Resilience: A Selected Bibliography

Resilience: General and Review Articles


Many people are exposed to loss or potentially traumatic events at some point in their lives, and yet they continue to have positive emotional experiences and show only minor and transient disruptions in their ability to function. Unfortunately, because much of psychology's knowledge about how adults cope with loss or trauma has come from individuals who sought treatment or exhibited great distress, loss and trauma theorists have often viewed this type of resilience as either rare or pathological. The author challenges these assumptions by reviewing evidence that resilience represents a distinct trajectory from the process of recovery, that resilience in the face of loss or potential trauma is more common than is often believed, and that there are multiple and sometimes unexpected pathways to resilience. (PsycINFO Database Record (c) 2012 APA, all rights reserved). (journal abstract)


Background: Research on resilience in the aftermath of potentially traumatic life events (PTE) is still evolving. For decades, researchers have documented resilience in children exposed to corrosive early environments, such as poverty or chronic maltreatment. Relatively more recently, the study of resilience has migrated to the investigation of isolated PTE in adults. Methods: In this article, we first consider some of the key differences in the conceptualization of resilience following chronic adversity versus resilience following single-incident traumas, and then describe some of the misunderstandings that have developed about these constructs. To organize our discussion, we introduce the terms emergent resilience and minimal-impact resilience to represent trajectories of positive adjustment in these two domains, respectively. Results: We focused in particular on minimal-impact resilience, and reviewed recent advances in statistical modeling of latent trajectories that have informed the most recent research on minimal-impact resilience in both children and adults and the variables that predict it, including demographic variables, exposure, past and current stressors, resources, personality, positive emotion, coping and appraisal, and flexibility in coping and emotion regulation. Conclusions: The research on minimal-impact resilience is nascent. Further research is warranted with implications for a multiple levels of analysis approach to elucidate the processes that may mitigate or modify the impact of a PTE at different developmental stages. (PsycINFO Database Record (c) 2013 APA, all rights reserved). (journal abstract)

The relationship between disease and good health has received relatively little attention in mental health. Resilience can be viewed as a defence mechanism, which enables people to thrive in the face of adversity and improving resilience may be an important target for treatment and prophylaxis. Though resilience is a widely-used concept, studies vary substantially in their definition, and measurement. Above all, there is no common underlying theoretical construct to this very heterogeneous research which makes the evaluation and comparison of findings extremely difficult. Furthermore, the varying multi-disciplinary approaches preclude meta-analysis, so that clarification of research in this area must proceed firstly by conceptual unification. We attempt to collate and classify the available research around a multi-level biopsychosocial model, theoretically and semiotically comparable to that used in describing the complex chain of events related to host resistance in infectious disease. Using this underlying construct we attempt to reorganize current knowledge around a unitary concept in order to clarify and indicate potential intervention points for increasing resilience and positive mental health. (PsycINFO Database Record (c) 2012 APA, all rights reserved). (journal abstract)


The responsibilities of the Department of Homeland Security (DHS) range from preventing foreign and domestic terrorist attacks; securing the nation's borders; safeguarding transportation systems; responding to natural disasters; nuclear detection; and more. Created in 2002 from a merger that rapidly incorporated parts of eight cabinet departments and 22 government agencies, DHS has struggled to integrate its numerous components and their unique cultures. While DHS is very accomplished at performing its many missions, the nature of the DHS work environment is inherently stressful, and employees suffer from low morale. A Ready and Resilient Workforce for the Department of Homeland Security: Protecting America's Front Line reviews current workforce resilience efforts, identifies gaps, and provides recommendations for a 5-year strategy to improve DHSTogether, the current DHS workforce resilience program. This report stresses the importance of strong leadership, communication, measurement, and evaluation in the organization and recommends content for a 5-year plan that will promote centralized strategic direction and resource investment to improve readiness and resilience at the department. While all DHS component agencies share a common mission, each have distinct roles with different stressors attached, making implementation of an organization-wide resilience or wellness program difficult. The recommendations of A Ready and Resilient Workforce for the Department of Homeland Security outline how DHS can focus its efforts on
creating a common culture of workforce readiness and resilience, while recognizing the distinct, proud, celebrated cultures of its component agencies.

This article outlines the U.S. Army's effort to empirically validate and assess the Comprehensive Soldier Fitness (CSF) program. The empirical assessment includes four major components. First, the CSF scientific staff is currently conducting a longitudinal study to determine if the Master Resilience Training program and the Comprehensive Resilience Modules lead to lasting resilience development in soldiers. Second, the CSF program has partnered with other researchers to conduct a series of longitudinal studies examining the link between physiological, neurobiological, and psychological resilience factors. Third, the CSF program is also incorporating institutional-level data to determine if its material influences health, behavioral, and career outcomes. Fourth, group randomized trials are being conducted to ensure that resilience training incorporated under the CSF program is effective with soldiers. A specific rationale and methodologies are discussed. (PsycINFO Database Record (c) 2013 APA, all rights reserved). (journal abstract)

The resilience construct has received a great deal of attention as a result of the long wars in Iraq and Afghanistan. The discourse about resilience, especially the promise of promoting it and mitigating risk for serious post-traumatic negative outcomes among service members and veterans, is hopeful and encouraging. Remarkably, most service members exposed to horrific war trauma are not incapacitated by the experience. Yet, resilience is elusive and fleeting for many veterans of war. In this paper, I address some of the complexities about resilience in the context of exposure to war stressors and I offer some assumptions and heuristics that stem from my involvement in the dialogue about resilience and from experiences helping prevent post-traumatic stress disorder among active-duty service members with military trauma. My goal is to use my observations and applied experiences as an instructive context to raise critical questions for the field about resilience in the face of traumatic life-events.

Resiliency and resilience theory is presented as three waves of resiliency inquiry. The identification of resilient qualities was the first wave characterized through phenomenological identification of developmental assets and protective factors. The second wave described resilience as a disruptive and reintegrative process for accessing resilient qualities. The third wave exemplified the postmodern and multidisciplinary view of resilience, which is the force that drives a person to grow through adversity and disruptions. Application of resilience using an educational and practical framework provides a means for connecting with and
nurturing a client's resilience Practical paradigms of resiliency that empower client control and choice are suggested. (PsycINFO Database Record (c) 2013 APA, all rights reserved). (journal abstract)

Russo, S. J., et al. (2012). "Neurobiology of resilience." Nat Neurosci 15(11): 1475-1484. Humans exhibit a remarkable degree of resilience in the face of extreme stress, with most resisting the development of neuropsychiatric disorders. Over the past 5 years, there has been increasing interest in the active, adaptive coping mechanisms of resilience; however, in humans, most published work focuses on correlative neuroendocrine markers that are associated with a resilient phenotype. In this review, we highlight a growing literature in rodents that is starting to complement the human work by identifying the active behavioral, neural, molecular and hormonal basis of resilience. The therapeutic implications of these findings are important and can pave the way for an innovative approach to drug development for a range of stress-related syndromes.


