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Resilience and Mental Health

Challenges Across the Lifespan

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Preface

Humans are remarkably resilient in the face of crises, traumas, disabilities, attachment losses, and ongoing adversities. In fact, resilience to stress and trauma may be the norm rather than the exception. However, to date, most research in the field of traumatic stress has focused on neurobiological, psychological, and social factors associated with trauma-related psychopathology and deficits in psychosocial functioning. While much has been learned in these areas of research, particularly about post-traumatic stress disorder (PTSD), far less is known about resilience to stress and healthy adaptation to stress and trauma.

The study of resilience is enormously challenging. The first hurdle involves definition. Currently, there is no single agreed-upon definition of resilience in the clinical or scientific literature. In a review of the published literature on risk, vulnerability, resistance, and resilience, Layne and colleagues (2007) described the lack of precision and numerous terminological inconsistencies in the meanings of these concepts, and identified at least eight distinct meanings for the term "resilience." For example, definitions of resilience have ranged from symptom-free functioning following trauma exposure (Bonanno *et al.*, 2006) to positive adaptation despite adversity (Garmezy, 1993), and even to enhanced psychobiological regulation of stress/fear-related brain circuitry, neurotransmitters, and hormones (Charney, 2004). The American Psychological Association (2010) has defined resilience as "the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of threat."

Further complicating the study of resilience is the notion that resilience can be conceptualized as an *outcome* in the face of stress and trauma or as a *process* that mediates the response to stress and trauma. Examples of resilience as an outcome include symptom-free functioning (defined as "resistance" by some researchers); not meeting criteria for PTSD following traumatic exposure; developing symptoms of trauma-related psychopathology, but recovering from those symptoms (often called "recovery"); and functioning well in spite of trauma-related psychopathology (functional resilience). Clearly these outcome-related definitions of resilience differ markedly from one another.

Process-oriented definitions of resilience include cognitions, emotional reactions, and behaviors that are adaptive in response to stress and trauma. For example, active coping and seeking social support have been described as resilient processes that facilitate resistance to, or recovery from, traumatic stressors. Other processes shown to be adaptive in relation to stress and trauma include the capacity to generate positive emotions, to accept that which cannot be changed, and to reframe the negative into positive.

Resilience is multidimensional in nature. Consequently, people who are faced with adversity can exhibit competence in some domains but not others. For example, traumatized adults may demonstrate resilience in areas such as work but falter in other areas such as family relationships. Typically at-risk or resilient individuals display an unevenness of functioning across domains. As noted by Masten and colleagues (Chapter 7), it is unrealistic to expect that anyone, no matter how resilient, will consistently perform at a uniformly high or low level across all areas of their life. Consequently, some researchers define resilience as excellence in one salient domain with at least average adjustment in other domains.

In some cases resilience and related constructs have been viewed as enduring because they are believed to be present even when the individual is not challenged by stress. In other cases, factors associated with resilience have been referred to as risk-activated moderating factors because they only become fully activated when the individual is challenged. Masten offers the analogy of an automobile airbag that inflates during a collision but not during everyday driving. For example, some forms of social support, such as assistance by emergency personnel and social services, may only become activated in the immediate aftermath of a traumatic event.

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In addition to being multidimensional, resilience is dynamic rather than static. Resilience trajectories may be uneven, with some people demonstrating resilience at one age but not another, or in one circumstance but not another. Some researchers have conceptualized resilience as one of a set of possible trajectories following severe stress or trauma. For example, Norris and colleagues (2009) analyzed two population-based longitudinal datasets that were collected after the terror attacks of September 11, 2001 and the 1999 floods in Mexico and found five different symptom trajectories among study participants. They specifically differentiated what they called resilience (i.e., initial moderate or severe symptoms followed by a sharp decrease) from resistance (i.e., no symptoms or mild and stable symptoms) and recovery (i.e., initially moderate or severe symptoms followed by a gradual decrease).

