and enhancement of protective factors for the family, such as improving social support, protect a caregiver from stress and boost caregiver functioning when a child is hospitalized or experiencing a wave of illness-related symptoms (Brehaut et al., 2009; Thompson & Gustafson, 1996). Similarly, if family functioning is poor, and perhaps marked by a lack of cohesion or by experiencing conflict, then caregivers or parents experience stress, thereby reducing their resilience (Ozono et al., 2010). Attitude "counts" too – having the belief that the family can "deal" with stress and cope may be associated with positive coping (Kepreotes et al., 2010). Earlier, we mentioned support, and

positive support from other family members and from health professionals on the child's medical team are related to caregiver resilience (Kepreotes et al., 2010; Walsh, 2003).

Meaning-making may be important for parents, who are experiencing a grief reaction as they cope with the loss of "normalcy" for their child. Meaning-making may involve understanding the impact of the stressor on the child's and family's lives – as being something that the child and family can cope with. Leone et al. (2016) examined key concepts in Walsh's (2003) "framework" of family resilience by assessing mothers' perceptions and child functioning for a sample where children were facing neurodevelopmental disorders (e.g., Autism Spectrum Disorder, cognitive impairments). Their findings suggested that mothers who were nurturing and could find positive meaning in stress and adversity were more likely to promote family resilience and resilience for their child who had a chronic illness or neurodevelopmental condition. Parents who could decrease their own stress (which was assessed as feelings of anxiety and depression) and communicate their feelings (rather than withholding them) were more likely to promote resilience in themselves and their family. Leone et al. (2016) recommended acceptance therapy to help parents cope with their child having a disability and mindfulness approaches to help parents be present for their child as well as improve parent coping with distress (e.g., depression and anxiety). Hence, supporting parents, to express emotions and have an optimistic view of facing adversity, was an avenue for promoting child coping and family functioning. Supporting parents emotionally as well as financially, if there are insurance issues and, instrumentally, helping them find child care for multiple children in the family, may also support parents as they strive to facilitate family coping (Kish et al., 2018). We have found that encouraging parents to find support and emotional outlets, through the support of family and friends and counseling (in some cases), may assist them in coping with the stress of having a child with a chronic illness.

Sibling Coping

Siblings can be a source of support for a child with a chronic illness and may assist parents in caring for a brother or sister who has a chronic illness. Moreover, if siblings are experiencing stress related to a brother or sister's chronic illness, their stress is associated with stress for parents and the family. Nabors et al. (2013) found that parents felt stress when a sibling did not understand the nature of a brother or sister's illness or felt they were not receiving "time" in terms of attention, support, and time for interaction with their parents. Likewise, a lack of communication with parents and increased responsibilities at home or with care of the child with an illness could be a source of stress for siblings (Deavin et al., 2018). On the other hand, if families became "close" to cope with the stressor (the child's illness), this could be a potential resilience factor for the entire family. Arranging family "fun" nights and opportunities to connect may improve coping of siblings.

Siblings are at risk for experiencing anxiety and depression and lower levels of involvement in activities when a brother or sister has a chronic illness (Sharpe & Rossiter, 2002). Our clinical experiences have indicated that siblings can feel guilty because they are healthy and at the same time may tend to "hold in" their feelings to protect their parents and not add additional stress for the family. Due to the potential for emotional and social risk, and feelings of isolation at home, assessing the functioning of siblings is an essential part of understanding the family and how to promote its resilient functioning. The changes in the family and changing levels of support from peers and extended family may necessitate periodic counseling to bolster self-efficacy, positive emotional functioning, and resilience in siblings.

Schools may be a source of support and a place for continued peer and teacher interaction (Gan et al., 2017). Assessing school functioning of siblings also is essential, as their academic performance may decrease when a brother or sister has a chronic illness or has exacerbations of his or her disease (e.g., due to waxing and waning symptoms, the progressive nature of some illnesses, or medical procedures related to the illness; Gan et al., 2017). Connecting with teachers and school counselors to develop academic and social support plans may increase adaptive functioning of siblings.

If siblings are functioning positively, they contribute to a sense of family well-being and cohesion. Moreover, positive sibling functioning has the potential to boost resilience of the child with a chronic illness and the family unit. Therefore, finding ways to promote sibling resilience can strengthen the family and develop a friend and "supporter" for the child with a chronic illness. Siblings boost a brother or sister's resilience as playmates as well as with helping with care of the child with an illness (Nabors et al., 2018). We propose interventions at the family level, in order to care for the family unit (parents, siblings, and the child with an illness), and recommend these as an adjunctive therapy for children with chronic illnesses. Additionally, children with chronic illnesses may benefit from individual therapy at different points in the course of their illness to address anxiety and other adjustment issues related to having a chronic illness.

Interventions for Children Who Have Chronic Illnesses

Anxiety Management Children with chronic illness face anxiety related to uncertain outcomes and medical procedures (Pinquart & Shen, 2011). Assisting the children in developing coping strategies, based on their preferred coping mechanisms (e.g., doing something fun, listening to music, playing videogames) and that are "matched" to the stressor (e.g., music or comfort for needle sticks and problem-solving to complete missed school assignments), may promote coping and reduce anxiety for children with chronic illnesses (Compas et al., 2012). Cognitive-behavioral therapies may promote anxiety management. For instance, cognitive strategies include thinking positively about outcomes and engaging in positive self-talk. Distraction, including playing games or using positive mental imagery, may be

another helpful strategy to facilitate coping with pain and medical procedures (Nabors et al., 2018). Psihogios et al. (2020) recommended increased research on existing games; two that they mentioned were "Stop, Breathe, and Think" and "Positive Penguins" (p. 1110). They recommended gathering information on the effectiveness of interventions, as the demand for games and apps is outpacing the research on their impact.

Parents can serve as "distraction coaches" reminding children to practice distraction strategies when they must cope with medical procedures and/or hospitalization (McCarthy & Kleiber, 2006). Peterson and Shigetomi (1981) also used parents as coaches – to teach stress management during tonsillectomies. They found that parents were successful coaches in teaching behavioral strategies, including relaxation and positive self-talk, and a cognitive strategy, distraction (using positive imagery), to help children reduce their anxiety. Other behavioral coping strategies include deep breathing (blowing bubbles can be used to engage the diaphragm), muscle relaxation (make a fist and then release the upset through your relaxed fingers; progressive muscle relaxation, tightening and releasing large muscle groups), positive reinforcement for pain coping behaviors, and, as mentioned, distraction (playing games, doing something fun, Compas et al., 2012; Koller & Goldman, 2012; Li et al., 2016; Patel et al., 2006). Parents can prompt children, especially young children, to use the aforementioned strategies or practice them with their child.

Treatment Packages Featuring Cognitive-Behavioral Strategies Research has supported the use of cognitive and behavioral strategies – combined in treatment packages – to facilitate adaptation and positive functioning for youth with chronic illnesses. Reigada et al. (2013) reported that an intervention combining relaxation, cognitive restructuring to improve negative thinking, and exposure to feared stimuli reduced feelings of anxiety in children with inflammatory bowel disease. As mentioned, Peterson and Shigetomi (1981) used parent coaches, and they assisted children ages 2–10 years in coping with stress related to tonsillectomy using relaxation, positive self-talk, and distraction. Law et al. (2017) assessed adolescents' perceptions of a cognitive-behavioral intervention, delivered through Internet training, to reduce anxiety and upset related to headache pain. Internet training featured an explanation of how stress was related to headache pain and a review of cognitive-behavioral pain and anxiety management strategies including relaxation, positive practice using practice of positive coping, and thought-stopping to reduce a focus on negative thinking. In thought-stopping, the client recognizes the negative thinking and then thinks of a symbol or image to interrupt the negative thinking processes (there may be other interruption tools, like positive phrases). Next, positive coping statements and positive self-talk can be practiced. Participants reported that strategies helped them identify ways to cope with pain, which, in turn, had the potential to reduce anxiety. Strategies to cope with pain also help with anxiety, and clinicians may implement these types of strategies and assess their impact on pain experience and feelings of anxiety.

Nabors et al. (2019b) reviewed several cognitive-behavioral strategies with children facing medical procedures and hospitalization, with a variety of illnesses, who were staying at a local Ronald McDonald House. These strategies included relaxation (muscle relaxation – make your body a rock and then become a sponge – and breathing), distraction (doing things you think are fun), positive imagery (let's imagine your favorite place), as well as positive self-talk (with positive coping songs and poems) to help children cope with anxiety related to their hospitalization. They used a "coping menu" to help children record their favorite strategies. Parents observed the strategies and helped children review the strategies. Both parents and children reported that the strategies would be helpful in coping with stress, anxiety, and painful hospital procedures. Unfortunately, this pilot study did not involve longitudinal follow-up to assess application and effectiveness of each child's personalized coping strategies, and this is an area for further research. Employing cognitive and/or behavioral strategies, "fitted" or matched to the stressor experienced by the child, and perhaps matched to the child's preferred coping style, has the potential to assist the child in reducing risk, thereby enhancing child resilience (Nabors et al., 2019b).

Facing Pain with Resilience Approximately 11–38% of children cope with chronic pain, and many of these youth are children who have chronic illnesses (Cousins et al., 2015a). When children and adolescents need to cope with pain, many of the anxiety management and cognitive behavioral strategies, mentioned earlier in this chapter, may be useful, including positive self-talk, relaxation, and distraction – using positive imagery or playing video games (see Coakley & Wihak, 2017 for a review). Additionally, we suggest encouraging the child/adolescent to take an optimistic perspective on the pain experience. There are several reasons for teaching a child "learned optimism" in his or her approach to pain (Seligman, 2007), which, with practice over time, may promote "dispositional optimism" (Cousins et al., 2015b). Dispositional optimism can be defined as "…the extent to which an individual upholds generalized favorable expectations for the future" (p. 935, Cousins et al., 2015b). Being optimistic about the outcome of painful experiences and pain management may engender support from others and encourage hope and searching for benefits in adverse experiences (Cousins et al., 2015b). Moreover, persons who have higher optimism may experience lower pain catastrophizing and fear of pain, and these factors are related to more positive quality of life for children with chronic illnesses. Cousins et al. (2015b) did not find that optimism was related to pain intensity. However, it may be a mediator, such that its impact works through pain catastrophizing. Feinstein et al. (2017) found that pain catastrophizing is related to the experience of pain intensity, and, if this is supported in future research, it provides further impetus for using optimism and resilience-promoting strategies to reduce pain catastrophizing which will improve quality of life and change negative pain experiences.

In their review of research, Cousins et al. (2015a) proposed several other resilience factors that are associated with pain coping for children with chronic illnesses. One strategy is mindfulness, which they describe as focusing on accepting current

experiences without judgment. Maintaining positive affect most of the time, which in our clinical experience is expressing feelings and having hope for positive outcomes in the future (a type of benefit-oriented approach), also may be related to adaptation for children experiencing chronic pain. Being able to accept and cope with negative experiences, a key aspect of psychological flexibility, is also a child-level resilience factor as well as a parent-level resilience factor. At the family level, parent and sibling support is related to pain coping – with factors such as clear communication in the family and family members' support of the child and positive attitudes being related to positive pain coping for children. Teacher and peer support and being connected with others are other system-level resilience factors. At the cultural level, spirituality and community support – including caregiving for other siblings in the home and support of the family and child by the community – may play a role in resilient functioning for children dealing with chronic pain (Cousins et al., 2015a).

Our team believes that many of the individual- and system-level factors for children experiencing pain, reviewed in the preceding paragraph, dovetail resilience factors of children provided in other more general chronic illness literature (e.g., Compas et al., 2012; Masten & Monn, 2015). In terms of systems, we believe the family system is arguably the strongest support for the child. Therefore, we present a review of some family-based interventions, which may be successful in supporting children with chronic illnesses, in the next section of this chapter.

Family-Based Interventions Hamall et al. (2014) developed a model of care, the Child Illness and Resilience Program (CHiRP), for providing interventions to large numbers of children with CI and their families. CHiRP is based on a "stepped" or tiered model of intervention. The team providing the intervention was in Australia; however, their model presented an example of positive psychosocial care that could be used by others. Hamall et al. (2014) added a resilience emphasis to their program model, with a focus on parent education and support. A core value undergirding this program was identification of strengths or assets for the child and his or her family. Also, another objective was to build family coping skills and support (Masten et al., 2009). Parent education concentrated on identification of child and family strengths and supports. Encouraging parents to seek supports – social and other support (e.g., funding to pay medical bills) to bolster family functioning – may remove barriers to reaching out to find support.