"Humans are remarkably resilient in the face of crises, traumas, disabilities, attachment losses and ongoing adversities. 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. Far less is known about resilience to stress and healthy adaptation to stress and trauma. This book brings together experts from a broad array of scientific fields whose research has focused on adaptive responses to stress. Each of the five sections in the book examines the relevant concepts, 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. This will be suitable for clinicians and researchers who are interested in resilience across the lifespan and in response to a wide variety of stressors"--Provided by publisher.

In this paper, inspired by the plenary panel at the 2013 meeting of the International Society for Traumatic Stress Studies, Dr. Steven Southwick (chair) and multidisciplinary panelists Drs. George Bonanno, Ann Masten, Catherine Panter-Brick, and Rachel Yehuda tackle some of the most pressing current questions in the field of resilience research including: (1) how do we define resilience, (2) what are the most important determinants of resilience, (3) how are new technologies informing the science of resilience, and (4) what are the most effective ways to enhance resilience? These multidisciplinary experts provide insight into these difficult questions, and although each of the panelists had a slightly different definition of resilience, most of the proposed definitions
The Resilience Project included a concept of healthy, adaptive, or integrated positive functioning over the passage of time in the aftermath of adversity. The panelists agreed that resilience is a complex construct and it may be defined differently in the context of individuals, families, organizations, societies, and cultures. With regard to the determinants of resilience, there was a consensus that the empirical study of this construct needs to be approached from a multiple level of analysis perspective that includes genetic, epigenetic, developmental, demographic, cultural, economic, and social variables. The empirical study of determinates of resilience will inform efforts made at fostering resilience, with the recognition that resilience may be enhanced on numerous levels (e.g., individual, family, community, culture). (PsycINFO Database Record (c) 2015 APA, all rights reserved). (journal abstract)


"Many of us will be struck by one or more major traumas sometime in our lives. Perhaps you have been a victim of sexual abuse, domestic violence or assault. Perhaps you were involved in a serious car accident. Perhaps you are a combat veteran. Maybe you were on the beach in Thailand during a tsunami, or in New Orleans during Hurricane Katrina. Or maybe, you are among the millions who have suffered a debilitating disease, lost a loved one or lost your job. This inspiring book identifies ten key ways to weather and bounce back from stress and trauma. Incorporating the latest scientific research and dozens of interviews with trauma survivors, it provides a practical guide to building emotional, mental and physical resilience. Written by experts in post-traumatic stress, this book provides a vital and successful roadmap for overcoming the adversities we all face at some point in our lives"--


Resilience is the ability to adapt successfully in the face of stress and adversity. Stressful life events, trauma, and chronic adversity can have a substantial impact on brain function and structure, and can result in the development of posttraumatic stress disorder (PTSD), depression and other psychiatric disorders. However, most individuals do not develop such illnesses after experiencing stressful life events, and are thus thought to be resilient. Resilience as successful adaptation relies on effective responses to environmental challenges and ultimate resistance to the deleterious effects of stress, therefore a greater understanding of the factors that promote such effects is of great relevance. This review focuses on recent findings regarding genetic, epigenetic, developmental, psychosocial, and neurochemical factors that are considered essential contributors to the development of resilience. Neural circuits and pathways involved in mediating resilience are also discussed. The growing understanding of resilience factors will hopefully lead to the development of new pharmacological and psychological interventions for enhancing resilience and mitigating the untoward consequences.

Whether a community is in the path of a natural disaster, the target of an act of terror, or simply striving to meet the demands of increasingly dense urban populations, a community resilience paradigm can help communities and individuals not just to mitigate damage and heal, but to thrive. This article discusses experiences from recent, large-scale disasters to explore how community resilience might serve as a sustainable paradigm for organizing public health and medical preparedness, response, and recovery. By strengthening health systems, meeting the needs of vulnerable populations, and promoting organizational competence, social connectedness, and psychological health, community resilience encourages actions that build preparedness, promote strong day-to-day systems, and address the underlying social determinants of health. Thus, community resilience resonates with a wide array of stakeholders, particularly those whose work routinely addresses health, wellness, or societal well-being.

Neurobiology of Resilience


Much of the research on the neurobiology of human anxiety disorders has focused on psychophysiological abnormalities in patients with anxiety disorders. While this line of research is obviously important, more investigation is needed to elucidate the psychobiology of resilience to extreme stress. Study of the psychobiology of resilience has the potential to identify neurochemical, neuropeptide, and hormonal mediators of vulnerability and resilience to severe stress. In addition, the relevance of neural mechanisms of reward and motivation, fear responsiveness, and social behavior to character traits associated with risk and resistance to anxiety disorders may be clarified. These areas of investigation should lead to improved methods of diagnosis, novel approaches to prevention, and new targets for antianxiety drug discovery.


Experiential factors shape the neural circuits underlying social and emotional behavior from the prenatal period to the end of life. These factors include both incidental influences, such as early adversity, and intentional influences that can be produced in humans through specific interventions designed to promote prosocial behavior and well-being. Here we review important extant evidence in animal models and humans. Although the precise mechanisms of plasticity are still not fully understood, moderate to severe stress appears to increase the growth of several sectors of the amygdala, whereas the effects in the hippocampus and prefrontal cortex tend to be opposite. Structural and functional changes in the brain have been observed with cognitive therapy and certain forms of meditation and lead to the suggestion that well-being and other prosocial characteristics might be enhanced through training.


Typical therapies try to reverse pathogenic mechanisms. Here, we describe treatment effects achieved by enhancing depression-causing mechanisms in ventral tegmental area (VTA) dopamine (DA) neurons. In a social defeat stress model of depression, depressed (susceptible) mice display hyperactivity of VTA DA neurons, caused by an up-regulated hyperpolarization-activated current (I(h)). Mice resilient to social defeat stress, however, exhibit stable normal firing of these neurons. Unexpectedly, resilient mice had an even larger I(h), which was observed in parallel with increased potassium (K(+)) channel currents. Experimentally further enhancing Ih or optogenetically increasing the hyperactivity of VTA DA neurons in susceptible mice completely reversed depression-related behaviors, an antidepressant effect achieved through resilience-like, projection-specific homeostatic plasticity. These results indicate a potential therapeutic path of promoting natural resilience for depression treatment.


