



Resilience

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Synthesis on resilience

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How important is it?

Research shows that children who are exposed to [adversity](#) have worse developmental outcomes than those who are not. But children who are resilient have the [ability to adapt](#) despite experiences of significant risk or trauma.

Resilience can mean many different things: recovering from traumatic events, overcoming disadvantages to succeed in life, and withstanding stress to function well in the tasks of life. It was thought initially that resilience was a characteristic of the child; however, more and more, research indicates that family and social factors help a child to offset environmental stress.

It is important to identify the [sources of resilience](#) in competent children because we can then try to boost the resilience of less competent children, especially those living in conditions of high stress.

What do we know?

Studies show that the more risks children are exposed to, the worse their outcomes will be. [Social risks](#) across family, peer group, school and neighbourhood accumulate to have a consistent negative effect.

The presence of protective or resilience factors may be the reason some children succeed despite less-than-optimal conditions. Although the kinds of adversity children experience can vary greatly, a core theme transcending diverse risk conditions is the presence of a strong, [supportive relationship](#) with at least one adult. Also helpful are warm, supportive and consistent relationships outside the family, such as those with caregivers in child-care settings or with teachers in schools. Together, supportive families, accepting peer groups, competent schools and neighbourhood all contribute to children's positive developmental outcomes.

School can provide an important environment for learning or building on resilience. Early success in school appears to be a key pathway to resilience, particularly for [disadvantaged children](#).

Children's own strengths also contribute to resilient adaptation. Children with high intelligence, easy-going temperament, charisma and social skills are more likely to adapt positively to adversity. However, many of these characteristics are themselves vulnerable to assaults from the environment.

Young children with healthy attachment relationships and good cognitive, social and self-regulation skills are typically resilient in the face of adversity, as long as their fundamental [protective skills](#) and relationships continue to operate and develop. [Emotional regulation](#) in particular plays a critical role in resilience.

Evidence is mounting that [genetic factors](#) also contribute greatly to children's ability to be resilient. For example, a genotype that is associated with lower likelihood of developing depression later in life could influence a child's ability to adapt to adverse situations.

What can be done?

Early childhood is an important window of time for understanding and promoting resilience. Children typically experience multiple risks in multiple social contexts. Combined prevention and intervention efforts work together to target multiple rather than single sources of resilience.

Interventions must be dynamic, flexible and culturally specific to ensure their integration into the structure of the community. [Effective resilience programs](#) target multiple developmental systems and promote community participation and empowerment.

The most effective intervention programs will reduce factors associated with disorder (i.e. risks), provide resources associated with positive adaptation (i.e. assets) and support the core adaptational systems through multi-faceted applications.

For children with [biological vulnerabilities](#) (e.g. high stress-reactivity or less-than-average intelligence), we must ensure that mothers have sufficient resources to provide warmth and consistency in everyday schedules in order to foster resilience.



Resilience at an Early Age and Its Impact on Child Psychosocial Development

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Topic

Resilience

Introduction

Resilience is a process or phenomenon reflecting relatively positive adaptation despite experiences of significant risk or trauma. Resilience involves judgments about people's lives. It is never directly measured, but rather is inferred, based on knowledge of two conditions: (a) that a person is doing reasonably well; and (b) that this has happened in spite of significant adversity.¹⁻⁴

It must be emphasized that resilience is not a personal trait of the individual. Children can do well despite risk because of various assets – many external to their own personalities – such as supportiveness from parents, grandparents, or well-functioning, close-knit communities. In fact, it is prudent to avoid using the term resilient as an adjective (as in “resilient children”), as this implicitly suggests an innate personal capacity to evade risk. It is preferable to use terms such as “resilient adaptation” or “resilient pattern,” which carry no suggestions about who or what might be responsible for the child's competence.

Resilience is not an all-or-nothing phenomenon, nor is it fixed in time.^{2,5} Children can show major strengths in some areas (such as school readiness) but at the same time, have difficulties in other areas (such as interacting with others). Similarly, at-risk individuals might excel at a given point in time, but with continuing adversities – or without adequate supports to deal with them – they can falter, showing considerable deterioration.