The stepped model provided three tiers of support (Hamall et al., 2014). Level one was a fact sheet describing resilience strategies to foster resilience. Level two was a "booklet" proving information to foster parental coping and family strengths. In the booklet, characteristics of a resilient family were described. Information about strengthening the family was provided such as improving communication between family members, spending time together as a family, problem-solving strategies, ideas for identification of family members' strengths, characteristics of respectful relationships, how to understand your child's illness, and ideas for seeking family support. Level three, for parents and families experiencing stress, was a parent support group, which also focused on reviewing the information presented in

the booklet in a supportive environment. In order to improve parent attendance, both in-person and "Internet" sessions were offered. The Internet sessions were not described in detail, and understanding how support would work "online" is an area for future research. In general, however, we felt that many psychosocial teams in medical settings provide these tiers of support for parents, but typically dedicated to disease management for the child and family. Thus, adding resilience information to these existing levels of support would be a relatively simple way to build resilience into existing programming.

Yi-Frazier et al. (2017) developed the Promoting Resilience in Stress Management Intervention for Parents (PRISM-P) based on a program originally developed for youth with cancer or type I diabetes by Rosenberg et al. (2015), entitled Promoting Resilience in Stress Management or the PRISM program. In our view, this program could also be delivered to siblings and, as such, has the potential to become a family program. There are four pillars of care: (1) stress management, (2) goal setting, (3) positive re-appraisal of stressors, and (4) meaning-making or benefit-finding. Rosenberg et al. (2015) described stress management as being comprised of mindfulness (e.g., awareness of stressors) and breathing exercises. Goal setting was less clearly described; however, in sessions the clinician worked with clients to set goals and cope with roadblocks to their achievement. When re-appraising stressors, participants learned to recognize negative self-talk and replace this with more positive talk and manageable ideas with positive outcomes. In terms of meaning-making, clients reframed current experiences by finding meaning in the adversities being experienced (Rosenberg et al., 2015). The skills reviewed with adolescents and parents were well received. The parent intervention appeared to be developed upon request and was designed to mirror the adolescent intervention. Participants, both parents and children, reported satisfaction with the intervention and improved resilience. Rosenberg et al. (2015) mentioned that referrals were made as needed and follow-up sessions were used to identify successes. More information about referrals and follow-up sessions would be helpful for clinicians. Continuing to evaluate family interventions focusing on problem-solving, mindfulness, meaning-making and stress management are a goal for the future, as children and parents have a bidirectional influence on each other.

Suggestions for Promoting Resilience in Children with Chronic Illnesses

Ferrari (2016) offered suggestions for promoting resilience of children with chronic illnesses. Ferrari suggested that clinicians help children with making meaning of their experiences so that they can incorporate the experience into the fabric of their lives. If one considers chronic illness a stressor that involves grief, then meaning making to deal with the loss associated with the illness makes sense. Concomitantly, this is synonymous with Worden's (2001) suggestions for helping children cope

with grief and loss of a loved one. In coping with grief related to having to cope with pain, procedures, and loss of normal daily living routines, it is important to help children understand that it is acceptable to have feelings of grief, express them (not holding the feelings "back" to "protect" parents), and develop an understanding of a new life with a chronic illness. In Dr. Nabors' work with children with chronic illnesses at a Ronald McDonald House, she often encountered meaning-making through play, where children talk about their illness and its impact on daily life. Allowing children to understand a new life and their strengths can assist in the meaning-making process. Parents also may need a chance to grieve and understand the "losses" (e.g., missing social events, sports and extracurricular activities, and school) associated with their child's illness.

Ferrari (2016) also recommended that clinicians work to build child skills. This may entail helping children find new hobbies and things at which they can excel, such as art and music. It may be assisting the child in developing cognitive-behavioral strategies to cope with pain and/or anxiety. On the other hand, it may be finding tutors to help children with missed class assignments or in academic subjects where they have fallen behind. It may be referral for counseling or therapy, should the child be experiencing anger or trauma related to medical experiences. Parents may benefit from skill-building. They may need to learn new ways to provide emotional support to their child and coach their child to use stress-reducing or pain-coping interventions. Parents may need coaching from therapists – to help with physical and occupational and other therapies – as they play an integral role in helping children "practice" new skills and in rehabilitation efforts should their child face injury or loss of skills, muscle tone, etc.

Next, Ferrari (2016) emphasized building social connections for the child and his or her family. Parents need to be connected to support, both emotional and instrumental supports. Instrumental support may be assistance with finding tutors for their child and babysitters or nannies for other children in the family. Alternately, it may be connecting parents to support groups, especially after a child has been diagnosed with an illness. Or, it may be connecting parents to social workers who can provide wrap-around services for the child and family. In terms of support for the child, helping the child connect with teachers and peers at school can be an uplift and increase academic motivation. Moreover, helping children connect with friends, using FaceTime, Skype, or in-person visits has the potential to re-establish friendships and social supports that enhance child quality of life and feelings of well-being. Ensuring that siblings can visit or stay at a nearby Ronald McDonald House can bring a crucial cheerleader and friend to a child who is in a hospital, perhaps facing scary and unknown medical procedures. Connecting grandparents or aunts and uncles, for in-person or "electronic visits," may bring another layer of support to the child and the child's parents. Developing mobile health apps may be a way to reach children who have difficulty accessing counseling services and need to build their resilience.

Conclusion

Information shared in this chapter indicated that children with chronic illnesses may experience risk but also may function resiliently. The same is true for family functioning and resilience. Both individual and family interventions can be of benefit to the child and family. Care should be based on careful assessment of assets and areas for growth, and care should be provided as needed, as there may be periods where the child and family are doing well and perceptions of quality of life are high (Masten et al., 2009). More information about how resilient children cope in the face of illness and medical procedures and the waxing and waning course of their illnesses may provide critical information for the development of interventions to enhance child coping. Assessment of "key characteristics" of resilient families may shape support services and interventions offered to families, and then interventions may be developed and tailored to child and family needs (Hamall et al., 2014). Increasing access to knowledge about resilience and its promotion could occur through the development of MHealth apps (Psihogios et al., 2020) and other online avenues to reach children who do not have regular access to counseling and pediatric psychology services.

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Chapter 10
Promoting Resilience in Early Childhood

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Introduction

Resilience is a dynamic process of positive adaptation to an individual's exposure to adversity or trauma (Luthar & Cicchetti, 2000). Research underscores the importance of promoting resilience early in life because early life experiences—especially relationships with primary caregivers—play a central role in brain development, gene expression, social and emotional well-being, and learning (McEwen, 2016; National Scientific Council on the Developing Child, 2010). This chapter provides an overview of resilience theory and related concepts on promoting resilience and well-being among young children and their families. In addition, we describe examples of evidence-based interventions and specific protective factors that can buffer young children from the deleterious effects of exposure to significant adversity and improve their odds of following resilient developmental trajectories.

The approach to resilience we present in this chapter intentionally represents a shift away from deficit models toward a strengths-based approach that is aligned with cultural competency and racial equity (García Coll et al., 1996; Saleeby, 2013; Walsh, 2006). It is also sensitive to the multiple, dynamic, and adaptive systems in which children live and grow, including the home, early care and education environments, and neighborhoods, as well as local, state, and federal policies (Bronfenbrenner & Morris, 2006). We begin the chapter by describing resilience theory and related theoretical frameworks that shape contemporary understanding of positive adaptation to hardship early in life. Next, we highlight examples of evidence-based interventions and services that align with this theoretical approach. These exemplars are

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limited to interventions with at least one study using a rigorous design (randomized controlled trial [RCT] or quasi-experimental design [QED]) and with findings that demonstrate positive impacts on intended outcomes. We then offer suggestions for nurturing resilience among young children and their families more broadly. Finally, we discuss related implications for policymakers, practitioners, and researchers and consider next steps for growth in the field.

Theoretical Frameworks for Understanding Resilience in Early Childhood

Resilience Theory

Almost five decades have passed since pioneering researchers such as Lois Murphy, Norman Garmezy, Michael Rutter, and Emmy Werner first began to study competence in children exposed to trauma and adversity. These early investigators observed children exposed to a wide range of biological and psychosocial risks (e.g., parental mental illness, poverty, child abuse and neglect) and yet exhibited positive adaptation (Garmezy, 1974; Masten et al., 1990; Werner & Smith, 1982/1992). Their studies sought answers to simple yet groundbreaking questions: "Why do some children do well while others do not?" "What accounts for diverse pathways of adaptation to adversity?" "What factors buffer children against poor life outcomes?" These inquiries challenged the prevailing notion that mental illness and disorders were inevitable outcomes of childhood exposure to unfavorable conditions. Indeed, the empirical research on exposure to adversity showed a full range of human adaptation, which helped catalyze a paradigmatic shift in the psychological and developmental sciences from a preoccupation with risk factors and psychopathology to an appreciation for protective factors and resilience.

Research shows conclusively that exposure to severe, chronic, and cumulative adversity, especially during sensitive periods of development—most notably early childhood—both can cause immediate harm to children and predispose them to many of the most common physical and mental health problems later in life, including obesity, cardiovascular disease, depression, anxiety, and substance abuse (Cameron et al., 2017; Shonkoff et al., 2009). Among the most vulnerable to trauma and adversity are children who live in poverty, have low levels of education, and whose families have been exposed to historical and structural racism due to disproportionate exposure to personal, family, and environmental stressors (Harrell, 2000; Shonkoff et al., 2009; Trent et al., 2019). However, numerous studies show that children can thrive despite these experiences when they have appropriate supports (Werner & Smith, 1982/1992).

While resilience is often characterized as an extraordinary response to adverse conditions, most experts agree that it is a universal human capacity arising from the normative functions of human adaptational systems (Masten, 2001). That is, all

children are born with the innate characteristics they need to exhibit resilience. The concept of resilience thus has both widespread and practical implications—the potential to learn from circumstances that promote positive development despite exposure to adversity and to translate this knowledge into policy and practice that can improve the lives of children in the future (Masten & Powell, 2003; Masten, 2007). From its inception, resilience theory has highlighted the importance of transferring scientific findings from laboratories to infuse work "on the ground" by elucidating pathways of healthy development despite hardship that can be supported through prevention and early intervention. Applying resilience theory to early childhood policy and practice is likely to be effective; as Luthar (2006) explains, "it is far more prudent to promote the development of resilient functioning early in the course of development rather than to implement treatments to repair disorders once they are already crystalized" (p. 739).

Any inference of resilience depends on the presence of two conditions: (1) a significant threat to an individual's well-being and (2) positive adaptation in the context of exposure to that threat (e.g., achieving a stage-salient task, maintaining or regaining psychological health, exhibiting better than expected outcomes) (Masten, 2001). However, resilience theory has been refined over time, progressing from an exclusive focus on individual characteristics associated with resilience (i.e., individual-level protective factors), such as an easy temperament and intelligence, to a broader view of resilience as a product of interactions between individuals and their environments (Masten, 2007). Resilience is not a personal trait, nor a set of skills or capacities that can be cultivated. Thus, it is helpful to avoid using the terms *resiliency* or *resilient* to describe children (i.e., "a resilient child" or "promoting resilience in children") and instead apply the term to their adjustment or development, which are products of interactions between children and their environments (Luthar et al., 2000; Luthar & Cicchetti, 2000).

Multilevel Influences on Resilience Resilience theory has moved toward a dynamic systems perspective that spans multiple disciplines (e.g., neurobiological, behavioral, and environmental) and levels of influence (e.g., community, family, and individual) (Masten, 2021). Risk and protective factors (i.e., predictors of negative and positive life outcomes, respectively) derive from individual characteristics and attributes of the many environments with which young children interact (Luthar & Cicchetti, 2000). Risk and protective factors at each level interact and depend on the others. Both can lead to cascading effects through these systems, facilitating (or inhibiting) positive development (Kalisch et al., 2019).