Human responses to stress and trauma vary widely. Some people develop trauma-related psychological disorders, such as posttraumatic stress disorder (PTSD) and depression; others develop mild to moderate psychological symptoms that resolve rapidly; still others report no new psychological symptoms in response to traumatic stress. Individual variability in how animals and humans respond to stress and trauma depends on numerous genetic, developmental, cognitive, psychological, and neurobiological risk and protective factors.

This review discusses neurobiological and psychosocial factors associated with stress-induced depression and compares these factors with those believed to characterize stress resilience. Neurobiological factors that are discussed and contrasted include serotonin, the 5-HT1A receptor, polymorphisms of the 5-HT transporter gene, norepinephrine, alpha-2 adrenergic receptors, neuropeptide Y, polymorphisms of the alpha-2 adrenergic gene, dopamine, corticotropin-releasing hormone (CRH), dehydroepiandrosterone (DHEA), cortisol, and CRH receptors. These factors are described in the context of brain regions believed to be involved in stress, depression, and resilience to stress. Psychosocial factors associated with depression and/or stress resilience include positive emotions and optimism, humor, cognitive flexibility, cognitive explanatory style and reappraisal, acceptance, religion/spirituality, altruism, social support, role models, coping style, exercise, capacity to recover from negative events, and stress inoculation. The review concludes with potential psychological, social, spiritual, and neurobiological approaches to enhancing stress resilience, decreasing the likelihood of developing stress-induced depression/anxiety, and treating stress-induced psychopathology. (PsycINFO Database Record (c) 2015 APA, all rights reserved). (journal abstract)

Measuring Resilience


Resilience may be viewed as a measure of stress coping ability and, as such, could be an important target of treatment in anxiety, depression, and stress reactions. We describe a new rating scale to assess resilience. The Connor-Davidson Resilience scale (CD-RISC) comprises of 25 items, each rated on a 5-point scale (0-4), with higher scores reflecting greater resilience. The scale was administered to subjects in the following groups: community sample, primary care outpatients, general psychiatric outpatients, clinical trial of generalized anxiety disorder, and two clinical trials of PTSD. The reliability, validity, and factor analytic structure of the scale were evaluated, and reference scores for study samples were calculated. Sensitivity to treatment effects was examined in subjects from the PTSD clinical trials. The scale demonstrated good psychometric properties and factor analysis yielded five factors. A repeated measures ANOVA showed that an increase in CD-RISC score was associated with greater improvement during treatment. Improvement in CD-RISC score was noted in proportion to overall clinical global improvement, with greatest increase noted in subjects with the highest global improvement and deterioration in CD-RISC score in those with minimal or no global improvement. The CD-RISC has sound psychometric properties and distinguishes between those with greater and lesser resilience. The scale demonstrates that resilience is modifiable and can improve with treatment, with greater improvement corresponding to higher levels of global improvement.

Resources that protect against the development of psychiatric disturbances are reported to be a significant force behind healthy adjustment to life stresses, rather than the absence of risk factors. In this paper a new scale for measuring the presence of protective resources that promote adult resilience is validated. The preliminary version of the scale consisted of 45 items covering five dimensions: personal competence, social competence, family coherence, social support and personal structure. The Resilience Scale for Adults (RSA), the Sense of Coherence scale (SOC) and the Hopkins Symptom Checklist (HSCL) were given to 59 patients once, and to 276 normal controls twice, separated by four months. The factor structure was replicated. The respective dimensions had Cronbach's alphas of 0.90, 0.83, 0.87, 0.83 and 0.67, and four-month test-retest correlations of 0.79, 0.84, 0.77, 0.69 and 0.74. Construct validity was supported by positive correlations with SOC and negative correlations with HSCL. The RSA differentiated between patients and healthy control subjects. Discriminant validity was indicated by differential positive correlations between RSA subscales and SOC. The RSA-scale might be used as a valid and reliable measurement in health and clinical psychology to assess the presence of protective factors important to regain and maintain mental health.


This article describes the development of an inventory to assess key psychosocial risk and resilience factors for military personnel and veterans deployed to war zones or other hazardous environments. Part 1 details the definition and operationalization of the 14 constructs: 2 predeployment factors (e.g., childhood family environment), 10 deployment or war-zone factors (e.g., concerns about life and family disruptions, deployment social support, combat experiences), and 2 postdeployment factors (e.g., postdeployment stressors). In Parts 2 and 3, data from 2 separate national samples of Gulf War veterans were used to refine item sets and establish estimates of internal consistency reliability. Part 4 employed a 3rd new national sample of Gulf War veterans to document evidence for validity in terms of relations with mental and physical health. (PsycINFO Database Record (c) 2014 APA, all rights reserved). (journal abstract)


Health care providers offer an ideal setting to study the effectiveness of resilient behavior. The notion of a resilient organization is an emerging concept for understanding and coping with the modern-day pace of change and associated work stress. Resilience is the ability of an individual or organization to expeditiously design and implement positive adaptive behaviors matched to the immediate situation, while enduring minimal stress. This paper reports on the
development and testing of several scales designed to measure aspects of resilience in the health care provider industry. Six factors explaining over half the instrument variance were found, including: goal-directed solution seeking; avoidance; critical understanding; role dependence; source reliance; and resource access. Results are discussed and future research is outlined.


Objectives: Develop an empirically grounded measure that can be used to assess family and individual resilience in a population of older adults (aged 50–99).

Methods: Cross-sectional, self-report data from 1006 older adults were analyzed in two steps. The total sample was split into two subsamples and the first step identified the underlying latent structure through principal component exploratory factor analysis (EFA). The second step utilized the second half of the sample to validate the derived latent structure through confirmatory factor analysis (CFA).