Resilient processes are not strictly intrapsychic and biological; rather they reflect the transaction or interaction between the person and his or her environment. For example, stressful events are processed through perception and subjective appraisal, which, in turn, moderates impact. The subsequent response (e.g., a coping behavior) to the stressor is shaped and constrained by environmental (e.g., social supports) as well as personal (e.g., biological) factors and resources. The individual who adapts to stress does not do so in isolation but rather in the context of available resources, other human beings, families, specific cultures and religions, organizations, and communities and societies, all of which adapt to challenges as well.

Stresses and losses can hamper or reduce resources that would otherwise be employed to manage and recover from stressors. For example, death of a loved one can greatly constrain social and relational resources when those providing solace and support to others must also cope with his/her own grief and loss. Stress can also adversely affect sleep and wellness behaviors that are needed to restore biological, psychological, and functional capacities.

Readers should bear in mind that the type and degree of stress and trauma typically have a marked impact on resilience processes and outcomes. At the extreme end of stress and trauma, even the best trained elite athletes, professionals, and warriors have a limit beyond which they can no longer function adequately, at least for a period of time.

This edited textbook on resilience has brought together experts from a broad array of scientific fields whose research has focused on adaptive responses to stress. The chapters, which are organized into five sections, summarize the current literature on the adaptive responses to stress from various relevant fields and domains.

Section 1 introduces the reader to state of the art advances in theory and empirical research on pathways to resilience, approaching this discussion from multiple perspectives. Decades of research on mental disorders, psychosomatic disease, and abnormalities in social behavior have led to advances in our understanding of the biological, psychological, and social processes and mechanisms that are associated with enduring distress and malfunction in the face of stress and trauma. The ultimate value of the study of pathways to resilience is to develop universal, selective, and targeted programs to prevent damaging responses to stress and adversity in at-risk groups.

The pathways to resilience and positive outcomes after exposure to stress are multidimensional and multisystemic and typically require complex multivariate modeling. The study of human resilience also requires an interdisciplinary approach, which has been rare in this relatively young field. Nevertheless, the chapters in this section will help the reader to appreciate the state of the art advances in theory and empirical research pertaining to different perspectives of pathways to resilience, which is a good starting place toward the goal of developing a more paradigmatic and interdisciplinary approach. The chapters review the full range of salutogenic factors that moderate and mediate the relationship between exposure to acute stress, trauma, and chronic adversity and the multidimensional outcomes (biological, spiritual, social, behavioral, and cognitive). These include neurobehavioral and neurohormonal factors, social and interpersonal variables, spiritual practices, social cognition, emotion regulation strategies, and personality variables.

Section 2 examines developmental determinants of resilience across the lifespan, from infancy to old age. Although there are both conceptual differences and similarities in the concept of resilience across the lifespan, there is little research comparing responses to traumatic stress as a function of development. What information that does exist suggests that children cope as well as, if not better than, adults. Furthermore, factors such as attachment relationships, social support, religion, intelligence and problem-solving ability, and cognitive flexibility promote resilience in both children and adults.

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Scientists interested in human resilience are beginning to study much larger systems, at the level of society, culture, and government to enhance adaptive responses to traumas, such as natural disasters or pandemics, where many systems are involved that impact resilience in individuals, families, and communities. However, a great deal of work remains to fully understand how resilience can be facilitated throughout life. Further investigation is needed to determine the best methods for fostering resilience in children, adults, and the elderly. Resilience is multifaceted and the interplay needs to be better understood among a number of variables including type and severity of trauma, genetic predisposition, psychosocial context, personality, social support and relationships, family, community, and culture. Ultimately, the goal is to identify a personalized roadmap to help people of all ages to maintain and enhance resilience and experience personal growth in the face of the challenges of daily life, stressful life events, and major traumas.