Multilevel influences also include biological processes. Stress can trigger biological responses, which influence and are influenced by an individual's experiences, including family, community, and cultural contexts, as well as their developmental history and the timing of adverse experiences (Cicchetti & Rogosch, 2009). Biological processes can also buffer children against the impact of stress (Feder et al., 2019). Indeed, many systemic and neural processes that are activated by potentially threatening experiences, such as the production of stress hormones (e.g., cortisol and adrenaline), increased blood pressure, metabolism, and immune

function, are designed to promote health and resilience when activated for short periods of time (McEwen, 2001). Yet, when repeatedly or chronically activated, these processes also affect gene expression (i.e., whether a gene is activated or not) and alter the way the body responds to stress (McEwen, 2016). Variation in a young child's stress responses can lead to differential susceptibility to both adverse and supportive environments (Boyce, 2016). In sum, resilience is a multiply-determined process that changes with shifting circumstances (e.g., the balance of risk and protective factors). Thus, there are myriad pathways to adaptive and maladaptive behaviors (equifinality), as well as a wide range of outcomes to similar life experiences (multifinality) (Cicchetti & Rogosh, 1996).

Transactional Theories of Human Development

Resilience theory is consistent with several seminal theories that focus on the dynamic, transactional, person-in-context nature of human development. For example, bioecological systems theory posits that human development is a transactional process in which individual development is shaped through an individual's interactions with multiple levels of the environment, ranging from proximal (e.g., parent and family) to distal (e.g., societal beliefs and norms) (Bronfenbrenner & Morris, 2006; Ungar et al., 2013). Similarly, Sameroff's transactional model of development posits that an individual's developmental status and potential are functions of a dynamic interaction between biological heritage and life experiences, including bidirectional interactions between children and their primary caregivers (Sameroff & MacKenzie, 2003). Resilience theory is also compatible with dynamic systems theory (Thelen & Smith, 2006), which views human beings as self-organizing systems that can respond to stress in complex and nonlinear ways (Keenan, 2010). However, transactional theories differ from resilience theory, with the latter approach emphasizes positive adaptation to adversity—a focus more aligned with strengths-based perspectives and theories (e.g., Saleeby, 2013; Walsh, 2006).

Attachment Theory

A discussion of resilience in early childhood necessitates attention to parent-child relationships and, relatedly, to attachment theory. While attachment theory has developed independently from resilience theory—with its own history, evolution, and body of knowledge—attachment and resilience theory are complementary. Attachment theory originated from John Bowlby's seminal work in the 1940s and was further refined by Mary Ainsworth in the 1960s. It asserts that the primary goal for infants and young children is to establish an attachment with a primary caretaker (biological parent or other caregiver), who provides a secure base for the child to

develop healthy emotional and self-regulation skills (Bowlby, 1973; Ainsworth et al., 1978).

Bowlby theorized that infants develop an *internal working model* of early relationships based on daily experiences with an attachment figure, with *secure* attachments formed when a child's expectations that their caregiver responds to their emotional signals sensitively and appropriately (Bowlby, 1982). A secure attachment allows for trust in a caregiver's emotional and physical availability, allowing the child to devote more cognitive resources to exploration, stimulating development in multiple domains (Grossman et al., 2005). By contrast, an insecure attachment develops when caregivers provide more sporadic and unpredictable responses to the child's cues, leading children to react with heightened distress in the absence of their caregiver, avoidance or ambivalence when the caregiver returns, and less confidence about exploring their environment. Internal working models also form the basis for organizing and understanding affective experience (Bretherton, 1990; Crittenden, 1990), shaping young children's mental representation of self and others, helping them manage and make meaning from new and stressful experiences, and supporting the development of self-regulation skills (Schore, 2001).

Over the last two decades, attachment theory has been further developed through a neurobiological perspective that has highlighted the involvement of physiological processes, rather than solely cognitive processes, in the development of attachment. Early attachment is most impactful on early neurological structures and developmental processes, thereby initiating future developmental cascades, or cumulative consequences for development through their effects on a range of early and emerging skills which, in turn, influence a range of other skills and abilities (Glaser, 2000; Gunnar et al., 2006; Kraemer, 1992). It is in this context that a secure attachment has been re-conceptualized as an indicator of resilience (Darling Rasmussen et al., 2019; Wright et al., 2005). However, attachment was conceptualized and tested within primarily White and middle- to upper-income families in the United States. The core concepts and measures were thus shaped by Eurocentric assumptions and expectations of what is normative and adaptive. Despite efforts to test attachment with other populations, important concerns have been raised about the generalizability and applicability of categorizations of "secure" and "insecure" attachments for infants in other cultures or circumstances (Brown et al., 2008; Rothbaum et al., 2000). In addition, attachment theory typically focuses on dyadic interactions between a mother and child without consideration for the multiple primary relationships that often exist in a young child's life (e.g., with a father, grandparent, or other caregiver).

Family Systems Theory

Resilience theory is applicable not only to individuals but also to families. The family system has a strong influence on young children's ability to cope with adversity, and early childhood interventions that aim to promote resilience are likely to be

more successful when they engage families, including fathers, grandparents, aunts, uncles, and others, in a family's kinship network. Family systems theory expands potential resources for promoting child well-being by shifting the focus of attention from individual and parent-child interactions to a broader system of relationships that influence children's adjustment to adversity (Walsh, 2006, 2011). Walsh emphasizes the importance of making concerted efforts to understand a family's capacity to "withstand and rebound from disruptive life challenges, strengthened and more resourceful" (Walsh, 2011, p. 149). This approach may be especially important for children whose parents' behavior is a source of harm (e.g., child abuse and neglect; domestic violence; parental depression; and substance abuse), as working with the family and/or kinship system positions other adults to help buffer young children from harm (Ungar, 2004).

Evidence-Based Interventions That Promote Resilience in Early Childhood

A wide range of extant interventions aim to promote resilience among young children and their families. Such interventions vary in content, service delivery method, duration, intensity, and characteristics of children and families served, as well as other dimensions (National Academies of Sciences, Engineering, and Medicine, 2016; Shonkoff & Fisher, 2013). While some approaches focus on the child, others target parents and other primary caregivers, and still others use a *two-generation approach* by working with both children and their caregivers to improve child, parent, and family functioning in the presence of or following adverse experiences. Because the well-being of young children is highly dependent upon the quality of care they receive from their parents and other caregivers—including buffering children from harm in the presence of serious hardship—most successful interventions for this age group focus on both children and the adults in their lives (National Academies of Sciences, Engineering, and Medicine, 2016; National Scientific Council on the Developing Child, 2015).

Early childhood interventions also may be *universal*, meaning they are available to all or most families with young children, or *targeted*, offering services to families experiencing specific adversities, such as poverty, developmental delays, child abuse and neglect, or trauma. In addition, some program models are *tiered*, with different levels and types of intervention offered depending on the family's needs and level of risk to children, while others are *comprehensive*, offering multidisciplinary services to address a wide range of family needs.

Examples of Promotion and Prevention Programs

Interventions that aim to prevent or reduce exposure to adverse experiences and to promote healthy development in early childhood use public health campaigns to raise awareness (e.g., the "Back to Sleep" campaign for reducing the incidence of sudden infant death syndrome) or focus on intervening directly with parents or directly with children. Examples of parent-focused programs include parenting programs, home visitation models, or other "family support" programs that aim to educate parents on topics such as health, nutrition, prenatal care, normative child development, and age-appropriate ways to support children's development (Webster-Stratton & Taylor, 2001). The primary forms of intervention that directly target children in early childhood include age-appropriate learning experiences that stimulate cognitive, linguistic, social, and behavioral development through early childhood education (ECE) programs. Some parent- and child-focused interventions are offered to all families (*universal*); others are tailored to specific populations (*targeted*). Next, we highlight several effective interventions to illustrate effective approaches to promoting resilience in early childhood.

Home Visiting Home visiting is a popular methodology used to deliver family support services to expectant parents and parents of children birth to age 5 where they live. Some home visiting programs are made available to all parents, while others target subgroups of families, such as first-time parents, teen mothers, and families with children with chronic health conditions or other special needs (Supplee, 2016). Outcomes for parents and children targeted by home visiting models include both proximal outcomes, such as improvements in parenting practices, maternal mental health, and child health and development and reductions in child abuse and neglect, and more distal outcomes, such as reduced juvenile delinquency and increased family economic self-sufficiency (Gomby et al., 1999; Sama-Miller et al., 2018). Evaluations of home visiting models have shown mixed results but generally conclude that home visiting is an effective methodology for delivering support to at-risk families (Gomby et al., 1999; Howard & Brooks-Gunn, 2009; Sama-Miller et al., 2018). Two home visiting models, Healthy Families America (HFA) and Nurse-Family Partnership (NFP), have been found to have the most positive impacts across targeted outcomes (Sama-Miller et al., 2018). Both models are among those that receive support for implementation in states, tribes, and territories through the federally funded Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program.

NFP was initially developed as an intervention targeted at first-time teen mothers with a goal of increasing the spacing between births and reducing child abuse and neglect (Olds, 2006). A key feature of NFP is delivery of services and child development information by a licensed nurse starting prenatally and continuing through the child's second year. NFP has been found to be effective in multiple communities and has shown long-term positive impacts on outcomes for mothers (e.g., delay of second birth, fewer subsequent pregnancies, increased employment) and children

(e.g., reductions in language delays, behavior problems, and adolescent criminal behavior, improved academic outcomes) (Kitzman et al., 2019; Olds, 1998; Olds et al., 1997).

HFA was also designed to prevent child abuse and neglect. A model program developed by the Hawaii Family Stress Center was the basis for HFA, which offers a flexible model of service delivery to prenatal families and families with children up to age 5. As long as communities preserve 35 "critical elements" of the model, they can tailor HFA's research-based structure to their cultural and/or linguistic needs. Rigorous research has established HFA's effectiveness in reducing child maltreatment across geographic and cultural contexts and positive impacts for parents (e.g., reductions in subsequent births, substance use, and domestic violence, increased economic self-sufficiency) and children (e.g., reductions in birth complications, abuse and neglect) (Harding et al., 2007).

Early Childhood Education Early childhood education (ECE) programs have historically served as supports for both working parents and for children's development (Zaslow et al., 2013). Consequently, ECE is viewed as a *universal* intervention that promotes positive outcomes for children and families and has the potential to prevent or mitigate harmful outcomes (Schindler et al., 2015). Meta-analyses of ECE programs have concluded that participation in ECE prevents early externalizing behaviors and later antisocial behavior in children, with programs that intensively target children's social-emotional development having the largest impact (Schindler et al., 2015). Other meta-analyses have found that participation in ECE (regardless of quality level) leads to reductions in special education placements and grade retention and increases in high school graduation rates (McCoy et al., 2017). Syntheses of research have shown that ECE benefits children across racial/ethnic groups and that positive impacts for dual language learners and children of immigrants are as strong or stronger than those seen for English-only speaking children and native-born children, respectively (Yoshikawa et al., 2013). Children from low- and middle-income households also reap more benefits related to cognitive and academic outcomes compared to children from higher-income households, with the greatest impacts for children living in or near poverty (Barnett, 1998; Yoshikawa et al., 2013). The relative advantage of ECE for children from low-income families suggests that increasing access to high-quality ECE for families struggling from economic adversity would be a useful *targeted* intervention.

While high-quality ECE has been found to promote positive developmental outcomes for young children, statistical associations between ECE quality and child outcomes are modest (Burchinal et al., 2011; Burchinal et al., 2016). The associations are often strongest when there is close, substantive alignment between the nature of the supports for child development (e.g., a teacher's responsiveness to a child's distress) and the outcomes of interest (e.g., children's emotion regulation) (Burchinal et al., 2016). Based on findings that domain-specific competencies in ECE settings are best fostered by practices that specifically target them (Burchinal et al., 2016), some ECE programs implement specific curricula or evidence-based practices aimed at supporting young children's social-emotional well-being and

resilience. One example is the "Pyramid Model," which has been widely integrated into ECE programs.

Pyramid Model The Center for the Social and Emotional Foundations for Early Learning (CSFEL) and the Technical Assistance Center on Social Emotional Intervention for Young Children (TACSEI) developed the Pyramid Model for Promoting Social Emotional Competence in Infants and Young Children (Pyramid Model), a conceptual framework of evidence-based practices for promoting children's social and emotional development. It can be used by ECE professionals as well as families. The model embodies the idea that some practices should be used with all children universally while others are reserved for (or targeted to) children who need special support. An RCT testing the implementation of the Pyramid Model in public preschool classrooms in two states found that children enrolled in experimental classrooms had better social skills and fewer challenging behaviors compared to children in control classrooms (Hemmeter et al., 2016). Additional exploratory analyses indicated children at high risk for behavior disorders had better social interaction skills compared to children in control classrooms.