Results: EFA produced an eight-factor structure that appeared clinically relevant for measuring the multidimensional nature of resilience. Factors included self-efficacy, access to social support network, optimism, perceived economic and social resources, spirituality and religiosity, relational accord, emotional expression and communication, and emotional regulation. CFA confirmed the eight-factor structure previously achieved with covariance between each of the factors. Based on these analyses we developed the multidimensional individual and interpersonal resilience measure, a broad assessment of resilience for older adults. Conclusion: This study highlights the multidimensional nature of resilience and introduces an individual and interpersonal resilience measure developed for older adults which is grounded in the individual and family resilience literature. (PsycINFO Database Record (c) 2015 APA, all rights reserved). (journal abstract)


Despite rising interest on the concept of societal resilience and its measurement, little has been done to provide operational indicators. Importantly, an evidence-based approach to assess the suitability of indicators remains unexplored. Furthermore few approaches that exist do not investigate indicators of psychological resilience, which is emerging as an important component of societal resilience to disasters. Disasters are events which overwhelm local capacities, often producing human losses, injury and damage to the affected communities. As climate hazards and disasters are likely to increase in the coming decades, strengthening the capacity of societies to withstand these shocks and recover quickly is vital. In this review, we search the Web of Knowledge to summarize the evidence on indicators of psychological resilience to disasters and provided a qualitative assessment of six selected studies. We find that an evidence-based approach using features from systematic reviews is useful to compile, select and assess the evidence and elucidate robust indicators. We conclude that strong social support received after a disaster is associated with an
increased psychological resilience whereas a female gender is connected with a decrease in the likelihood of a resilient outcome. These results are consistent across disaster settings and cultures and are representative of approximately 13 million disaster-exposed civilians of adult age. An approach such as this that collects and evaluates evidence will allow indicators of resilience to be much more revealing and useful in the future. They will provide a robust basis to prioritize indicators to act upon through intersectoral policies and post-disaster public health interventions.


Resilience may be an important component of the prevention of neuropsychiatric disease. Resilience has proved to be quantifiable by scales such as the Connor-Davidson Resilience Scale (CD-RISC). Here, we introduce a two-item version of this scale, the CD-RISC2. We hypothesize that this shortened version of the scale has internal consistency, test-retest reliability, convergent validity, and divergent validity as well as significant correlation with the full scale. Additionally, we hypothesize that the CD-RISC2 can be used to assess pharmacological modification of resilience. We test these hypotheses by utilizing data from treatment trials of post-traumatic stress disorder, major depression, and generalized anxiety disorder with setraline, mirtazapine, fluoxetine, paroxetine, venlafaxine XR, and kava as well as data from the general population, psychiatric outpatients, and family medicine clinic patients.


The Deployment Risk and Resilience Inventory (DRRI) is a widely used instrument for assessing deployment-related risk and resilience factors among war veterans. A revision of this instrument was recently undertaken to enhance the DRRI’s applicability across a variety of deployment-related circumstances and military subgroups. The resulting suite of 17 distinct DRRI-2 scales is the product of a multiyear psychometric endeavor that involved (a) focus groups with Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) veterans to inform an assessment of the content validity of original DRRI measures, (b) examination of item and scale characteristics of revised scales in a national sample of 469 OEF/OIF veterans, and (c) administration of refined scales to a second national sample of 1,046 OEF/OIF veterans to confirm their psychometric quality. Both classical test theory and item response theory analytical strategies were applied to inform major revisions, which included updating the coverage of warfare-related stressors, expanding the assessment of family factors throughout the deployment cycle, and shortening scales. Finalized DRRI-2 scales demonstrated strong internal consistency reliability and criterion-related validity. The DRRI-2 can be applied to examine the role that psychosocial factors play in post-deployment health and inform interventions aimed at reducing risk and
enhancing resilience among war veterans. (PsycINFO Database Record (c) 2014 APA, all rights reserved). (journal abstract)

Vogt, D. S., et al. (2008). "Validation of scales from the Deployment Risk and Resilience Inventory in a sample of operation Iraqi Freedom veterans." Assessment 15(4): 391-403. The Deployment Risk and Resilience Inventory (DRRI) is a suite of scales that can be used to assess deployment-related factors implicated in the health and well-being of military veterans. Although initial evidence for the reliability and validity of DRRI scales based on Gulf War veteran samples is encouraging, evidence with respect to a more contemporary cohort of Operation Iraqi Freedom (OIF) veterans is not available. Therefore, the primary goal of the present study was to validate scales from the DRRI in a large sample of OIF army personnel diversified in occupational and demographic characteristics. In general, results supported the use of these DRRI scales in this population. Internal consistency reliability estimates were quite strong. Additionally, support was obtained for criterion-related validity, as demonstrated by associations with mental and physical health measures, and discriminative validity, as demonstrated by differences between key military subgroups. (PsycINFO Database Record (c) 2012 APA, all rights reserved). (journal abstract)


BACKGROUND: The evaluation of interventions and policies designed to promote resilience, and research to understand the determinants and associations, require reliable and valid measures to ensure data quality. This paper systematically reviews the psychometric rigour of resilience measurement scales developed for use in general and clinical populations. METHODS: Eight electronic abstract databases and the internet were searched and reference lists of all identified papers were hand searched. The focus was to identify peer reviewed journal articles where resilience was a key focus and/or is assessed. Two authors independently extracted data and performed a quality assessment of the scale psychometric properties. RESULTS: Nineteen resilience measures were reviewed; four of these were refinements of the original measure. All the measures had some missing information regarding the psychometric properties. Overall, the Connor-Davidson Resilience Scale, the Resilience Scale for Adults and the Brief Resilience Scale received the best psychometric ratings. The conceptual and theoretical adequacy of a number of the scales was questionable. CONCLUSION: We found no current 'gold standard' amongst 15 measures of resilience. A number of the scales are in the early stages of development, and all require further validation work. Given increasing interest in resilience from major international funders, key policy makers and practice, researchers are urged to report relevant validation statistics when using the measures.
Hardiness


Alcohol abuse is a growing problem in the military, and a costly one. The present study evaluates the potential role of psychological hardiness, an individual resilience resource, to stress-related problem drinking in a military population. We assess the association of psychological hardiness and avoidance coping style with alcohol use patterns in a large national sample of Norwegian military defense personnel. Results show that low hardiness and high avoidance coping are significant predictors of alcohol abuse. Also, the challenge facet of hardiness predicts risk of alcohol abuse among respondents with recent deployment experience, and this effect is greater for those with harsh deployment experiences. Older defense workers are also at higher risk, suggesting cumulative occupational stress may take a toll. This research indicates that hardiness and avoidance coping measures may serve as useful adjunct screening tools for alcohol abuse in the military. (PsycINFO Database Record (c) 2014 APA, all rights reserved). (journal abstract)