Subject

Resilience research is highly relevant to those seeking to foster excellence in child development because (a) in today's world, many children face high-risk conditions; and (b) a substantial proportion show good social-emotional development. Understanding the antecedents of these “better than expected” trajectories is of obvious relevance for service-providers and policy-makers. In working with at-risk groups, it is far better to promote the development of resilient functioning early in the course of development, rather than to implement treatments to repair disorders once they have already crystallized. Knowledge about resilient processes in specific at-risk circumstances can be

critical in learning about the particular issues that most urgently warrant attention in the context of particular types of adversities.^{6,7}

Key Research Questions

Resilience researchers have examined diverse risk contexts, ranging from family poverty and community violence to parent mental illness and child maltreatment.⁵ Typically, the research context involves identifying a group of children facing a particular risk, identifying those with relatively positive outcomes and determining the types of factors that distinguish these youth from those who do more poorly. The key research question, therefore, is, “Why is it that some children in high-risk conditions do relatively well, whereas others falter?”

“Doing relatively well” is usually defined in terms of the degree to which children are able to do what society would normally expect of them at that developmental stage. For toddlers, for example, this would include behaviours reflecting a strong attachment to their mothers, and for five-year-olds, it would mean the capacity to interact well with age-mates and adults in the kindergarten setting. Again, with young children, it is often more appropriate to focus not only on how the children themselves are functioning, but equally if not more so, on the families’ capacities to foster and sustain their well-being. The toddler is obviously limited in her capacity to draw upon her innate strengths in coping with adversity; what is critical is the parent’s ability to shield her from major environmental pressures, and to provide the nurturance and support critical for the unfolding of effective long-term coping skills.

Key Research Results

There are many pathways to resilient adaptation, but a core theme transcending diverse risk conditions is the presence of a strong, supportive relationship with at least one adult.⁵ For children of a mentally ill parent, a close relationship with the other parent – or with a grandparent or other relative – can be extremely beneficial. Warm, supportive and consistent relationships outside the family can also be helpful, such as those with caregivers in child-care settings or teachers in schools. Of course, the salutary effects of any relationship depend on the degree of continuity and consistency that is sustained.

Children’s own strengths also, obviously, contribute to resilient adaptation. Positive trajectories are more likely among those at-risk youth with attributes such as high intelligence, easy-going temperament, charisma and social skills.⁸ What is critical to remember, though, is that many of these “personal strengths” themselves are vulnerable to assaults from the environment. To consider intelligence, for example, children growing up in interpersonally barren, neglectful conditions – such as those in Romanian orphanages – show significant impairments in intellectual development; these deficits are substantially reduced after a time of living in caring adoptive homes.⁹

Increasingly, resilience researchers are attending to the critical role of biology in resilience and vulnerability. Some children show greater physiological reactivity to stressors than others, as manifested, for example, in their levels of the stress hormone cortisol.¹⁰ Scientists have documented the critical role of emotion regulation – the ability

to modulate emotions in response to stressful situations – via indices such as heart rate.¹¹ In a related vein, there is accumulating evidence on contributions of genetic factors. To illustrate, among children who had experienced maltreatment, the likelihood of developing depression later in life was lower in the presence of a genotype conferring the efficient transport of serotonin.¹²

Implications

What are the implications of these findings for interventions and policies? First and foremost, there must be concerted efforts to foster optimal care-giving among parents of young children, to begin this work as early as possible, and to continue it as long as possible. Exemplary in this regard is the work of Olds and his colleagues, in which nurses visit the homes of at-risk expectant mothers and provide support through their pregnancies as well as their children's early years.¹³ For children in child-care settings, warmth and consistency from care-givers are essential, as is the support provided to mothers of these children.¹⁴

For children with biological vulnerabilities such as high stress-reactivity or less than average intelligence, support for their parents becomes critical. Changing a child's temperament is, obviously, difficult. What can be done is to ensure that mothers have sufficient resources to sustain the provision of warmth and consistency in everyday schedules needed by children with less easy-going temperaments.

The resources needed for effective care-giving include not only financial resources – money to provide food, shelter, education and health care – but also psychological ones. Chronic depression or anxiety seriously impairs any mother's abilities to take care of her child, regardless of her material resources, and we know that children of depressed mothers are at high risk for negative outcomes. If our ultimate goal is to maximize young children's well-being, therefore, we must give high priority to attending to their mothers' mental health and parenting needs.