Head Start and Early Head Start Head Start is the largest, federally funded ECE program for children from low-income households. Since 1965, Head Start (HS) has been providing low-income families with 3- to 5-year-old children support for children's early academic learning and social-emotional development, support for parents to be their child's first teacher and most importantly advocate, and access to comprehensive services including health screenings and referrals, nutrition support, and links to social welfare services (e.g., housing, employment, continuing education). In 1994, Early Head Start (EHS) was launched to provide early learning and development supports to infants and toddlers in low-income households and comprehensive services to income-eligible pregnant women and families with children up to age 3. Both families experiencing homelessness and children in foster care are also eligible for HS and EHS. In addition, 10% of enrollment slots are specifically set aside for children with disabilities and other special needs. The HS/EHS model can be provided in centers, family child care homes, and through home visiting (or a combination of these approaches). Although the funding comes from the federal government, the program is administered locally through grants to community-based agencies, though some states are HS/EHS grantees. This federal-to-local arrangement allows each program to be tailored to the needs of the community. For example, nearly 41,000 children of American Indian and Alaskan Native heritage are currently served in tribal and non-tribal programs. Children up to age 5 whose parents are agricultural laborers may participate in Migrant and Seasonal Head Start. All programs must offer services to both children and their families (a two-generation approach) and adhere to federal quality standards (for further information, see https://www.acf.hhs.gov/ohs/about/head-start).

Studies of HS during the first few decades of its existence suggested the program had lasting benefits for participants in terms of reductions in special education placements and grade retention in formal schooling, which offset the costs of the

program (Ludwig & Phillips, 2008). Recent studies have reported long-term positive effects of HS on health outcomes (Ludwig & Miller, 2007), a constellation of young adult outcomes (i.e., high school graduation, college attendance, crime, teen parenting, health status; Deming, 2009; Garces et al., 2002), and educational, social-emotional, and parenting outcomes (Bauer & Schanzenbach, 2016).

An experimental study of approximately 5000 3- and 4-year-old children applying to enter HS in the fall of 2002, known as the Head Start Impact Study (HSIS), was designed to test the causal impacts of HS. This RCT found small but significant impacts on cognitive skills after 1 year of HS (Puma et al., 2005), but the academic benefits of HS faded by first grade (Puma et al., 2010) and were not statistically detectable by third grade (Puma et al., 2012). However, multiple researchers identified limitations in the experimental design of the HSIS, including non-compliance with random assignment by participating families (Bauer & Schanzenbach, 2016). Approximately 15% of 3-year-olds and 21% of 4-year-olds randomly assigned to the HS condition in the HSIS *did not* attend HS, and 15% of 3-year-olds and 12% of 4-year-olds experimentally assigned to the control group in the HSIS *did* enroll in HS (Kline & Walters, 2016). When HSIS data were reanalyzed accounting for actual ECE placements, HS impacts were moderate compared to children in home-based care; there were no academic impacts of HS (Feller et al., 2016; Kline & Walters, 2016).

An RCT of EHS was conducted, as well. The Early Head Start Research and Evaluation Project (EHSREP) randomly assigned approximately 3000 income-eligible families with infants and toddlers to EHS or another program. Findings indicated that, at age 3, children participating in EHS had higher scores on cognitive and language assessments, demonstrated more sustained attention and higher levels of emotional engagement, and had lower levels of aggression than did children in the control group (Love et al., 2005). Parents in EHS demonstrated more emotional support and less physical punishment of their child, as well as provided more cognitive and language stimulation to their child, than did parents in the control group (Love et al., 2005). Additional analyses on a subsample of 2794 children for whom child welfare agency records were linked found that EHS participation prevented child maltreatment through age 15 (Green et al., 2020) through impacts on parenting (e.g., low conflict, positive parent-child interactions) around the child's second birthday and child outcomes (e.g., attention, cognitive skills) at age 3. Thus, EHS appears to be successful in supporting resilience in children and parents facing economic and family adversity.

Examples of Intervention Programs In addition to a range of prevention and promotion programs designed to support environments and skills that can help buffer young children against adverse experiences, there are a number of evidence-based interventions for young children who have experienced trauma and adversity. Many interventions were designed for children exposed to maltreatment and family conflict and thus have a relational focus, with the primary objective being the repair of attachment relationships, a key protective factor (Yates et al., 2003).

Attachment and Biobehavioral Catch-Up Attachment and Biobehavioral Catch-up (ABC) is a *targeted* intervention for children ages 0–24 months and their caregivers. It was originally designed for young children in the child welfare system and, thus, targets infants and toddlers who experience neglect, abuse, intimate partner violence, and placement instability (Dozier et al., 2008). ABC is delivered to mothers and infants in their homes over the course of ten sessions. It is strongly grounded in theory and research on attachment and stress neurobiology and focuses on supporting nurturing and sensitive caregiving despite a parent's own history or concerns; avoiding threatening or frightening caregiving behavior; and following the child's cues when they are in a calm state (Bernard et al., 2012). ABC has been implemented with a variety of cultural groups, including African American and Latino families, and its effectiveness with young children and their parents has been documented through RCTs conducted with foster families and birth families. Studies have found higher rates of secure attachment (Bernard et al., 2012; Dozier et al., 2006) and more typical patterns of cortisol production (Dozier et al., 2008) among children in ABC compared to controls. In addition, a study of young children involved in the child welfare system due to alleged or substantiated infant neglect revealed that ABC mothers showed more sensitivity toward their infants (Bernard et al., 2012; Dozier et al., 2009).

Child-Parent Psychotherapy Child-Parent Psychotherapy (CPP) is another example of a *targeted*, relationship-based treatment that targets young children, ages birth to 6 years; it was originally developed for children who have been exposed to domestic violence or child maltreatment, but the model has evolved to serve families with a broad range of child and parent trauma exposure. Families participate for 1 year in weekly sessions, usually held in the home. CPP is based on attachment theory, cognitive behavioral therapy, stress and trauma work, and social learning theory (Lieberman & Van Horn, 2011). It focuses on restoring safety, promoting emotion regulation, improving the child-caregiver relationship, and understanding trauma's impact on children, caregivers, and their relationships (Lieberman et al., 2005). CPP has been successfully implemented with diverse populations, including African American and Latino families, and found to be effective in promoting attachment security (Cicchetti et al., 2006) and positive self-representations (Toth et al., 2002) in maltreated young children and in decreasing behavioral problems and trauma symptoms in preschool children exposed to domestic violence (Lieberman et al., 2005). CPP also has been shown to improve maternal-toddler relationships, child behavior problems, and parental anxiety and stress (Eyberg et al., 2001; Toth et al., 2002).

Parent-Child Interaction Therapy Parent-Child Interaction Therapy (PCIT) is an intervention designed for families with children from age 2 to 12 who exhibited disruptive behaviors (Dombrowski et al., 2005; Hembree-Kigin & McNeil, 1995). PCIT targets improved quality of the parent-child relationship, reduced child behavioral problems, enhanced parenting skills, and decreased parental stress (Chaffin et al., 2004). CPP uses 12–14 dyadic parent-child sessions with an educational component in which parents learn skills to enhance their relationships with their chil-

dren and coaching focuses on positive discipline and responsiveness to children. PCIT has been implemented with many populations, including African American, Latino, and Native American families. Like ABC and CPP, PCIT has also been evaluated through RCTs. In one study, children ages 4–12 and their parents were randomly assigned to PCIT, PCIT plus enhanced individualized services, and a community-based parenting group (Chaffin et al., 2004). Parents in PCIT had fewer negative parent-child interactions and re-reports of physical abuse compared to controls. Enhanced PCIT did not improve impacts (Chaffin et al., 2004). Other studies have shown increased parent sensitivity (Thomas & Zimmer-Gembeck, 2011) and fewer behavior problems among maltreated children ages 2–8 (Timmer et al., 2005).

Examples of Comprehensive, Tiered, and Multidisciplinary Interventions

Comprehensive interventions for young children and their families have shown some of the most compelling and positive intervention impacts, including significant returns on our investments (García et al., 2017; Heckman et al., 2010). Two of the most frequently cited examples of a comprehensive early intervention approach are the High/Scope Perry Preschool Project (Schweinhart et al., 1993) and the Abecedarian Project (Campbell et al., 1998).

The High/Scope Perry Preschool Project The High/Scope Perry Preschool Project was originally implemented from 1962 to 1967 and provided a combination of high-quality preschool education and weekly home visiting by highly trained professionals to African American children, ages 3 and 4, who were living in poverty and at high risk for poor academic performance. The program used a standardized curriculum with a focus on increasing children's problem-solving and decision-making skills. A rigorous study with 128 children and their families found that, by age 40, individuals who participated in Perry Preschool had higher rates of high school graduation, job retention, and earnings and lower rates of adolescent pregnancy and violent crime arrests compared to those not enrolled in the program (Schweinhart, 2004).

The Abecedarian Project Another early comprehensive ECE model touted for its success, the Abecedarian Project (Campbell et al., 1998), offered year-round, high-quality, center-based care for children birth to 5. The program offered families support for child health and nutrition and access to health care and child cognitive and social-emotional development. Children received regular developmental screenings, nurses were on staff, and doctors referred children for treatment when they presented with mental and physical health problems. A longitudinal experimental study (111 children and their families experiencing economic disadvantage) revealed better outcomes for participants than for those in the control group, including positive impacts on education, employment, income, child behavior, and adult

physical health (Campbell et al., 2012). Taken together, findings on both programs suggest comprehensive, high-quality ECE can support resilience among young children and their families.

Early Head Start-Child Care Partnerships HS and EHS are contemporary examples of comprehensive two-generation programs for low-income families with young children. In addition, the federal government funded 250 Early Head Start-Child Care Partnerships (EHS-CCP) beginning in 2015 to connect EHS programs with community-based child care programs (center- and home-based) with the aim of combining the advantages of both models—EHS's comprehensive, high-quality, two-generation approach and child care's flexibility and responsiveness to families' social, cultural, and work-related needs (Del Grosso et al., 2019). The EHS-CCPs also expand access to high-quality care for infants and toddlers by opening additional slots in communities and providing wrap-around care. EHS-CCP funds can be used for program materials and resources, professional development for child care partners to meet federal HS standards, and comprehensive services for children and families. Rigorous research on the model is limited, but current evidence suggests benefits including higher-quality child care, reductions in teacher turnover, and increased chances for programs to share knowledge, training, and resources, leading to more highly skilled staff (Del Grosso et al., 2014; Halle et al., 2019). EHS-CPPs have also encountered challenges, such as difficulty meeting federal HS performance standards and a lack of alignment across HS and child care policies (Banghart et al., 2019).

Multi-tiered and Multi-disciplinary Interventions Some programs designed to support resilience in early childhood use a multi-tiered or multi-disciplinary model. The former model offers different levels of service depending on the particular needs of a family, often covering the full promotion-prevention-intervention spectrum. The latter often takes the form of integrating one field of practice into another, such as incorporating behavioral health into primary care.

Triple P-Positive Parenting Program System Triple P-Positive Parenting Program System (Triple P; Sanders, 2008) uses five different levels of support to help parents form healthy relationships with their children (birth to age 12), manage their behavior, and prevent problems at home, school, and in the community. The first level uses a public health approach through media to increase community awareness of parenting resources and programs that target child behavior and development. Levels 2–5 offer increasingly intensive supports to parents through individual and group sessions, with lower levels for families struggling with minor to moderate challenges and the fifth level for families experiencing family conflict. Triple P has been rigorously evaluated in multiple studies and found to improve parenting practices, parental relationships, and children's social, emotional, and behavioral skills (Sanders et al., 2014).