To perform effectively in complex mission environments, security personnel and leaders must be flexible and adaptable in responding to rapidly changing conditions. Psychological hardiness marks resilient people who maintain their health and performance despite stressful situations. The present study evaluates psychological hardiness at entry to West Point military academy as a predictor of leader performance and adaptability over time. Predictors also included Scholastic Aptitude Test (SAT) scores, and a composite indicator of leader potential (Whole Candidate Score) taken from admissions records. Using the Pulakos adaptability taxonomy as a guide, adaptability performance items were taken from a survey of graduates given 3 years after graduation. Also, military leadership grades as West Point seniors provided an index of traditional military performance. Hierarchical regression analyses showed that Whole Candidate Scores predict military leader performance at West Point, but not leader adaptability after graduation. However, hardiness predicts leader performance at West Point, and also leader adaptability (self- and supervisor ratings) after graduation. SAT scores and the challenge facet of hardiness are negative predictors of leader performance at West Point. Results indicate that while the traditional measures Whole Candidate Score predicts leader performance in the stable, highly regulated environment of West Point, it does not predict leader adaptability and performance in the uncertain environment of real-world operations. In contrast, psychological hardiness (commitment and control facets) measured as academy freshmen predicts leader adaptability in
Psychological hardiness appears to be a promising factor in promoting the development of adaptability. (PsycINFO Database Record (c) 2013 APA, all rights reserved). (journal abstract)


The U.S. Military Academy has historically used an academically weighted composite of aptitude, leadership, and physical ability indices for selection of candidates and to predict their performance at the Academy. Researchers at West Point have begun to investigate the incremental contribution of a variety of less traditional nonaptitude or noncognitive factors in predicting performance. Particular focus has centered on hardiness and grit because they have been shown to predict persistence through Cadet Basic Training (CBT) and achievement in the first year at the Academy. In the current investigation, we further examined the predictive validity of grit and hardiness, and their subfacets, on retention and performance through the full 4-year West Point program with data from 1,558 cadets, comprising the West Point classes of 2009 and 2010. Results of regression analyses indicate that whereas grit interest and hardiness commitment were the sole predictors of attrition from CBT, only grit effort predicted persistence across the remaining 4 year period. College Entrance Exam Rank (CEER), a traditional measure of academic success, did not predict persistence. In terms of performance, grit interest, and hardiness control added to CEER in the prediction of 4-year academic performance. Although CEER continued to be the best predictor of military performance, grit effort and hardiness commitment were also important contributors. Finally, grit effort also added to the Athletic Activities Score and CEER in predicting physical performance. These results indicate that the noncognitive factors grit and hardiness are important predictors of success in military officer candidates. We discuss the implication of our findings for selection and prediction of performance of military environments. (PsycINFO Database Record (c) 2014 APA, all rights reserved). (journal abstract)


This chapter elaborates on stressful circumstances as ubiquitous experiences in living. To have a good life, therefore, it is essential to be able to perceive the stresses accurately (rather than deny and avoid them) and be able to do the hard work of turning them from potential disasters into growth opportunities. This is the direction of a meaningful, fulfilling life. What is needed to bring this about is existential courage. The theorizing and research concerning personality hardiness supports it as an expression of existential courage. (PsycINFO Database Record (c) 2013 APA, all rights reserved). (chapter)

Resilience Factors
Despite the widely accepted belief that meaning making is essential for mental health following adversity, the available research continues to provide mixed findings: meaning making is sometimes evident, sometimes not, and more frequently than we would expect associated with poor health outcomes. The papers that comprise this special issue of Memory put flesh to those bones by approaching the question from a narrative memory perspective. Meaning making, these studies demonstrate, is a multi-faceted phenomenon and whether it is necessary or adaptive depends on which particular form of meaning making is considered and on the context and timing in which it occurs. To situate these insights in a broader framework I consider parallels with the emergent literature on regulatory flexibility and briefly review recent research and theory on that construct as it has been applied in the literatures on coping and emotion regulation. Finally, I close by suggesting a basic framework, informed by the flexibility construct, that might guide future research on meaning making.

People respond to stressful events in different ways, depending on the event and on the regulatory strategies they choose. Coping and emotion regulation theorists have proposed dynamic models in which these two factors, the person and the situation, interact over time to inform adaptation. In practice, however, researchers have tended to assume that particular regulatory strategies are consistently beneficial or maladaptive. We label this assumption the fallacy of uniform efficacy and contrast it with findings from a number of related literatures that have suggested the emergence of a broader but as yet poorly defined construct that we refer to as regulatory flexibility. In this review, we articulate this broader construct and define both its features and limitations. Specifically, we propose a heuristic individual differences framework and review research on three sequential components of flexibility for which propensities and abilities vary: sensitivity to context, availability of a diverse repertoire of regulatory strategies, and responsiveness to feedback. We consider the methodological limitations of research on each component, review questions that future research on flexibility might address, and consider how the components might relate to each other and to broader conceptualizations about stability and change across persons and situations. (PsycINFO Database Record (c) 2013 APA, all rights reserved).

Many of the most wonderful moments in life are infused with positive emotions. We may feel joy playing with children; love sharing with family members; and
awe in the presence of natural beauty. During these moments, we feel a subjective sense of pleasure. Positive emotions feel good. But, beyond just feeling good, do positive emotions serve any function for us in either the short or long term? Across the past decade, questions such as these have led to an explosion of research and significant advances in our understanding of positive emotions. In this chapter, we present the broaden-and-build theory of positive emotions as a framework for addressing these questions and understanding the nature, origins, and consequences of positive emotions. Next, we review evidence supporting the first part of the theory—the broaden effect—with a particular focus on attention and cognitive flexibility. Then we review evidence supporting the second part of the theory—the build effect—which has implications for lifespan development. Taken together, this work underscores the role of positive emotions in generating long-term resources such as well-being and resilience. We consider possible mechanisms underlying the broaden and build effects and provide evidence for the undo effect of positive emotions. Finally, we conclude with directions for future research. (PsycINFO Database Record (c) 2015 APA, all rights reserved).


Expatriate humanitarian aid workers are embedded in global crises, exposing them to traumatic and occupational stress and putting them at risk for job burnout. Aid workers (N = 111) from an international faith-based agency completed an interview assessing perceived social support, support from their organisation, support from God, and job burnout. It was hypothesised that the three types of support would be significantly related to each of the three components of burnout as measured by the Maslach Burnout Inventory. The burnout subscales and the support measurements were orthogonalised to facilitate a hierarchical canonical analysis. When controlling for the effects of age and gender, perceived social support contributed significant unique variance to both emotional exhaustion and personal accomplishment; whereas organisational support contributed significantly to emotional exhaustion and depersonalisation. God support demonstrated a complex relationship with burnout, as the interaction between age and God support was significant with depersonalisation. (PsycINFO Database Record (c) 2012 APA, all rights reserved).