Aside from strengthening relationships in families, it is also critical to strengthen networks in communities; this can help sustain gains derived from external interventions. In low-income communities, for example, once parents stop receiving supports from external service agencies, support from within the community can be critical in fostering continued well-being.⁶

Sometimes, particular risk processes can be relatively specific to – yet potent within – discrete settings, and concerted attention to the “context-specific” risks is also necessary. Examples include exposure to community violence in inner-city settings, and experiences of discrimination by ethnic minority youth. In addition to ensuring strong relationships with at least one care-giver, interventions must also attend to these unique risks.

In conclusion, resilience is a phenomenon representing positive adaptation despite risk. It is not a personal attribute of the child, nor is it “fixed” forever; in order to achieve and sustain resilient adaptation, children must receive supports from adults in their environments. In turn, this implies ensuring that their earliest and most primary care-

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givers, generally their mothers, have adequate resources to provide optimal care – not only financial resources, but psychological ones as well. From an intervention standpoint, the central tenet stemming from extant research is that resilience rests, most fundamentally, on strong relationships. The most expedient route to fostering resilient adaptation is therefore to ensure that children receive consistent care and support, as early as possible, from those who are primarily responsible for their care.

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Early Resilience and Its Developmental Consequences

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Topic

Resilience

Introduction

The ability of children to show healthy development despite facing many difficulties¹ is frequently labelled as resilience. While growing up, children encounter many challenges that must be overcome to achieve common markers of developmental success, including mental health, satisfactory social relationships and educational success. Although resilience is usually thought of as successful adaptation to extreme events such as maltreatment or poverty, it may also be involved in responses to the everyday social, physical and intellectual challenges that children face.² In the former case, it would be a characteristic that is only evident under conditions of major adversity, whereas in the latter, it would be evident in all stressful situations.

Children exposed to adversity have worse developmental outcomes. Children exposed to poverty are more likely to experience academic problems, including lower achievement test scores, more grade retentions and course failures than their more advantaged peers.³ Children raised by parents with psychiatric diagnoses have a high probability of developing mental-health problems themselves.⁴

Despite these disadvantages, most children living in very risky contexts are able to overcome these difficulties and achieve normal levels of developmental success. A growing body of research has begun to explore the lives of these so-called “resilient” children for whom successful outcomes have been reported. Rather than focusing on the deficiencies of high-risk children, these studies have placed more attention on identifying those factors that support their success. For children who succeed despite less than optimal conditions, the presence of protective or resilience factors may compensate for the risk factors in their lives.⁵

Subject

Identifying the sources of resilience in competent children is very important because efforts can then be made to increase the resilience of less competent children, especially those living in conditions of high stress. However, the identification of what constitutes resilience remains amorphous.¹ Is it something that is only identified after the fact, or can it be predicted from indices of previous developmental competence? The search for resilience began with a focus on child characteristics, but has been enlarged to include the

social, economic and political environment as well. If resilience is a contextual feature, such as having emotionally supportive parents, then only those children with supportive parents would show resilience. If resilience is an individual characteristic, then resilient children should do better in all circumstances. But this leads to the question of where individual resilience originates. It could be based on some biologically based characteristic of the child, such as emotional stability, or it could be developmentally based, where a secure early relationship with parents produced the later emotional stability. Finding answers to these questions would lead to different approaches to increasing the resilience of children.

Problems

A key issue in the study of resilience is to identify its basis. The study of resilience has evolved in step with an expanding understanding of the sources of human competence. As developmental psychology and developmental psychopathology have moved to increasingly complex understandings of psychological processes, any individual characteristic is considered in relation to experience in multiple social domains – family, neighbourhood, culture, school, peer group and historical epoch. Contextual approaches view resilience as a function of the family's and other aspects of the social environment's ability to buffer the effects of adverse circumstances. Important experiences are both historical and current in the life of the child. Developmental approaches view current adaptive capacities as a function of an individual's history of successful adaptations to stressful conditions.⁶ In some views, successful coping with earlier mild stressors can serve to inoculate children against the effects of later major stressors.⁷

Research Context

Research on resilience began with the study of children living in high-risk contexts, either in terms of disordered parenting or economic deprivation. Although most children in these studies showed deficits in developmental domains of mental health and intellectual functioning, there was a group of children who seemed impervious to such stressful circumstances.⁸ Initially, research on resilience utilized samples of children at risk to seek those who escape its effects. But increasingly, more representative samples have been used to determine if the same factors that allow children to escape the effects of adversity produce competence in more favourable circumstances. Although initially the source of resilience was judged to be a characteristic of the child, increasingly research has pointed to family and social factors as helping the child to offset environmental stress.