The Incredible Years The Incredible Years (IY; Webster-Stratton & Reid, 2010) is an example of a multi-pronged intervention with programs for parents, teachers, and children (birth to age eight). IY aims to promote children's social, emotional, and

academic competence, improve parent-teacher-child relationships, as well as reduce and treat children's emotional and behavioral problems. In the longer term, IY seeks to prevent delinquency, violence, and drug abuse. A review of 39 trials of IY found positive effects such as reductions in children's disruptive behavior and increased prosocial behavior (Menting et al., 2013). Other researchers have observed less negative, more responsive parenting behaviors (Brotman et al., 2005).

Healthy Steps Another intervention approach with young children and their families involves collaboration across disciplines of practice, such as integrating behavioral health into primary care or incorporating mental health consultation into early childhood education and home visiting programs. For example, Healthy Steps partners a pediatric health-care provider with a child development specialist, who conducts home visits, links families to community services and resources, and spends additional time with the family after a medical appointment (Zuckerman et al., 2004). Rigorous evaluations of Healthy Steps have shown greater parental knowledge of infant development and appropriate discipline and increased compliance with scheduled immunizations and well-child visits (Minkovitz et al., 2003; Piotrowski et al., 2009).

Infant and Early Childhood Mental Health Consultation Infant and early childhood mental health consultation (IECMHC) also combines fields of practice to support young children and their families. Specifically, mental health professionals are paired with early childhood programs—most commonly ECE and home visiting programs—in order to build the capacity of families, staff, and programs to strengthen young children's social and emotional development and to prevent or reduce child emotional and behavioral problems. Mental health consultants use classroom observation, case and group consultation, training, and linkages to community services. Studies on IECMHC show improvements in children's social and emotional skills and classroom quality and reductions in challenging behaviors, suspensions and expulsions, provider stress, burnout, and turnover (Brennan et al., 2008; Gilliam et al., 2016; Perry et al., 2009).

Suggestions for Nurturing Resilience in Early Childhood

There are many interventions aimed at families and children that are promotive of positive development and supportive of resilience in the presence of adversity. Interventions that address the early stages of development, beginning prenatally and continuing to kindergarten entry, can reap immediate and long-term benefits for children, families, and society (Campbell et al., 2014; Heckman & Karapakula, 2019). Such programs have successfully targeted a wide range of child and family outcomes (National Center for Parent, Family, and Community Engagement, 2015). However, after reviewing the research to date, the National Academies of Sciences, Engineering, and Medicine (2016) identified several program elements that have been effective across intervention types:

> …viewing parents as equal partners in determining the types of services that would most benefit them and their children; tailoring interventions to meet the specific needs of families; integrating and collaborating in services for families with multiple service needs; creating opportunities for parents to receive support from peers to encourage engagement, reduce stigma, and increase the sense of connection to other parents with similar circumstances; addressing trauma, which affects a high percentage of individuals in some communities and can interfere with parenting and healthy child development; making programs culturally relevant to improve their effectiveness and participation across diverse families; and enhancing efforts to involve fathers, who are underrepresented in parenting research. (p. 8)

Research also suggests that certain protective factors increase the odds of children exhibiting positive adaptation to adversity. For example, personal attributes that promote adaptive behavior and resilience in the face of adversity include a high sense of self-efficacy, mastery motivation, and executive function and self-regulation skills (Masten, 2013). Family-level influences include emotionally responsive caregiving, family relationships and social networks, family organization and daily routines, response to conflict, and problem-solving practices (Gorman-Smith et al., 2005). Community-level influences include exposure to violence in the neighborhood, economic and social resources, peer influences, and supportive relationships with adults (Maton, 2005). Cultural influences associated with resilience include values and beliefs that inform the inter-connectedness of families and individuals, how teachers and caregivers interact with young children, socialization practices and behavior, the expression of emotions, and meaning-making (Panter-Brick, 2015; Theron & Phasha, 2015). Thus, resilience can originate from a wide range of individual and ecological protective processes.

A focus on protective factors that support resilience among young children and their families can be integrated into a multitude of environments and systems in which they are naturally embedded, such as the family, early childhood education, community, systems of care, and social policy. Given that no single intervention is likely to meet a child's every need, integrating protective factors across the many contexts in which young children live and grow is likely to be most effective for promoting resilience in early childhood. However, efforts that target federal or state social policies may be especially promising since they have the potential to benefit the most families. Recent proposals include policies such as paid family leave, a federal child care guarantee, universal ECE starting at age 3, expanding the HS/EHS program to more young children, and enhancing services provided by HS/EHS to better meet the needs of families living in areas of concentrated poverty (Chaudry et al., 2021). Other policies, such as those that help to make child care more affordable for low-income families through the Child Care Development Block Grant (CCDBG) or Temporary Aid for Needy Families (TANF), can also increase access to high-quality ECE for families facing economic adversity (Zaslow et al., 2013).

The Earned Income Tax Credit (EITC) is an additional example of a federal program and policy that supports families facing adversity. Quasi-experimental studies show that EITC payments, which supplement the incomes of low- and moderate-income workers, reduce maternal stress (Evans & Garthwaite, 2014), improve maternal health-related outcomes and behaviors (Markowitz et al., 2017), and lead

to better child academic and health outcomes (Dahl & Lochner, 2012; Hoynes et al., 2015). Quasi-experimental studies on the Nutrition Program for Women, Infants, and Children (WIC) also have shown beneficial effects for mothers and their children, including improved child cognitive development (Guan et al., 2021) and birthweight, as well as reduced maternal preeclampsia and longer gestational age (Hamad et al., 2019). These and other federal programs, including the Supplemental Nutrition Assistance Program (SNAP), can improve a wide range of social determinants of health, not only by addressing poverty-related challenges (e.g., housing, neighborhood safety, access to healthy food) but also by reducing the emotional and physical toll of cumulative poverty-associated stressors (Braveman & Gottlieb, 2014).

Ideas for Growth in the Field

There are a number of limitations to early childhood interventions and their evidence base. For example, prior research on interventions designed to support resilience in young children has often focused on a single individual—either the mother or the child—or the parent-child dyad, without taking into account the larger ecological contexts in which these individuals are situated. These lines of research and evaluation still see resilience as an individualistic characteristic rather than a function of a broader system of policies and practices that affect human development at the community, state, and national levels (Ungar et al., 2013).

Another critical limitation of the evidence on resilience-based intervention is the lack of culturally relevant interventions and interventions that have been systematically and rigorously tested across different populations. Resilience research should expand to include investigations of supports for Native American and Alaskan Native children, children of immigrants, dual language learners, children with disabilities and special needs, and Latino/Hispanic children and families, among others. This warrants immediate attention from practitioners, researchers, and policymakers to meet the needs of an increasingly diverse population of families in the United States. Practitioners with lived experiences and cultural and linguistic backgrounds that align with those whom they are serving may have success in building rapport with and engagement of families that need support (Markowitz et al., 2020). New research also should consider the role of systemic racism in family's lives and on intervention effectiveness, with the understanding that racism is not reduceable to a single stressor (Harrell, 2000).

An additional challenge in the field is the dearth of rigorous evaluation of public programs that have integrated resilience theory into services. For example, some state and local governments have integrated programs designed to support attachment into their child welfare, foster, adoptive, and kinship care programs (Zeanah et al., 2001). These programs help caregivers understand a child's social and emotional needs in the context of trauma, re-interpret a child's challenging behavior in the context of those needs, and provide consistent nurturing and sensitive caregiving to help satisfy those needs. Similarly, parental leave policies, greater availability of

affordable high-quality care, Part C of the federally funded Individuals with Disabilities Education Act (IDEA; Early Intervention), and access to public services that improve family living conditions, reduce exposure to stress, and support caregiver and child mental and physical health, all have the potential to promote resilience early in life, yet little is known about how such policies affect resilience in early childhood.

Another direction for future work involves a focus on evaluating early childhood systems of care (Trochim et al., 2012). A hallmark of systems evaluation is engaging stakeholders from multiple perspectives in the design of an evaluation and the interpretation of results, which could be especially beneficial when trying to address the needs of families facing adversity. Trauma-informed care (TIC) is an example of a promising systemic approach to promoting resilience among young children and their families that has not been systematically evaluated. The Substance Abuse and Mental Health Services Administration (2014) defines TIC as:

> A program, organization, or system that … **realizes** the widespread impact of trauma and understands potential paths for recovery; **recognizes** the signs and symptoms of trauma in clients, families, staff, and others involved with the system; and **responds** by fully integrating knowledge about trauma into policies, procedures, and practices, and seeks to actively *resist re-traumatization*. (p. 9)

TIC typically includes a combination of professional development to increase service providers' understanding of trauma and its impacts, skill-building for working with traumatized children and families, and service improvements, such as developing systems for safely conducting trauma screening, assessment, and referral to evidence-based treatments. TIC has been implemented in a variety of community mental health, child welfare, ECE, and other programs that serve young children and their families, as well as through community-wide, cross-sector initiatives (e.g., Bartlett et al., 2018), but there is little consensus on how to define TIC at the systems level and the evidence remains limited (Melz et al., 2019). Further investigation is needed to identify the essential elements of a TIC approach in early childhood that lead to long-term positive outcomes.

Assessing the impacts of systemic intervention approaches also can help elucidate the "value-added" of multi-pronged interventions. For example, a recent trial of Smart Beginnings—a pediatric care integration of two evidence-based interventions, Video Interaction Project and Family Check-up—found significant positive effects for young children (birth to 3 years) and their parents, including better parent-child interactions and child language, reading, and cognitive development compared to children who were not in Smart Beginnings (Roby et al., 2021).

In addition, the study of interventions in real-world situations by incorporating implementation science principles into resilience research and evaluation efforts holds promise for advancing the field. Implementation science emphasizes documenting and accounting for intervention contexts and the organizational infrastructure and leadership needed to support faithful enactment of interventions in real-world contexts. It also explores the circumstances and families for whom specific interventions are most effective (Halle, 2020; Hsueh et al., 2020).

Longitudinal studies also are needed that follow children across the life course, increase knowledge about bidirectional interactions of genetics and environment, and raise awareness of culture, diversity, and structural inequality to better understand varying trajectories in the face of similar types of adversity. Further research is also needed to elucidate potential moderators of the effects of promotion, prevention, and intervention programs. Finally, it will be important to examine the extent to which intervention efficacy is influenced by societal and policy contexts.

Conclusion

Understanding among practitioners, policymakers, and researchers about the characteristics and conditions that support resilience in early childhood has increased dramatically in recent years. Recent advances in the neuroscience of resilience, in particular, have helped demonstrate the effects of trauma and adversity on early brain development, as well as intervention strategies that support resilience and recovery (Hunter et al., 2018; McEwen, 2016). However, there is still much work to be done. The changing nature of families in the United States and the increasing diversity of family makeup require a more nimble, inclusive response that can address the needs of *all* families. Universal programs that are most widely used and do not carry the stigma of trauma or mental health interventions—such as ECE—have particular promise for reaching the largest proportion of children early enough to prevent or mitigate the negative effects of adversity and to promote young children's resilience and well-being. However, such programs must be of high quality, trauma-informed, and well-coordinated with other community services to address successfully and fully each family's unique needs.

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Chapter 11
Improving Executive Functioning Contributes to Cognitive Performance and Results in Resilience for Children

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Introduction

Our focus in this chapter will primarily include the early elementary to middle school years, although findings from some studies will extend to later adolescence. Further, our focus will mainly be on executive functioning/executive functions (EF). During childhood, neural connections are growing and children are moving from mastery of rote skills to higher order thinking (Child Welfare Information Gateway, 2015). Math and reading skills are becoming more complex, as are social interactions. EF becomes more critical to organize tasks and complete work (having goal-directed behavior), and building strengths in EF skills can help children who are having difficulty completing schoolwork or following instructions at home. EF involves working memory, inhibitory control, and cognitive flexibility (Diamond, 2013; Wang et al., 2019). Problem-solving and planning are components of EF (Prins et al., 2013). Strengths in EF allow youth to follow instructions, complete schoolwork, remember day-to-day "to do" lists and chores, and stop impulsive behaviors (control impulsive negative reactions or inappropriate behaviors; Prins et al., 2013).