Expatriate humanitarian aid workers are often exposed to traumatic events and human suffering in the context of their deployments. Internal resources, such as having recourse to a transcendent spiritual framework, may play an important part in creating a meaningful perspective on the work and developing coping strategies to overcome challenging experiences. Aid workers from agencies based in North America and Europe participated in a longitudinal study of stress and mental
health between 2005 and 2009 (Lopes Cardozo et al., 2012). Participants completed assessments of spiritual transcendence, trauma exposure, psychiatric distress, and posttraumatic life changes at predeployment (n = 212), postdeployment (n = 170), and a 3- to 6-month follow-up assessment (n = 154). Latent class growth analysis indicated 3 distinct trajectories of spiritual changes across the sample: (1) a group with high spiritual transcendence at predeployment with small, but significant, decreases over time; (2) a group with moderate and stable spiritual transcendence scores; and (3) a group with low and slightly decreasing spiritual transcendence scores over the study period. Participants who reported a religious affiliation were more likely to be in the high spiritual transcendence group, and different trajectories were not associated with likelihood of psychiatric distress at postdeployment or follow-up. However, those reporting higher spiritual transcendence were more likely to report positive life changes following their deployments. Findings suggest that spiritual transcendence was relatively stable in this sample, and that aid workers with greater spiritual transcendence may be more oriented toward personal growth after trauma exposure in their work. (PsycINFO Database Record (c) 2015 APA, all rights reserved). (journal abstract)


Spirituality is an important aspect of human life and often provides a foundational framework for an individual or a community to conceptualize human existence. Spirituality and religion can contribute to the development of resilience after a traumatic event by offering resources to encourage thriving, meaning making, and coping with life's varying circumstances. In this chapter, key terms will first be defined, including the distinction between spirituality and religion. The basic human need for meaning and coherence and its relationship to spirituality will be discussed. The chapter then highlights general positive effects of religion and spirituality. Specifically, responses in the aftermath of trauma and tragedy from the context of spirituality and religion are described across a few types of traumatic exposure: abuse and interpersonal violence, cancer, and combat exposure. Spirituality is a dynamic process with inward and outward foci, and the chapter provides a framework of spiritual development as a useful lens to understand the human experience. Key areas of empirical research are considered within the perspective of this developmental framework, including religious coping, the importance of the religio-cultural context, the reality of spiritual crisis, and potential for posttraumatic growth and transformation. (PsycINFO Database Record (c) 2014 APA, all rights reserved). (chapter)


The field of emotion regulation has now come of age. However, enthusiasm for the topic continues to outstrip conceptual clarity. In this article, I review the state
of the field. I do this by asking—and attempting to succinctly answer—10 fundamental questions concerning emotion regulation, ranging from what emotion regulation is, to why it matters, to how we can change it. I conclude by considering some of the challenges that confront this rapidly growing field. (PsycINFO Database Record (c) 2013 APA, all rights reserved). (journal abstract)


This activity allows students to reenact a classic social psychological experiment on the cognitive effects of positive emotions. Students attempt to solve a puzzle that requires flexible, creative thinking while experiencing either neutral or positive emotions, then discuss how their emotions influenced their problem-solving strategies. (PsycINFO Database Record (c) 2013 APA, all rights reserved). (chapter)


In 3 studies, the authors investigated the functional role of psychological resilience and positive emotions in the stress process. Studies 1a and 1b explored naturally occurring daily stressors. Study 2 examined data from a sample of recently bereaved widows. Across studies, multilevel random coefficient modeling analyses revealed that the occurrence of daily positive emotions serves to moderate stress reactivity and mediate stress recovery. Findings also indicated that differences in psychological resilience accounted for meaningful variation in daily emotional responses to stress. Higher levels of trait resilience predicted a weaker association between positive and negative emotions, particularly on days characterized by heightened stress. Finally, findings indicated that over time, the experience of positive emotions functions to assist high-resilient individuals in their ability to recover effectively from daily stress. Implications for research into protective factors that serve to inhibit the scope, severity, and diffusion of daily stressors in later adulthood are discussed.


The study used a daily process design to examine the role of psychological resilience and positive emotions in the day-to-day experience of pain catastrophizing. A sample of 95 men and women with chronic pain completed initial assessments of neuroticism, psychological resilience, and demographic data, and then completed short diaries regarding pain intensity, pain catastrophizing, and positive and negative emotions every day for 14 consecutive days. Multilevel modeling analyses indicated that independent of level of neuroticism, negative emotions, pain intensity, income, and age, high-resilient individuals reported greater positive emotions and exhibited lower day-to-day pain catastrophizing compared with low-resilient individuals. Mediation analyses
revealed that psychologically resilient individuals rebound from daily pain catastrophizing through experiences of positive emotion. Implications for research on psychological resilience, pain catastrophizing, and positive emotions are discussed.

Ong, B. N., et al. (2014). "Exploring the relationship between multi-morbidity, resilience and social connectedness across the lifecourse." Health (London) 18(3): 302-318. Multi-morbidity is receiving considerable attention in public policy, health and social care. From the perspective of the individual, multi-morbidity is a more complex experience than solely having a clinical diagnosis. In this article, we will argue that understanding multi-morbidity can be facilitated by considering the relationship between adversity (in this case multi-morbidity), resilience and social connectedness within a life course framework. This provides an approach that can capture the dynamics of social relationships, social connectedness and the fluctuations in the experience of multi-morbidity. We draw on a qualitative study of 17 people who have multiple conditions, but consider themselves as being able to maintain a sense of identity and self over time and in the face of adversity. From their accounts, a more varied picture emerges of living with multi-morbidity. This then depicts a more realistic representation of how each person shapes their multi-morbidity and resilient responses within their own social context, which can help to formulate more effective ways of supporting them.

This article explores how religion, as a meaning system, influences coping with adversity. First, a model emphasizing the role of meaning making in coping is presented. Next, religion as a meaning system is defined, and theory and research on the role of religion in the coping process are summarized. Results from the author's study of 169 bereaved college students are then presented to illustrate some of the pathways through which religious meaning can influence the coping process in making meaning following loss. Findings indicate that associations between religion and adjustment vary across time since loss, and that these associations are mediated by meaning-making coping. Finally, implications for individual and societal well-being and suggestions for future research are discussed. (PsycINFO Database Record (c) 2013 APA, all rights reserved). (journal abstract)

OBJECTIVES: To determine whether tango dancing is as effective as mindfulness meditation in reducing symptoms of psychological stress, anxiety and depression, and in promoting well-being. DESIGN: This study employed analysis of covariance (ANCOVA) and multiple regression analysis. PARTICIPANTS: Ninety-seven people with self-declared depression were randomised into tango dance or mindfulness meditation classes, or to
control/waiting-list. SETTING: classes were conducted in a venue suitable for both activities in the metropolitan area of Sydney, Australia. INTERVENTIONS: Participants completed six-week programmes (1(1/2)h/week of tango or meditation). The outcome measures were assessed at pre-test and post-test. MAIN OUTCOME MEASURES: Depression, Anxiety and Stress Scale; The Self Esteem Scale; Satisfaction with Life Scale, and Mindful Attention Awareness Scale. RESULTS: Sixty-six participants completed the program and were included in the statistical analysis. Depression levels were significantly reduced in the tango (effect size d=0.50, p=.010), and meditation groups (effect size d=0.54, p=.025), relative to waiting-list controls. Stress levels were significantly reduced only in the tango group (effect size d=0.45, p=.022). Attending tango classes was a significant predictor for the increased levels of mindfulness R(2)=.10, adjusted R(2)=.07, F (2,59)=3.42, p=.039. CONCLUSION: Mindfulness-meditation and tango dance could be effective complementary adjuncts for the treatment of depression and/or inclusion in stress management programmes. Subsequent trials are called to explore the therapeutic mechanisms involved.