Key Research Questions

- a. Is resilience different from competence?
- b. Is resilience in the individual, the context or a combination of the two?
- c. Is resilience a general capacity, or are there specific resiliencies to specific adverse circumstances that may not generalize?

Recent Research Results

Is resilience different from competence?

Resilience researchers who are most concerned with understanding how individuals overcome adversity emphasize the definitional difference between resilience and

competence.⁹ But others describe competence and resilience as closely related sub-constructs within the broader construct of adaptation.² The study of competence and resilience are inextricably linked, with resilience focused more sharply on adaptation under extenuating circumstances of deprivation, trauma, disaster or other acute and chronic adversities.

Is resilience in the individual, the context or a combination of the two?

Children with higher levels of competence have better developmental outcomes under conditions of high stress, but also under lower levels of challenge.¹⁰ However, contextual factors play an equally large role in producing positive outcomes. Supportive families,⁶ accepting peer groups,¹¹ competent schools¹² and neighbourhood collective efficacy,¹³ not to mention more financial resources,¹⁴ all contribute to children's positive developmental outcomes. The case for individual resourcefulness is further weakened when high- and low-competent children being raised in high- and low-risk environments are compared. High-competent children raised in high-risk environments do worse than low-competent children raised in low-risk environments.¹⁵

Is resilience a general capacity, or are there specific resiliencies to specific adverse circumstances that may not generalize?

Resilience has come to be seen as a multidimensional construct.¹ Because it is usually studied with a specific at-risk population, for example maltreated children, children raised by psychotic parents or children raised in poverty, different processes have been found to lead to positive outcomes. Moreover, when children show resilience in one area of development, it may be at the cost of more problems in other areas. As an example, Luthar¹⁶ found that children who showed successful adaptation struggled with emotional problems such as depression.

Conclusions

Rather than focusing on improving a still unidentified construct of resilience in individuals, more energy should be devoted to studying social contexts that foster positive outcomes. Improving individual competence is an important strategy where social circumstance cannot be altered, but a greater proportion of competent outcomes would be achieved if efforts were made to change contextual factors rather than individual factors.

Studies of the effects of multiple environmental risks across a wide range of conditions have found the accumulation of social risks across the family, peer group, school and neighbourhood to have a consistent negative effect. The more risks, the worse the outcomes.

Single variables, such as income level and marital status on the family side, and gender, race, efficacy, mental health and achievement on the personal side, taken alone may have statistically significant effects on children's behaviour, but their effects are small in comparison with the accumulation of multiple negative influences that characterize high-risk groups. The overlap in children's outcomes is substantial for low-income vs. high-income families, families with one or two parents, boys vs. girls, blacks vs. whites, and

high-resourceful and low-resourceful youth. But the overlap is far less in comparisons between groups of children reared in conditions of high vs. low levels of multiple risks, where the effects of gender, race, resourcefulness, income and number of parents in the home are accumulated.

It must be noted that resilience is not the same as positive behaviour. In stressful circumstances with limited resources, one individual's gain must be at the expense of someone else's loss, a zero-sum game. In such situations, resilience may take the form of antisocial behaviour, such as resources gained by criminality in inner city environments.

It is unlikely that there is a universal protective factor for all children. The positive factors that promote competence may vary according to the specific age of the child and the developmental outcome being targeted. To truly appreciate the determinants of resilience requires paying attention to the broad constellation of ecological factors in which individuals and families are embedded.

Implications for the Policy and Services Perspectives

Understanding the origins of resilience is an important precursor of any successful intervention. Where resilience arises from family, school, peer group or community factors, interventions should take place in those settings. Unfortunately, most interventions in single domains have not produced major resistance to problematic outcomes. Children typically experience multiple risks in multiple social contexts and consequently, it is unlikely that a "magic bullet" for prevention or intervention will be found.¹⁷ Prevention and intervention efforts emerging from this realization utilize combinations of efforts to target multiple rather than single sources of resilience.¹⁸ The Fast Track Project to reduce conduct problems is one such multifaceted intervention.¹⁹ Increasingly, appreciation must be given to the multiple social subsystems that play important roles in producing or reducing social and academic competence.