Section 3 describes the impact of social context, in the form of family, community and society, on adaptation to adversity. Since the earliest days of research on human resilience, it has been understood that individuals are embedded in social networks that can augment or undermine their capacity to thrive in the face of adversity. The resilience of children, for example, depends highly on the strength of their bonds with parents and others who nurture their development. Ecologies of human behavior are often portrayed as nested systems that exert increasingly complex layers of influence (Bronfenbrenner, 1977). *Microsystems* are the primary settings, such as families, schools, and places of work; *mesosystems* are intersecting microsystems; and *macrosystems* are the matrices of rules, laws, and cultural norms that shape the nature of society's political, economic, legal, and educational systems.

Together capturing such an ecological perspective on resilience, the three chapters in Section 3 summarize current knowledge about the influences of family, community, and culture on individual well-being. Beyond this, these chapters explore the resilience of families and societies themselves. The family, for example, is more than just a resource for individual resilience but is itself a functional unit that may exhibit resilience as a whole. Varied and evolving family structures and life courses create challenges and opportunities for resilience.

In the face of collective stressors, such as disasters, survivors are connected and dependent upon one another's coping strategies, and individual resilience, as well as family resilience, is inextricably linked to the community's ability to prepare for, respond to, and adapt to adverse conditions. Furthermore, just as individuals and families are embedded in communities, so too are communities embedded in larger systems of influence. Among the most important of these is culture. Recovery from trauma involves the reconstruction of meaning, and constructs of meaning are inseparable from culture. Culture exerts a strong influence on the multitude of protective factors discussed throughout this text, including personality, optimism, cognitive styles and attributions, worldview, social support, beliefs about illness and health, and healing practices.

The chapters in Section 4 focus on challenges to resilience when dealing with specific adversities, including loss and grief, disasters, rape and assault, combat, terrorism, poverty, and chronic mental illness. Previous sections of this book have addressed general cross-cutting attributes of resilience that would be applicable to almost any situation. In addition, however, there are specific skill sets that may be useful in some contexts, but not in others. In this section, the reader learns how different challenges demand more specific manifestations of resilience. In short, the different challenges posed by bereavement, disasters, rape, combat, terrorism, poverty, and chronic mental illness appear to require different, and more context-specific, expressions of resilience. For example, as with service men and women returning from Iraq and Afghanistan, what constitutes adaptive and resilient behavior in a war zone may be dysfunctional or disruptive in a post-deployment, marital, or domestic context. Resilience following bereavement or rape may also be different, in some respects, than resilience in coping with poverty or chronic mental illness.

In Section 4 the reader learns that even in the context of painful loss, the bereaved retain a capacity for generative experiences, positive emotions, and the capacity to derive comfort from others while overcoming loss. Section 4 also considers that resilience, in the face of disasters, is expressed at the individual, family, and community level, and that resilience evaluations need to accommodate these various contexts, ideally synergistically and comprehensively.

The challenges associated with coming to terms with sexual assault are enormous. Section 4 describes the advantages of using approach-oriented coping strategies for this group of survivors, and points out that these strategies are at the core of early interventions designed to promote recovery and resilience.

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Terrorism presents yet another special challenge to the modern world. Resilient responses or variables that indicate successful navigation of these challenges are discussed in the context of *conservation of resources and engagement theory*, where resilience is characterized by "engagement" (i.e., a persistent, pervasive, and positive affect-motivational state), "dedication" (i.e., a commitment to key life tasks), "absorption" (i.e., the sense of full involvement and excitement over life tasks), and "vigor" (i.e., high levels of energy and mental resilience when meeting life challenge). Resilience in the face of combat and operational experiences during war also requires a unique vantage point and conceptual framework, where operational resilience (e.g., successful performance, mission readiness) needs to be distinguished from psychological resilience.

Resilience in the context of poverty, which is an enduring source of adversity, powerlessness, stress, and limited opportunities for personal and social advancement is both complex and understudied. In Section 4, the reader learns that poverty should be studied at the individual and community level. For individuals, resilience is understood as self-regulation and adaptive flexibility in the service of goal-directed behavior. At the community level, this translates into social cohesion and collective efficacy.