Some have posited that there are "hot" and "cold" EF skills (e.g., Chavez-Arana et al., 2018). Cold skills, which are a focus of discussion in this chapter, focus on

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cognitive skills, such as manipulation of letters and numbers, recall of symbols and language. Cold skills involve paying attention, concentrating, solving problems, and memory. There is involvement of metacognition in that children and adolescents know that they are applying these critical orienting and organizing skills. Alternately, hot skills involve more social skills, perhaps including pragmatics abilities, social processing, social competence, and behavioral functioning. Hot skills influence how children interpret social information, and, in turn, influence decision-making, empathy, and behavioral functioning (Chavez-Arana et al., 2018). Cold skills may be foundational and, as such, hot skills develop if cold skills are present (or functional).

Our emphasis on cold skills is, in part, influenced by Diamond and Ling's (2016) ideas for approaches to improve EF skills. They discussed EF skills as involving working memory, inhibitory control, and cognitive flexibility. Rapport et al. (2020) also identified these three skill areas as critical to EF. Diamond and Ling (2016) proposed that higher order cognitive skills may develop from these skills. Diamond and Ling (2016) suggested that EF is foundational to school success, and therefore, it is a key to resilient functioning in school, in terms of listening to and recalling instructions, memorizing material, attending to the task at hand, and completing homework. They reviewed 84 studies in the field. They concluded that in these studies participants typically improved on measures assessing the skills they "trained" on, but they cautioned that skills might not transfer to other areas (for example, if training focused on nonverbal working memory, then skills would not transfer to verbal working memory performance). Furthermore, they suggested that the amount of practice or "dose" of training mattered to improved skill. Finally, those with the most marked or significant deficits in EF appeared to gain the most from training. Once training ended, skills were not maintained at the same level. Finally, performance on EF tasks is impacted by mood, health, and mental health, and these factors need to be considered in research.

EF, for our purposes, is defined as the cognitive, higher order skills that children need to organize their assignments and complete work that has multiple steps (Diamond, 2006; Diamond & Lee, 2011). As mentioned, our focus is more on cold skills (Chavez-Arana et al., 2018). EF skills are those that allow a person to organize materials, review work that has been done, stay focused on a task, and think about progress and change a course of action (Diamond, 2006, 2013). Additionally, EF skills include attentional control, self-regulation, inhibition of certain responses, ability to attend with interferences, abilities to correct errors, and working memory (Carlson et al., 2004; Diamond, 2013). Activities where children think about a problem and decide what will happen next, may assist in the development of planning skills. Moreover, EF may be critical to homework completion and organizing homework that is completed and turning it in to the teacher (Diamond, 2013). Table 11.1 presents information on improving the organization of homework and ideas for completing and turning in homework, with a focus on skills for children in late elementary and middle school.

Table 11.1 may provide steps for homework success that are especially helpful for children with Attention-Deficit Hyperactivity Disorder (ADHD). In our clinical

Table 11.1 Improving homework habits when learning online: For late elementary school and middle school students

Critical concept	Tips
Understand your responsibility or job	• Writing down the homework is your job. You need to check in with your day and week as you advance in grades. • Parents – Help your child understand that the planner is an agenda or "to do" list.
Be prepared to record your homework during the online meeting	• Have a planner and sticky notes ready and pens and pencils by the computer. • Write down assignments during class or right after the class. • In the planner write things due tomorrow horizontally. If the assignment is due in two days or more write it sideways or vertically. You can also highlight things due later in the week or write them in a different color if you don't like writing things vertically. • If you want a digital planner there is one in TEAMS. Google Calendar and Apple Calendar are digital planners you might like.
Premack Principle or Grandma's Rule	• Finish homework first and then reward time (definition of Premack Principle available at https://link.springer.com/referenceworkentry/10.1007%2F978-1-4419-1698-3_1165).
Homework routine, follow this routine every weekday	• Review planner. Review what is due and when, think about your workload and what is due when. • Make a "to-do" list for the evening (you will check off items when they are done and turned in). • Use a whiteboard to write down weekly assignments and put monthly assignments in the right-hand corner, with due dates
Prioritize homework	• If a large project is due, and is stressful, do this first. • If you have a test, study first. • Or, complete the "hardest" subject first, when fresh, and then move to easier assignments, saving the easiest subject for last.
Break up the session with work and then stretch breaks	• Set a timer for 15–20 mins. Work and then take a stretch break or try some sit-ups, or jumping jacks for five minutes.
Large, multistep assignments	• If the assignment is a large one, you can break down the steps and the days you will do each step on a plan card or large post-it note. You can put this note in your planner or stick it on the whiteboard. • Complete a step of the assignment and then check your work and think about the steps that are next to complete the entire assignment. Thinking about the finished project and the steps to get there helps you keep working on the project and keeps you aware of the next steps!
Turning in homework	• If your turn in your work in person, use a finish folder. Always put your completed work in the finish folder, and at the end of the homework session put the finish folder in your backpack. • If you are turning in your work online – understand that your homework time involves launch time. This is time to check your planner and launch your work by turning it in electronically. • Finally, check off the item that is complete on your planner. Part of your homework time is the turn in time and checking off your to-do list or items on your planner.

(continued)

Table 11.1 (continued)

Critical concept	Tips
Rewards	• Working on a homework routine and using the planner is hard work. If you have a good day, have a treat when you are done. This treat can be a stretch break or a small edible treat (any type of small treat is fine, as long as parents have approved this). • If you have a great week, have a weekend celebration – To celebrate your efforts! • Parents, rewards help us, and your praise for homework effort can be very important.
Mentoring, modeling, and monitoring	• Parents can be role models showing the use of schedules. • Parents may need to be mentors, with "hands-on" or "showing" the youth how to use the planner and make a homework checklist. After some practice (usually several practice sessions), let the child or adolescent try this on his or her own. • Parents can assist with planning and routines as a guide or role model (can even help with writing the assignment list) and then their assistance can fall away (slowly), if their guidance is needed. • Thus, first, help with writing things down. Ensure checklist and launch time are observed. As parents fall away, they can check the planner and whiteboard daily, then every other day... monitoring progress. However, occasionally monitoring needs to continue or be reinvigorated (reinstituted) after a period in which the youth has difficulty completing homework.

Note. Some of the suggestions may be useful for younger and older youth

experience, we have found that enhancing EF may improve a child's emotional state and self-esteem. And, experts have found that EF may be associated with mental health, physical health, safety, and quality of life (Diamond, 2013). A book entitled, "*The Clinical Guide to Assessment and Treatment of Childhood Learning and Attention Problems*" edited by Martel (2020), provides information assessment and treatment of ADHD and other learning disorders in school and other settings, and this book is a resource which may inform clinical practice. Moreover, in the aforementioned book, the chapter by Rapport et al. (2020) provides ideas for training EF skills, and the ideas for training to provide clinical guidance for enhancing EF skills in youth with ADHD, which may, in turn, impact academic performance, as they impact organizational skills, memory, and behavioral inhibition. Rapport et al. (2020) also posit that EF influences family and peer relationships for youth with ADHD, and they add that understanding the impact of EF deficits and remediating them has the potential to improve academic and social functioning for youth with ADHD.

Orienting Role of EF or Executive Functions

Corbetta and Shulman (2002) provide a theory that may assist with localizing, in a general manner, critical brain circuits and functions that may be related to EF. They discuss two primary circuits related to what we visually pay attention to (or visually orient toward),

> One system, which includes parts of the intraparietal cortex and superior frontal cortex, is involved in preparing and applying goal-directed (top-down) selection for stimuli and responses. This system is also modulated by the detection of stimuli. The other system, which includes the temporoparietal cortex and inferior frontal cortex, and is largely lateralized to the right hemisphere, is not involved in top-down selection. Instead, this system is specialized for the detection of behaviorally relevant stimuli, particularly when they are salient or unexpected. This ventral frontoparietal network works as a "circuit breaker" for the dorsal system, directing attention to salient events (p. 201).

The aforementioned systems orient attention, helping us pay attention to stimuli and detect which stimuli are important or salient events related to behavioral success.

Working Memory and Inhibitory Control

Working memory involves keeping the information in memory while solving a problem, and it enables planning, problem-solving, and goal-directed action (Prins et al., 2013). Deficits in working memory also may be related to problems recalling and organizing schoolwork and remembering instructions (Diamond & Lee, 2011). Children may boost visual-spatial working memory by playing computer games (Corti et al., 2020). Academic tasks that involve, "storing, reordering, and recalling sequences of letters, words, or shapes" (Alloway et al., 2016, p. 171) are used to strengthen academic performance. Alloway et al. (2016) reported the aforementioned tasks may strengthen working memory or long-term memory, and although we do not know the exact way they strengthen skills, we do know that these tasks help children with deficits in working memory. Children may boost their ability to recall things through games that review auditory information with movement. "Simon Says" where children listen and repeat movements in a fun environment may be one way to begin working on memory with younger children. If a child is having difficulty following parent instructions, write them on a note card, as presenting information visually and orally may help with recall. Inhibitory control deals with the suppression of behaviors that are not task-related and goal-directed and the ability to ignore stimuli that distract from goal attainment (Tiego et al., 2018). One might consider it as contributing to self-regulation. Best and Miller (2010) reported that inhibitory control may show the most improvement by the end of preschool, and, in contrast, working memory and attention develop over the elementary school years (i.e., childhood period) and into adolescence. However, they

did caution that it can be difficult to separate the roles of different abilities that are under the EF umbrella.

Relating EF to Theory of Mind

Detecting stimuli and understanding salient events are critical to deciding what information to memorize. Understanding when a stimulus or stimuli merit(s) behavioral inhibition is also critical. As such, understanding what to memorize and what to block out, so to speak, critical EF skills, are central to understanding mental states (Carlson et al., 2004). In a similar manner, functions related to the theory of mind are critical to comprehending mental states. Theory of mind (ToM) involves inferring others' thinking and emotions and is important in effortful control, planning, on-task behavior, and goal-directed behavior (Vetter et al., 2013). Wade et al. (2018) define the two concepts in this manner,

> ToM is the social-cognitive ability to understand human actions in terms of the psychological states that motivate behavior, such as beliefs, emotions, desires, and intentions. EF refers to the cognitive processes that facilitate goal-directed action and problem-solving, such as working memory, cognitive flexibility, inhibitory control, and self-monitoring. (p. 2119)

If one takes a broad view of EF, linking cognitive skills associated with planning, problem-solving, and effortful control of behavior, one may view a connection between EF skills and ToM (Geurts et al., 2010). The aforementioned idea may be a controversial stance, in that others maintain that EF and theory of mind have separate functions, but they have overlap in processing domains (e.g., interact in the processing of information; e.g., Wade et al., 2018). Alternately, others have presented data supporting a connection. For instance, Dennis et al. (2009) argued that ToM is related to inhibitory control and working memory, characteristics associated with EF (Carlson et al., 2004). Hence, although the mechanisms relating EF to the theory of mind may not yet be fully delineated, there is a possibility of linkage between characteristics critical to EF and ToM. Perhaps, there are connections with other broadband skills (e.g., metacognitive, emotional intelligence) as well. Perhaps understanding one's thought processes, which clinically is termed metacognition (thinking about thinking) and understanding how others might think (perspective-taking skills) are associated with EF, and improving EF also improves these skills. Consequently, understanding what characteristics link and how, may improve the design of interventions to help children with EF difficulties follow instructions, plan assignments, control behaviors, and complete tasks – showing effortful control of behaviors. The relationship may be bidirectional, with improving perspective-taking skills and metacognition also improving EF. Assessing a broad array of skills from narrow-band abilities (e.g., specific executive functions) to broadband skills (e.g., emotional intelligence, TOM) would continue to provide information about how these skills are networked, and where they are located in the brain. If the linkage is

there, then there are more avenues for the design of interventions to improve EF, which would in turn, promote child resilience in everyday settings. EF skills are critical to effortful control of behaviors, problem-solving, flexibility in thought processes, and planning, which are critical to resilience in the school setting and for interacting with others and following instructions (which arguably are critical to interactions between adults and children; Cantin et al., 2016; Carlson et al., 2004).