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Resilience in Development: The Importance of Early Childhood

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Topic

Resilience

Introduction

Resilience, from the Latin *resilire* (to recoil or leap back), is a general concept related to positive adaptation in the context of challenge. In the physical sciences and engineering, resilience typically refers to the capacity to withstand stress or strain without breaking, or to recover original form, like a spring or rubber band. In the science of human development, resilience has broad and diverse meanings, including recovery from traumatic experiences, overcoming disadvantage to succeed in life, and withstanding stress to function well in the tasks of life.^{1,2} Essentially, resilience refers to patterns of positive adaptation or development manifested in the context of adverse experiences.

While people have been fascinated with stories of resilience for thousands of years, judging from the many ancient tales of individuals who triumph over adversity, the scientific study of resilience only began in the 1960s and 1970s.^{2,3-5} Nonetheless, great strides have been made in the first four decades of research and it is clear that early childhood is an important window of time for understanding and promoting resilience.² During these years, the roots of competence are established and many of the most important protective systems for human development emerge. Some children develop resilience through natural processes, while other children need help. These early years hold great promise for interventions to prevent and reduce risk, boost resources, promote competence and build a strong foundation for future development.

Subject

Understanding naturally occurring resilience provides important clues for policies and practices designed to promote healthier development in children threatened by adversity or disadvantage. It is also necessary to learn how to foster positive change, so that the odds for favourable development can be improved. Prevention and intervention studies are required to test the ideas coming from resilience research, to learn the best goals, methods and developmental timing for interventions, and also to learn which approaches work best for whom.⁴⁻¹²

Problems

To study resilience, one must define and operationalize it. This has proven to be challenging for several key reasons. First, resilience refers to a variety of phenomena, such as recovery after the loss of a parent, normalization of behaviour after a child is adopted from an institution, school success among children growing up in poverty or dangerous neighbourhoods, and mental health in children of mentally ill parents.^{1,3} Second, resilience is an inferential construct that involves human judgments about desirable and undesirable outcomes as well as definitions of threat or risk.^{3,4,8,13} Investigators must define the criteria for “doing OK in life” and also the standards and measures of adversity or risk confronting the child.⁸ A child who develops well may be viewed as adaptive or competent, but not necessarily as manifesting resilience, unless some explicit or implicit threshold of risk or adversity has been met. It is also clear that there are multiple criteria by which to judge success in life; adaptation (good or bad) is inherently multidimensional and multifaceted in nature. Thus, it is not surprising that definitions and measures have varied, greatly complicating comparisons across studies and the task of building a coherent body of knowledge about resilience in development.

Third, many processes at multiple levels of analysis are likely to be involved in human resilience.^{5,14} To understand resilience, one must understand the complex adaptation and development of living systems in context over time, from “neurons to neighbourhoods”¹⁵ and beyond. Nonetheless, findings from the first generation of resilience research were remarkably consistent, suggesting the influence of powerful but common adaptive processes.⁸

Research Context

Systematic research on resilience in childhood emerged from studies of vulnerability and risk in the search for the causes of mental illness.^{1,11,16} Investigators began to study children with elevated risk for problems, often due to mental illness or stress in the family, or social disadvantages and poverty. The goals of pioneering researchers, including Norman Garmezy, Lois Murphy, Michael Rutter, Arnold Sameroff, and Emmy Werner, required integrative perspectives and collaboration among developmental and clinical scientists. Such collaborations forged a new science of resilience in development, while at the same time energizing the rise of developmental psychopathology.^{5, 8, 17} The great insight of these pioneers was recognizing the potential of resilience research to inform practice and policies aimed at better development among high-risk children.

Key Research Questions

Developmental studies of resilience often address the following questions:

- What accounts for positive development or recovery among children who experience hazardous circumstances?
- What are the naturally occurring protective processes for human development?
- What are the most effective intervention strategies for fostering positive development among children with high potential risk for problems?

Although resilience researchers focus on positive outcomes and their causes, they also acknowledge the importance of understanding risks and threats to development and how to reduce or eliminate them.

Recent Research Results

There is exciting convergence in developmental research on competence, resilience, behavioural and emotional problems, brain development and prevention science, all underscoring the importance of early childhood for building protections into human development at multiple levels, within the child, the family, the community and their interactions.^{2,10,15,18} Problems in learning and self-control often begin in the preschool years and are related to the quality of available parenting.^{10,19-21} Effective preventive intervention programs during infancy and preschool years support parenting in multiple ways and provide enriched learning environments for children.² Early success in school – related to effective care, positive home-school connections and effective classroom practices – appears to be a key segue to resilience, particularly for very disadvantaged children.² Systems of care that focus on building competence and strengths in young children and their families, along with reducing risk and addressing problems early, are yielding promising successes.^{9,12,15,18}

A neurobiology of resilience is also beginning to emerge.^{14,22} New insights into brain development and plasticity, how stress interacts with development, and the interplay of genes and experience in shaping development promise to revolutionize the science of resilience and prevention.