Finally, Section 4 discusses methods that may be used to mobilize resilience and optimize functional capacity among individuals with chronic mental illness. Using a recovery model, which eschews the traditional psychopathology model, the focus of these methods is on improving well-being through empowerment and enhancement of autonomous function.

As these chapters attest, although resilience consists of general attributes that serve individuals well in almost any context, there are also very specific expressions of resilience that are context dependent and that may require different sets of adaptive capacity. Mental toughening and combat readiness for a marine may require different biopsychosocial capabilities than the coping strategies needed by a recently raped individual, than acquisition of social capital by an impoverished inner city youth, or than the capacity to generate positive emotions by a homeless individual with chronic schizophrenia.

The final section brings together what is currently known about enhancing resilience and includes chapters specifically devoted to children, military members, and disaster workers. While much is known about cognitive styles, emotions, and behaviors of children and adults who adapt well in the face of adversity, to date, there have been relatively few methodologically rigorous investigations of actual strategies and techniques designed to enhance resilience.

Some resilience-enhancing interventions have been developed to strengthen coping skills in stress- and trauma-exposed individuals, both with and without psychiatric disorders. Others focus on preventing the development of stress- and trauma-related morbidity. While most resilience-enhancing programs have been designed for specific at-risk populations (e.g., firefighters, police, military personnel), some are more general in nature. Other relevant interventions include those that have not specifically been designed to enhance resilience but that enhance aspects of functioning, such as optimism and social support, which are known to be associated with resilience.

Children, in general, are remarkably resilient. Their resilience develops as a set of abilities and processes including positive attachment, the capacity to attract social support, self-motivating rewards critical for mastery and self-efficacy, effective modulation of the stress response, and successful monitoring and regulation of emotions. These abilities and processes form the foundation for resilience in adulthood. As with adults, stress tends to enhance resilience so long as the stress is manageable and not overwhelming. Interventions designed to enhance resilience must address capacities and skills that are appropriate to the physical, emotional, and cognitive maturity of the child.

The specific approach to resilience training often depends on anticipated stressors. Consequently, resilience training for a prospective fireman will differ from training for a prospective humanitarian worker. For example, the US Army Battlemind Training System, a mental health resilience-building program, is specifically designed to prepare service members for the mental challenges of training, operations, combat, and transitioning home. It addresses military-specific concerns about relevance, practicality, utility, user acceptability, and stigma.

When evaluating public health practices to enhance disaster resilience, it is important to adopt an ecological framework that addresses interdependencies between people and the contexts in which they respond. Therefore, it is useful to consider a wide range of interventions including engineering design; safety codes and standards; legislation; land use management; interagency planning and coordination; public education; leadership training; worker training; medical,

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emotional, and cognitive readiness; regulation of operational tempo and degree of worker exposure; as well as close monitoring of medical and psychological status of those who have been exposed to the disaster.

In future efforts to develop effective interventions to enhance resilience, it will be important to address a number of critical questions. Is the intervention designed to be administered prior to stress and trauma exposure as a means to prevent trauma-related morbidity or is it designed to enhance resilience in survivors of trauma? Is the intervention designed for a specific population and a specific type of stressor? What skills and strengths will be targeted for development by the intervention? Is there sufficient scientific evidence to support the association between these skills and resilience, and how will mastery of these skills be assessed? Will the intervention be most effective using a classroom-based model or a scenario-based model? What are the most appropriate control groups? What are the most relevant outcome measures for the intervention? These are just some of the critical issues that will need to be addressed in order to further advance interventions designed to enhance resilience.

In summary, each of the five sections in this edited textbook examine adaptive responses to trauma, spanning from factors that contribute to and promote resilience, to populations and societal systems in which resilience is employed, to specific applications and contexts of resilience, and interventions designed to better enhance resilience. The reader is reminded that this textbook aims to review relevant concepts pertaining to adaptive responses to trauma, but that just as resilience continually changes and adapts for each individual and context, the study of resilience is continually changing and improving as scientists and researchers learn more.

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