As stated, the relationship may be bidirectional. As such, EF may critically influence the ToM skills as well as being critical to the development of academic skills, an everyday skill that is critical to child success in school. Cantin et al. (2016) proposed that EF – perhaps, through working memory, inhibitory control, and cognitive flexibility – was positively related to reading and math skill development. Cantin et al. (2016) investigated the relations among EF, theory of mind, reading, and math skills in ninety-three children between seven to 10 years of age. Children completed several measures to assess working memory (digit span), inhibition (color word go, no-go task or Stroop task), inhibition (sorting cards in trays marked with shapes [e.g., triangle] and colors), reading comprehension, math fluency, and problem-solving, theory of mind (using vignettes with stories of gardening failures with children judging the truth of stories), and matrix reasoning. The Stroop task involves identifying stimuli to show abilities to process information in the presence of interfering stimuli (see Scarpina & Tagini, 2017). Path analyses were used to examine the relations among scores of measures. Working memory, inhibitory control, and cognitive flexibility were related to reading comprehension. Reading ability and cognitive flexibility were related to math skills and reading was related to the theory of mind. Cognitive flexibility is defined as the ability to switch between mental processes (Dajani & Uddin, 2015). Thus, EF skills were thought to underlie a critical academic skill – reading comprehension. Through a link with reading comprehension, the EF skills were related to theory or mind. Today's children are very involved in computer games, which may be a mechanism for improving EF skills.

Evidence-Based Treatment Example: The Braingame

Computer training, with games like the Braingame, may improve aspects of EF of children with ADHD (Prins et al., 2013). The Braingame involves Brian, who solves problems and "go-no-go" tasks (Prins et al., 2011). Prins et al. (2013) reported that the Braingame involves computerized training of three EF skills: visual-spatial working memory, inhibition (e.g., inhibitory control), and cognitive flexibility. There is computer training with game tasks for 20- to 40-minute intervals for four days a week for six weeks. During the game, Brian, the main character, moves around in a game world of increasing complexity, where he can help people in a village. We believe that this task also involves perspective-taking skills. In the game, tasks become increasingly difficult and children participate in the game in the clinic, with help from advisors (who can answer questions). Gaming input has been

provided by Harold de Groot, Shosho, Amsterdam, The Netherlands [www.shosho.com], Prins et al., 2013, p. 46). Further, Prins et al. (2013) wrote that,

> The game world has seven different worlds: The area around the house of Brian's parents, the village, the uninhabited island, the backlands, the beach, the swamp, and the subterranean laboratory. All characters living in these worlds have a problem. Brian helps them to solve these problems by doing the training tasks, and by doing so, he invents all kinds of handy machines (p. 47).

The child receives points for solving problems and can walk around the world and see the work that he or she has accomplished. The child turns on and off lights to work on inhibition control. Prins et al. mentioned that the Braingame was developed to assist children with ADHD with improving goal-directed behaviors and completion of tasks at home and school (e.g., van der Oord et al., 2014). The Braingame also has been applied with children with a variety of health and mental health issues, and we will focus on reviewing this research.

Verbeken et al. (2013) had children who were obese participate in a game ("Braingame Brian") to improve EF, chiefly inhibition (working with lights in the game that are activated and not activated; "go" and "no-go" trials) and working memory (short-term memory, keeping the information in mind, manipulating information). Games to improve EF may assist children who are obese, who may have difficulty with self-regulation. It may be that their difficulties with self-regulation, which involves EF skills, are related to overeating, which, in turn, leads to obesity. Verbeken et al. (2013) measured progress on tests of inhibition (e.g., block tapping) and memory. Children in Belgium between the ages of 9–14 years, who were overweight, used the game while in a treatment program. There was a comparison group, where children received treatment as usual and did not participate in what they termed "Braingame Brian" computer training. Children who participated in the computer game showed improved memory and inhibition and were more likely to maintain their weight loss at an 8-week follow-up assessment compared to those who did not participate in Braingame Brian and received treatment as usual in the weight loss program.

van Houdt et al. (2020) discovered that training to improve EF improved performance in reading and math in youngsters who were "very pre-term" or low birthweight infants who were treated in neonatal intensive care units (NICUs). Specifically, van Houdt et al. (2020) assessed the academic functioning of 7–12-year-old children who had attention problems as assessed on a behavioral checklist and who were born preterm or were very low birthweight and spent time in NICUs. Children were randomly assigned to treatment, placebo, or control groups. This was a randomized, controlled trial and examiners were not aware of study objectives. Children in the treatment group participated in the Braingame Brian training (e.g., Prins et al., 2011), where Brain completes tasks to help other characters, by creating inventions to solve problems. For example, the child invents or uses machines to help others. In other tasks, to improve EF, the children in the treatment group moved dots on a grid. In fact, these tasks improve working memory and inhibition skills and move to increasing levels of difficulty with successful performance at a level,

for the child who is playing the computer game. For children in the placebo group, the game was played without the EF tasks. Also, the game stayed set at the easiest level. Children in a waitlist control group did not play the game and were instructed to participate in their usual activities during the training period. Results of this project did not indicate differences in EF tasks or academic performance between children in the three groups. Hence, Van Houdt et al. (2020) cautioned that although the Braingame has shown positive results for improving EF in children with ADHD, this intervention may not work for all types of deficits related to EF.

de Vries et al. (2015) examined the impact of the Braingame Brian on EF skills of children with Autism Spectrum Disorder, between the ages of eight to twelve, who exhibited relatively higher levels of cognitive functioning (IQ greater than 80). The children were randomly assigned to one of three intervention-conditions of Braingame Brian, and during this game, they could receive either working memory training, cognitive flexibility, or be in a control condition. Children completed Braingame Brain training and then they completed tasks assessing EF skills. Specifically, children completed several tasks to assess change in EF after the training and at a six-week follow-up. One of these was block tapping in sequences (e.g., to assess visual-spatial working memory (de Vries et al., 2015). For this task, nine blocks appeared on a computer screen in a sequence and the participants were required to repeatedly click on the block to show the number of blocks presented using a computer mouse. To assess cognitive flexibility, participants performed an emotion recognition switch-task with pictures of same-gender faces. Participants sorted pictures by gender and the emotion portrayed in the picture. Another task required participants to recall pictures presented on the computer screen and indicate whether the picture matched a previous target picture shown a number of trials ago (a type of *N*-back task [see Jaeggi et al., 2010 for a review of *N*-back task and working memory]). To assess cognitive flexibility, participants completed a number-gnome switch-task. Pictures of one, two, or three gnomes with a bubble and the numbers 1, 2, or 3 were displayed on the computer screen. Participants were instructed to report the number of gnomes or the number in the speech bubble by pressing the 1, 2, or 3 on the keyboard. Other tasks were used to measure inhibitory control and attention (i.e., sustained attention). In the inhibition task, a picture of a dog facing left or right appeared on the computer screen and participants pressed a left or right key to show which direction the dog was facing. For the task assessing sustained attention, participants pressed a computer key when they saw numbers from one to nine on the screen. The exception was the number three, and when this number appeared no key was pressed. Parents completed several rating scales to assess EF, social behavior, quality of life, and disruptive behaviors were completed to assess far transfer dialing living skills (de Vries et al., 2015).

Results indicated a trend for improvement in working memory and cognitive flexibility for children in the intervention versus the mock-trial comparison group (de Vries et al., 2015). There were no significant differences across measures and tasks for the intervention versus the control groups. However, the results were not robust and the authors recommended further study to assess the impact of Braingame Brian on children with ASD. Thus, although Braingame Brian may be effective for

children with ADHD (e.g., Prins et al., 2013; van der Oord et al., 2014), it has shown equivocal success in changing EF skills for children with other health and mental health conditions.

Extending Research on the Braingame More research is needed to understand interventions for children with different types of disorders or problems, and various types of cognitive deficits. It may also be the case that the tight experimental control in this study was related to study findings. Thus, more research may be needed to determine if computer games and games that work to improve EF are associated with improved academic performance and improved organizational skills for youth with problems maintaining their attention, possible difficulties with impulse control, and potential difficulties with organizational skills. Van Houdt et al. (2020) mentioned that further study is needed to determine the effectiveness of this game for different disorders with what might be different types of functional deficits, and we agree with this recommendation. Furthermore, assessing a broader variety of outcomes, such as perspective-taking skills and ToM tasks may provide more information to determine if improvements in EF are related to these broadband abilities.

Other Computerized Interventions

Corti et al. (2020) were interested in the improvement of working memory. They found that cognitive rehabilitation, using computerized cognitive training, could improve the functioning of children with brain injuries. Corti et al. examined the impact of Luminosity Training® (Lumos Labs, California; https://www.lumosity.com/en/) for children and adolescents, aged 11–16 years, with Acquired Brain Injury (ABI). Children completed computer training on the Luminosity games at home over a short amount of sessions (approximately 39 sessions). There was a wait-list control group. Those who received the Lumosity Training showed improved performance in working memory for visual-spatial ability, perhaps as a result of repeated computer training.

Computer training on different aspects of EF for children with ADHD is important to consider because these deficits are critical to the functioning of children with ADHD (Elosúa et al., 2017). Jaeggi and colleagues have found that *N*-Back training may have promise for improving the EF of children with ADHD (e.g., Jones et al., 2020). *N*-Back training involves identifying the location of an image that is presented in different locations on a computer screen six times. The participant identifies where the stimulus was at "*N*" back in the presentations of the image. Jones et al. (2020) provided a further description of the 15-minute *N*-Back training in the following manner,

> Participants pressed the "A" key each time the current image was in the same location as the one presented *n* items previously (targets) and the "L" key if the image did not match (non-targets). There were five randomly positioned targets per block of trials, and each block

> included 15 + *n* trials. Each training session consisted of 10 rounds lasting approximately a minute each. (p. 708)

Jones et al. (2020) trained 80 children with ADHD using the *N*-Back computer game. Children needed to be between 7 and 14 years of age to participate in the study. Jones et al. examined children's performance on inhibition and working memory tasks, two key areas of deficits in functioning for children with ADHD, after completing training. School tasks and parent reports of symptoms related to ADHD also were assessed. Unfortunately, the *N*-Back training did not impact performance on the measure of school tasks, but it did have a positive influence on improved inhibitory control. Children who received the training did not, however, exhibit improved performance on the assessment of working memory. Although results were not significant when corrected for multiple assessments, the *N*-Back training had a positive relationship with improvements in symptoms related to ADHD. Unfortunately, others have reported that training in EF probably does not change ADHD symptoms (Dovis et al., 2019). Jones et al. (2020) were cautious in interpreting their findings and recommended further study to determine the impact of *N*-Back training for youth with ADHD, as results of this study were equivocal, in terms of positive impact of the training on all outcome variables of interest. It may be that the *N*-Back training (Jones et al., 2020), and other types of computer training are effective, for those with mild symptomatology related to ADHD (Alabdulakareem & Jamjoom, 2020).

Crepaldi et al. (2020) developed a computer game, "Antonyms," to "block" impulsive tendencies and improve cognitive flexibility in children with ADHD. Interestingly, this game was designed with advising and input from children with ADHD. Also, it was designed for use on personal computers and players respond by tapping the screen or striking keys on the keyboard. In order to do well when playing this game, children must inhibit responses and solve problems as a superhero in a game where the hero saves a realm on the opposite side of the earth – and this realm requires problem-solving that is opposite of usual norms for solving problems. There are several scenarios. In the river-crossing scenario, for example, the hero must select routes crossing the rivers among several long and short river options, with shorter routes being more dangerous with unstable bridges crossing the rivers and longer ones being safer. The player is prompted to discuss the consequences of choices to take routes. In the Central Building task, the player moves along routes in a building and proceeds when seeing a green light. The player clicks on green lights, but not random blue lights that also appear. Errors occur when the player clicks on a wrong position for a green light, does not click green lights, or mistakenly clicks blue lights on the screen. Crepaldi et al. (2020) reviewed findings from studies conducted with the Antonyms game and concluded interacting with the game improved inhibitory control and could reduce impulsivity of children with ADHD. They proposed that the game, which is still undergoing testing, has the potential to develop skills for emotion regulation, inhibitory control, self-control, and planning. Using measures to assess change in emotion regulation and

self-control would extend knowledge about whether participating in this task has any impact on broadband skills critical to social functioning.

Wang et al. (2019) used computerized trainings in working memory (identifying a sequence of animals as being upside down or upright) and inhibitory control (signal task/modified Stroop task; go stimuli were a strawberry and a peach related to computer keys "F" and "J" and the stop stimuli was an apple) to improve the language performance of low achieving children. Participants were first-grade children residing in China. Children participated in 20 sessions in the working memory and inhibitory control trainings. There were also normal achieving children in the sample. Children were assigned (using random stratified sampling so there were low achieving and normal achieving level students in groups) to receive either working memory or inhibitory control training.