Conclusion

Resilience research indicates that during the early childhood years, it is important for children to have good quality of care and opportunities for learning, adequate nutrition and community support for families, to facilitate positive development of cognitive, social and self-regulation skills. Young children with healthy attachment relationships and good internal adaptive resources are very likely to get off to a good start in life, well equipped with the human and social capital for success as they enter school and society. Such children typically manifest resilience in the face of adversity, as long as their fundamental protective skills and relationships continue to operate and develop. The greatest threats to young children occur when key protective systems for human development are harmed or disrupted. In early childhood, it is particularly important that children have the protections afforded by attachment bonds with competent and loving caregivers, the stimulation and nutrition required for healthy brain development, opportunities to learn and experience the pleasure of mastering new skills, and the limit-setting or structure needed to develop self-control.

Implications

Resilience research, studies of normal development and psychopathology and prevention science all highlight the importance of early childhood for establishing fundamental protections afforded children by positive relationships, healthy brain development, good self-regulation skills, community supports for families and learning opportunities. A resilience framework for systems of care has emerged, with an emphasis on building

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strengths and competence in children, their families, their relationships and the communities where they live.^{9,11} It is clear that many children in modern societies face multiple and accumulating risks that require multiple protective interventions and comprehensive efforts to prevent or ameliorate risk for children and their families. No child is invulnerable and, as risk levels rise, fewer children escape the developmental consequences of adversity. Early childhood is a crucial window of opportunity for families and societies to ensure that children have the resources and protections required to develop the adaptive tools and relationships they will need to engage the future well prepared.

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Resilience at an Early Age and Its Impact on Child Development: Comments on Luthar and Sameroff

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Topic

Resilience

Introduction

For several decades now, the study of resilience has held a prominent place in our efforts to understand the relations among adversity, development and adaptation.^{1,2} The papers in this collection emerge as the study of resilience enters a new and conflicted era. Above the din of critics who call for the resignation of resilience as a tautological, redundant and intellectually static concept,^{3,4} others, including these authors, point to the tremendous potential for resilience research to inform future practice and research across multiple levels of analysis.⁵⁻⁷

Luthar and Sameroff provide valuable and timely observations regarding the extant research on resilience and its applications for service-providers who are interested in fostering positive outcomes for all children. Both authors highlight the multiply determined, multidimensional nature of resilience as a concept that describes better-than-expected adaptation in contexts of adversity. I will review the core ideas put forth by these authors, offer suggestions to extend and refine these ideas, and provide broad suggestions for future research and practice.

Research and Conclusions

Sameroff's paper speaks to the need for improved clarity in how we conceptualize resilience. He identifies key areas of concern centering on the need to demonstrate that resilience is distinct from competence (i.e. positive adaptation in the absence of adversity exposure), that emerges out of transactions within and among different levels of analysis, and that it is a dynamic and multidimensional construct. The authors' attention to resilience as a developmental process and to the need for contextual considerations in how we define and assess resilience is well taken. As Luthar rightly observes, the key question for resilience researchers is to understand how it is "that some children in high-risk conditions do relatively well, whereas others falter."

A more complicated situation emerges when we recognize, as Sameroff has, that our definition of doing "relatively well" reflects culturally embedded notions of positive and negative adaptation.^{8,9} Indeed, both authors highlight the multidimensional and dynamic

nature of resilience. Luthar notes that children may demonstrate competence in one domain but not in another, or at one point in time, but not at another. Sameroff extends this to emphasize that behaviours considered adaptive in one sociocultural context may prove maladaptive in others. His argument is consistent with recent findings that demonstrate how specific factors and processes may operate differently as a function of risk exposure.¹⁰ However, his assertion that antisocial behaviour may reflect resilience in high-risk settings serves to negate the reality that positive adaptation is more than mere survival; a key aspect of resilience centers on positive engagement with the interpersonal world. With a growing recognition that resilience is a multidimensional process, attention must shift toward addressing the question of whether and how different aspects of positive adaptation (e.g. resilience, competence) relate to one another across time and context.¹¹