Guatemala and Kenya are both countries that have recently experienced political violence in the context of long histories of colonialization, oppression and poverty. The current study examines focus group responses of indigenous faith-based relief providers in Guatemala and Kenya describing how they utilized religion to cope with their own experience of political violence as well as to cope with stress related to providing relief services to others. In an effort to study both emic and etic dimensions of religious coping, the study also analyzes these responses within the framework of Pargament and colleagues' (1998; 2000) religious coping constructs to determine responses that are consistent with findings across other cultures (etic) and to identify and describe responses that are culturally specific to Guatemala and Kenya (emic). Guatemalan and Kenyan themes consistent with North American literature were: Religious Helping, Seeking Spiritual Support, Benevolent Religious Reappraisal, Spiritual Connections and Collaborative Religious Coping. Themes unique to Guatemala and Kenya included Acceptance and Engagement of Suffering, Cosmic Balance, Living Better, Prayer, Human Responsibility, Communal Spiritual Traditions, and Finding Solidarity Through Shared Experience. Finally, this article examines emic and etic responses within the context of literature on African and Central American theologies. (PsycINFO Database Record (c) 2012 APA, all rights reserved). (journal abstract)


On the basis of the stress and coping literature, the authors examined the diverse coping strategies used by expatriate managers in response to the problems
encountered while on international assignments. It was hypothesized that although problem-focused coping strategies may be more effective than emotion-focused coping strategies in affecting cross-cultural adjustment and intention to remain on the international assignment, the relationship is moderated by contextual factors such as hierarchical level in the organization, time on the assignment, and cultural distance. Coded semistructured interview responses from 116 German expatriates on assignment in either Japan or the United States were analyzed with moderated regression analyses. The results suggest that the effectiveness of problem-focused coping strategies in predicting cross-cultural adjustment is moderated by cultural distance and position level but not by time on the assignment. The use of problem-focused coping strategies was not related to expatriates' intention to remain on the assignment. (PsycINFO Database Record (c) 2012 APA, all rights reserved). (journal abstract)


BACKGROUND: War-related traumata in childhood and young-adulthood may have long-lasting negative effects on mental health. The focus of recent research has shifted to examine positive adaption despite traumatic experiences, i.e. resilience. We investigated personal and environmental factors associated with resilience in a sample of elderly Austrians (N = 293) who reported traumatic experiences in early life during World War II and subsequent occupation (1945-1955). METHODS: After reviewing different concepts of resilience, we analysed our data in a 3-phased approach: Following previous research approaches, we first investigated correlates of PTSD and non-PTSD. Secondly, we compared a PTSD positive sample (sub-threshold and full PTSD, n = 42) with a matched control sample regarding correlates of resilience and psychometrically assessed resilience (CD-RISC). Thirdly, we examined factors of resilience, discriminating between psychologically healthy participants who were exposed to a specific environmental stressor (having lived in the Soviet zone of occupation during 1945-1955) from those who were not. RESULTS: A smaller number of life-time traumata (OR = 0.73) and a medium level of education (OR = 2.46) were associated with better outcome. Matched PTSD and non-PTSD participants differed in psychometrically assessed resilience mainly in aspects that were directly related to symptoms of PTSD. Psychologically healthy participants with an environmental stressor in the past were characterized by a challenge-oriented and humorous attitude towards stress. CONCLUSIONS: Our results show no clear picture of factors constituting resilience. Instead, most aspects of resilience rather appeared to be concomitants or consequences of PTSD and non-PTSD. However, special attention should be placed on a challenge-oriented and humorous attitude towards stress in future definitions of resilience.

Resilience and PTSD

Based on the available literature, this review article investigates the issue of resilience in relation to trauma and posttraumatic stress disorder. Resilient coping to extreme stress and trauma is a multifaceted phenomena characterized as a complex repertoire of behavioral tendencies. An integrative Person × Situation model is developed based on the literature that specifies the nature of interactions among five classes of variables: (a) personality, (b) affect regulation, (c) coping, (d) ego defenses, and (e) the utilization and mobilization of protective factors and resources to aid coping. (PsycINFO Database Record (c) 2012 APA, all rights reserved). (journal abstract)


Neuroimaging studies have demonstrated reduced hippocampal volume in trauma-exposed individuals without posttraumatic stress disorder (PTSD). However, the implications of such a deficit in this non-clinical population are still unclear. Animal and human models of PTSD suggest that hippocampal deficit may result in impaired learning and use of associations between contextual information and aversive events. Previous study has shown that individuals with PTSD have a selective impairment in reversing the negative outcome of context-related information. The aim of this study was to test whether non-PTSD individuals who are repeatedly exposed to traumatic events display similar impairment. To that end, we compared the performance of active-duty firefighters who are frequently exposed to traumatic events as part of their occupational routine and civilian matched-controls with no history of trauma-exposure. We used a novel cue-context reversal paradigm, which separately evaluates reversal of negative and positive outcomes of cue and context-related information. As predicted, we found that while both trauma-exposed firefighters and unexposed matched-controls were able to acquire and retain stimulus-outcome associations, firefighters struggled to learn that a previously negative context is later associated with a positive outcome. This impairment did not correlate with levels of PTSD, anxiety or depressive symptoms. The results suggest that similar to individuals with PTSD, highly exposed individuals fail to associate traumatic outcomes with their appropriate context. This impairment may reflect a possible hidden price of repeated traumatic exposure, which is not necessarily associated with PTSD diagnosis, and may affect the way highly exposed individuals interpret and react to their environment.