The interventions or training tasks developed by Wang et al. (2019) bear further description. The working memory training consisted of the encoding stage and the recall stage. Animals were sequentially presented on the computer screen in the encoding stage. Children identified the orientation of each animal by pressing the relevant key (one key for inverted orientation and another key for upright orientation). They were also requested to keep track of the sequence in which the animals were shown. The recall stage followed the encoding stage. In this stage, the first graders had to reproduce the animal sequence by clicking and placing the animal sequence in the correct order. For this game, the difficulty level was continuously adapted based on the performance of each participant. The game began with a set size of two animals, but this set size was altered based on the child's performance. Change in working memory span was an outcome variable (defined as the maximum set size that each child achieved per intervention period).

One of the inhibitory control interventions was a stop-signal task (Wang et al., 2019). This task consisted of a "go" stimuli and a "stop" stimuli presented on the computer screen. The go stimuli were a strawberry and a peach while the stop stimuli was an apple. Children were instructed to press "F" whenever a strawberry appeared and "J" whenever a peach appeared. Conversely, children were instructed to withhold from pressing a button for a variable amount of time whenever an apple appeared. This latency period is known as the stop-signal delay. It was set as 250 milliseconds in the first stop-trial and was adjusted in subsequent trials by adding or subtracting 50 milliseconds for successful and failed inhibitions, respectively. The stop-trials were randomly present throughout the session. The stop-signal reaction time (SSRT) was computed and was a measure of inhibitory control, with improved reaction time being expected after training (Wang et al., 2019).

Additionally, Wang et al. (2019) used a modified version of a Stroop task to assess inhibitory control. There were two different versions of stimuli for this task: animals or fruits. Both types of stimuli were manipulated in terms of size and number for congruent and incongruent trials. In the incongruent trials, the larger number of sets was represented by the smaller stimuli (e.g., five mice vs. two elephants), while in the congruent trials, the larger number of sets were represented by the larger stimuli (e.g. two mice vs five elephants). The congruent trials and incongruent trials were randomly mixed. There were two dependent variables that this

modified Stroop task measured: the Stroop effect for reaction time and the Stroop effect for accuracy (Wang et al., 2019). The Stroop effect for reaction time measured the difference between the reaction time of the correct responses in the incongruent condition and the reaction time of the correct responses in the congruent condition. Similarly, the Stroop effect for accuracy measured the difference between the accuracy in the congruent condition and the accuracy in the incongruent condition.

Outcome variables also included assessment of language, math skills, and matrix reasoning. Results indicated the performance of low achieving children in the training groups was "catching up" to that of normal achieving children in language skills (e.g., Chinese) after training (at a 2-month follow-up assessment; Wang et al., 2019). Interestingly, children in the inhibitory training control groups showed greater improvement of language skills than those in the working memory training group. There was no effect on math skills. A possible reason that the participants did not show any improvements in math skills is that the average age of the participants was approximately 7 years. Hence, the children were just starting to solve basic arithmetic problems and were relying primarily on rote memory to do so (as opposed to skills signaling inhibitory control). Wang et al. (2019) proposed that fluid intelligence, a broadband skill, improved as performance improved on matrices tasks (i.e., matrix reasoning skills showed improvement). Perhaps an intervention targeting visual-spatial (not verbal) working memory skills would have had more success in improving math skills. In addition, Wang et al. (2019) noted that their sample was in one school, and findings are thus preliminary; however, findings did suggest that as EF improved so did a critical academic skill.

Extending Research on Computer Games Research is needed to determine if certain components of games (e.g., tasks) are more effective than others. Moreover, it may be that different types of cognitive training, delivered in games, are effective for different components of EF (Lumsden et al., 2016). Additionally, more research, with larger sample sizes, and children with a variety of skills deficits, is needed to determine the efficacy of games. Also, developing games with input from children with ADHD and other types of EF concerns may be a positive way to increase the user-friendliness of games, thereby increasing children's interest in playing them. Finally, assessing improvement in academic skills (e.g., Wang et al., 2019) and grades will be critical to determine if improvements in EF skills lead to improvements in academic performance. Research on other broad-band skills, such as perspective-taking and positive interactions with others is an area for continued research.

Card Games to Improve Executive Functioning

Mackey et al. (2017) conducted a study in a charter school where teachers trained fifth-grade students in cognitive skills (e.g., fluid reasoning, processing speed, working memory, and numerical reasoning and speed) using card games similar to the Set® game (setgame.com). They also had a comparison condition where children learned about geography and typing. Students were matched on age, gender, and special needs status and then "pseudorandomly assigned" (p. 86) to the cognitive skills training or the control group. There were 22 youth (10 girls, 12 boys) in the intervention group (learning cognitive skills) and 24 youth (11 girls, 13 boys) in the comparison group. In the cognitive skills group, teachers played games using cards that children typically matched based on "color, notation, number, and relationship" (p. 87). The card games featured memory training (in a type of *N*-back game), recall of symbols, and recall of sets of cards. It was a two-stage intervention, for 9 weeks, four times a week (20 mins. each time) and then new games were developed and the intervention ended up lasting 30 weeks. It was difficult to understand the new games that were developed, and how they differed from those in the first 9 weeks of the intervention. Assessments involved measures assessing matrix reasoning, non-verbal memory, recall of number patterns, fluid reasoning skills, symbol search, and coding. As stated the goal was to assess change in fluid reasoning and working memory and processing speed (Mackey et al., 2017).

Results indicated that the group receiving the cognitive skills instruction showed improved performance on the assessments post-intervention (Mackey et al., 2017). However, as the year progressed, both groups exhibited more similar performance, and both groups exhibited similar academic achievement skills. A positive finding was that youth with lower academic achievement did benefit from the intervention, showing relatively greater gains after the intervention. Mackey et al. (2017) remarked that this finding dovetailed the conclusions of other researchers, who also proposed that EF training may be more beneficial for children with more pronounced academic deficits (e.g. Diamond & Ling, 2016). In general, however, Mackey et al. (2017) concluded that the cognitive training was not as effective as they had surmised it would be. Perhaps this was because instruction changed throughout the school year. This is definitely a possibility in one school, where teachers could possibly discuss the interventions with each other. It also may be that the typing and geography training did improve EF skills, albeit the results of this training were discovered over a longer time over the course of the school year.

Extending the Research on Card Games Mackey et al. (2017) called for carefully designed interventions and investigation of the value of interventions on school performance (e.g., math and other academic skills) over time to understand the value of cognitive training. We would concur with their conclusion, and continued research on card games and other games is needed. Comparing the value of computer training to card games would be a potential area for future study. Studies we reviewed typically involved one type of training and comparing the value of different

types of training, delivered in different formats (e.g., on the computer, versus card games) would provide information about the best "medium" for delivering cognitive skills interventions.

Working-Memory Training and Broad Scope Skills: Academic Performance

Perhaps a way to extend research is to critically review one area of EF and gain an understanding of studies assessing improving this specific skill. Alloway et al. (2016) reviewed the effectiveness of working memory training programs on children's performance on tasks similar to the training tasks (near transfer) and tasks assessing broader abilities such as other executive functions skills, which were different from the training tasks (e.g., attention and learning skills, which is far transfer and we have called this a broad scope view). Furthermore, Alloway et al. (2016) categorized working memory training programs into two groups: those that were narrow in scope (e.g., worked on one working memory skill) and those that were broad in scope (e.g., provided training in several areas of skills). They concluded that both narrow- and broad-scope training improved working memory and other executive functions skills, although results were not clear-cut (always positive), as some studies did not report improved performance as a result of training.

Alloway et al. (2016) reviewed several studies assessing the impact of games, which were considered near-scope training, on near and far transfer skills. One of the games was the Cogmed Working Memory Training Program CWMT® (www.Cogmed.com). This program, classified as a narrow-scope program, features an *N*-back game that requires participants to recall numbers, letters, or dot locations. Alloway et al. (2016) concluded that this game resulted in near transfer effects (e.g., improvements in verbal and visuospatial memory) and far transfer effects (e.g., improved performance on tasks assessing reasoning and inhibition). Another narrow-scope working memory training program was the Odd Yellow Yellow (see Van der Molen et al., 2010). Participants were shown shapes and had to identify the odd-one-out as well as remember the location of the shapes on a grid. Unfortunately, this game did not have an effect on either near or far transfer abilities.

Other training programs, mostly focusing on math skills, were discussed under the classification of broad-scope WM training programs. For example, Alloway et al. (2016) discussed a study conducted by Cornoldi et al. (2015), who administered a math test to children aged 8 to 10 years. The students were required to solve math problems and recall the problems. Participating in this task resulted in improved working memory and arithmetic problem-solving. Alloway et al. (2016) discussed similar studies that had the same type of results, providing some support for the practice of math skills improving both working memory, math skills, and other tests of cognitive functioning, showing that broad-scope training effected near transfer and far transfer skills. After reviewing several studies, Alloway et al. (2016)

suggested that improving the long-term performance of children requires repeated and persistent working memory training for a longer period of time.

Alloway et al. (2016) also wrote about how working memory tasks impact regions of the brain. These types of tasks often assess storing, reordering, and recalling sequences of numbers, letters, words, or shapes. These tasks activate different parts of the brain, such as the dorsolateral prefrontal cortex, regions of the intraparietal cortex, and the "…occipital regions and precentral sulcus, caudate nucleus, cingulate cortex, and supplementary motor area, related respectively to visual and visuospatial working memory training" (p. 171). Increased activation of these regions of the brain is often synonymous with improved skills on working memory tasks. Alloway et al. (2016) stated that adults show activation of different parts of the brain, and therefore, longitudinal studies are needed to gain a better understanding of the transfer to other brain regions when individuals are performing working memory tasks.

Conclusion

Evidence reviewed in this chapter provides some initial evidence that training in specific and broad types of EF skills is related to improved EF abilities as well as improved real-world skills, such as academic skills (e.g., Wang et al., 2019). Other researchers have noted that investigating the impact of games, such as the ones reviewed in this chapter, on academic performance and other memory tasks (e.g., recall of instructions) will be important to advance knowledge about the practical implications of EF training (Johann & Karbach, 2021). More information is needed on brain structures related to improved academic skills, and collaboration among neuroscientists is providing a window on how brain structures are associated with academic skills. Furthermore, more research will be needed to determine what types of trainings are effective, doses of training needed for improved skills, and whether training needs to continue (e.g., if training is withdrawn do skill improvements fade?).

Chavez-Arana et al. (2018) reviewed 30 studies aimed at improving EF. In their critique, they mention two things that can guide the literature. One, they talk about dose. It may be that some studies find more of an impact because the dose (e.g., repeated practice on EF tasks) is relatively high. Chavez-Arana et al. (2018) highlight the need for extended practice, through high session frequency, to improve hot and cold EF skills. These researchers highlighted, in the case of brain injury, that there are many types of brain injuries and types of injury may impact the effectiveness of an intervention. We would like to mention that there are also many levels of functioning and abilities for children with mental health problems, such as ADHD or ASD, and the different presentations of abilities may influence the impact of interventions. Hence, understanding what works for whom, under what conditions, continues to be an area for future study. Furthermore, it will be important to assess many types of EF skills in the same study (Nemeth & Chustz, 2020). Developing practical applications of skills to promote resilience, such as Table 11.1 continues to

be important. Simultaneously, research is needed to uncover the influence of mental health, stress, and health on the performance of individuals on EF tasks.

Other researchers have provided recommendations for intervention studies, which we believe hold true today. Best and Miller (2010) recommended that intervention studies should include long-term follow-up assessments to determine if skills are maintained without practice. Additionally, these longitudinal studies should assess changes in skills over different developmental periods, with intervention and control groups, to see if abilities change as children progress through different developmental stages. If EF changes are related to positive developmental trajectories, and positive functioning at home and at school, contributions to the resilience of children can be determined. Diamond and Ling (2016) proposed that more research is needed, and how childhood activities like band or orchestra, filmmaking, caring for an animal, and team sports impact EF needs to be understood. Thus, in echoing work by Diamond and Ling (2016), we propose a broad lens on the practical implications of EF training be used to understand the relations between training and performance on daily activities critical to child resilience, such as performance in extracurricular activities and school and things like abilities to follow instructions and complete class assignments at home.

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