Just as resilience must be assessed with respect to particular cultural and contextual features, so, too, must current studies of resilience extend beyond traditional single-level analyses to address interactions and transactions within and among multiple developmental systems that shape pathways toward and away from competence in the face of adversity (i.e. resilience). To this end, Luthar highlights the growing awareness of biological influences on resilience. Her work echoes recent calls for greater attention to the biological correlates of or contributors to resilience.^{12,13} Beyond this, however, attention must be directed to transactions between biological and psychosocial influences on adaptation, as Luthar touched on in her mention of Caspi's research on gene-environment interactions.^{14,15}

Contemporary resilience theory and research has shifted away from the study of individual characteristics to focus on developmental processes that engender positive outcomes.¹⁶⁻¹⁸ To this end, both authors emphasize the conceptualization of resilience as a dynamic developmental process, rather than as a static trait. Luthar does this quite clearly in her endorsement of terms such as “resilient adaptation” or “resilient patterns,” rather than “resilient individuals.” Sameroff highlights a core assumption of a developmental process perspective in his assertion that contemporary adaptation can only be understood in consideration of both current and historical experiences. However, at other points, he seems to focus more on resilience as a characteristic or ability, rather than as a developmental process, as when he discusses the need to “increase the resilience of less competent children.” Together, these researchers, to somewhat varying degrees, support the assertion that resilience reflects the operation of normative adaptive processes that enable children to achieve positive outcomes despite exposure to incontrovertible adversity. The crux of this definition is that the very same processes that engender competence in favourable circumstance underlie resilience processes in adverse contexts. It is for this reason that studies of positive adaptation (and maladaptation) across multiple contexts are mutually informing and defining.

Implications for Policy and Services Perspectives

Although some have questioned the merit of resilience as a distinct developmental concept, the literature continues to demonstrate that resilience reflects a developmental process that is distinct from positive adjustment in the absence of adversity exposure (i.e.

competence).^{10,19} Moreover, recent efforts to identify transactions within and across multiple levels of analysis have revealed new and exciting sources of explanation in understanding resilience processes. As our understanding of resilience advances toward a more dynamic, developmental and transactional perspective, the implications for future research and practice are manifold.

These papers encourage attention to developmental, contextual and multilevel studies of resilience as a dynamic process. In this view, resilience lies neither in the individual, nor the environment, but in the transactions between them. As discussed by Gottlieb, this relational view of causality encourages attention to the transactions between and within developmental systems that either promote or undermine resilience processes.²⁰ To this end, the integrative framework of developmental psychopathology holds great promise for grounding future studies of resilience within an inherently multilevel view of development that can incorporate research within and across multiple psychosocial and biological systems.¹⁷ In addition to bridging research on resilience and psychopathology across multiple settings and systems, developmental psychopathology has particular utility for encouraging translational efforts between research and practice.^{21,22}

Resilience is a developmental process that reflects the normative operation of basic adaptational systems in the context of current or prior adversity.¹⁶ Therefore, efforts to foster positive adaptation for at-risk youth must move beyond traditional models of asset provision or risk reduction to scaffold and buffer core motivational, regulatory, biological and attachment systems that underlie both competent and pathological pathways.²³ The most effective intervention programs will reduce factors associated with disorder (i.e. risks), provide resources associated with positive adaptation (i.e. assets), *and* scaffold and support the operation of core adaptational systems through multi-faceted applications. Luthar's suggestion that successful interventions will strengthen core relational systems by targeting the quality and consistency of the early caregiving environment is but one example of such process-oriented interventions.

Resilience and the processes that engender it are not static. As noted by Sameroff, protective processes will vary in predictable ways across time and context. Therefore, interventions themselves must be dynamic, flexible and culturally specific to ensure that they are integrated into the structure of the target community. Effective applications of resilience research must begin at the level of the community, target multiple developmental systems and promote community participation and empowerment.^{5,24} Finally, there must be a reverse translation such that practice can inform resilience theory and research. Studies that demonstrate change in hypothesized causal processes as a function of intervention and corresponding changes in predicted outcomes provide convincing evidence for theories about developmental change and continuity.²¹ Time will tell if and how the study of resilience will negotiate the dual challenges of conceptual clarity and accessible applications. The papers reviewed here help guide us in responding to these challenges.

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