OBJECTIVE: We conducted a systematic review of the literature to explore the longitudinal course of PTSD in DSM-5-defined trauma exposed populations to identify the course of illness and recovery for individuals and populations experiencing PTSD. METHODS: We reviewed the published literature from
January 1, 1998 to December 31, 2010 for longitudinal studies of directly exposed trauma populations in order to: (1) review rates of PTSD in the first year after a traumatic event; (2) examine potential types of proposed DSM-5 direct trauma exposure (intentional and non-intentional); and (3) identify the clinical course of PTSD (early onset, later onset, chronicity, remission, and resilience). Of the 2537 identified articles, 58 articles representing 35 unique subject populations met the proposed DSM-5 criteria for experiencing a traumatic event, and assessed PTSD at two or more time points within 12 months of the traumatic event. RESULTS: The mean prevalence of PTSD across all studies decreases from 28.8% (range =3.1-87.5%) at 1 month to 17.0% (range =0.6-43.8%) at 12 months. However, when traumatic events are classified into intentional and non-intentional, the median prevalences trend down for the non-intentional trauma exposed populations, while the median prevalences in the intentional trauma category steadily increase from 11.8% to 23.3%. Across five studies with sufficient data, 37.1% of those exposed to intentional trauma develop PTSD. Among those with PTSD, about one third (34.8%) remit after 3 months. Nearly 40% of those with PTSD (39.1%) have a chronic course, and only a very small fraction (3.5%) of new PTSD cases appears after three months. CONCLUSIONS: Understanding the trajectories of PTSD over time, and how it may vary by type of traumatic event (intentional vs. non-intentional) will assist public health planning and treatment.


BACKGROUND: Posttraumatic growth (PTG) is increasingly recognized as an important psychosocial phenomenon, but few studies have evaluated the longitudinal course of PTG. This study identified courses of PTG over a 2-year period in a contemporary, nationally representative sample of U.S. military veterans, and examined sociodemographic, military, trauma, medical, and psychosocial predictors of PTG course. METHODS: Data were based on a Web-based survey of a nationally representative sample of 1,838 U.S. veterans who reported at least one potentially traumatic event and provided data at two time points (October-December 2011 and September-October 2013). RESULTS: Five different courses of PTG were identified-Consistently Low (33.6%), Moderately Declining (19.4%), Increasing PTG (16.8%), Dramatically Declining (15.7%), and Consistently High (14.5%). More than half (59.4%) of veterans who reported at least "moderate" PTG maintained that level of PTG 2 years later. Posttraumatic stress disorder symptoms, medical conditions, purpose in life, altruism, gratitude, religiosity, and an active reading lifestyle predicted maintenance or increase in PTG. CONCLUSIONS: PTG has a heterogeneous course and is not only common, but can persist over time especially in the presence of posttraumatic stress and certain psychosocial factors. Clinicians and researchers should consider the personal growth that can result from trauma and help trauma survivors find ways to maintain this growth over time.

Although documentation that war inflicts psychological casualties dates back to the American Civil War and earlier, most research began after the Vietnam conflict, when studies focused on post-traumatic stress disorder (PTSD). With ongoing conflicts in Iraq and Afghanistan, there has been significant research to illuminate the epidemiology of war-related psychological casualties. Significant findings include an appreciation for the role combat plays in the development of mental disorders, including PTSD and traumatic brain injury (TBI). Recent research has endeavoured to understand and improve psychological resilience to temper potentially adverse mental health effects of military service in the theatre of combat operations. Over 2 million US service members have now deployed and returned over 3 million times to the Iraq and Afghanistan conflicts. Mental health providers in the Departments of Defense and Veterans Affairs healthcare systems have consequently observed steep increases in mental health service use among these personnel. The Departments have responded aggressively to bolster staffing levels, increase capacity, improve available services, and anticipate future needs. Scientists and clinicians continue efforts to understand the determinants, prevention, recognition, and treatment of combat-related mental disorders.


Here we outline a translational research agenda for studies of resilience, defined as the process of adapting well in the face of adversity or trauma. We argue that an individual differences approach to the study of resilience, in which the full range of behavioral and biological responses to stress exposure is examined can be applied across human samples (e.g., people who have developed psychopathology versus those who have not; people who have been exposed to trauma versus those who have not) and even, in some cases, across species. We delineate important psychological resilience-related factors including positive affectivity and optimism, cognitive flexibility, coping, social support, emotion regulation, and mastery. Key brain regions associated with stress-related psychopathology have been identified with animal models of fear (e.g., extinction and fear conditioning; memory reconsolidation) and we describe how these regions can be studied in humans using neuroimaging technology. Finally, we cite recent research identifying neuroendocrine markers of resilience and recovery in humans (e.g., neuropeptide Y [NPY], dehydroepiandrosterone [DHEA]) that can also be measured, in some cases, in other species. That exposure to adversity or trauma does not necessarily lead to impairment and the development of psychopathology in all people is an important observation. Understanding why this is so will provide clues for the development of therapeutic interventions for those people who do develop stress-related psychopathology, or even for the prevention of adverse outcomes.
**Resilience and Children**


BACKGROUND: Through a process of probabilistic epigenesis, child maltreatment progressively contributes to compromised adaptation on a variety of developmental domains central to successful adjustment. These developmental failures pose significant risk for the emergence of psychopathology across the life course. In addition to the psychological consequences of maltreatment, a growing body of research has documented the deleterious effects of abuse and neglect on biological processes. Nonetheless, not all maltreated children develop maladaptively. Indeed, some percentage of maltreated children develop in a resilient fashion despite the significant adversity and stress they experience.

METHODS: The literature on the determinants of resilience in maltreated children is selectively reviewed and criteria for the inclusion of the studies are delineated.

RESULTS: The majority of the research on the contributors to resilient functioning has focused on a single level of analysis and on psychosocial processes. Multilevel investigations have begun to appear, resulting in several studies on the processes to resilient functioning that integrate biological/genetic and psychological domains.

CONCLUSIONS: Much additional research on the determinants of resilient functioning must be completed before we possess adequate knowledge based on a multiple levels of analysis approach that is commensurate with the complexity inherent in this dynamic developmental process. Suggestions for future research on the development of resilient functioning in maltreated children are proffered and intervention implications are discussed.


Describes Project Competence (preliminary findings presented by the 1st and 3rd authors, 1984), with particular attention to the methodology and strategies for data analysis. The 10-yr program has been directed toward manifestations of competence and incompetence in children considered to be at risk for psychopathology on the basis of maternal diagnosis (schizophrenia, affective disorder, or personality disorder) or manifest disturbance in the child (externalizing, internalizing, or hyperactive behaviors). Data for the present study are from 3 cohorts of children (N = 261) exposed to different types of stressors: stressful life events, congenital heart disease, or mainstreaming. The dependent variables were primarily those of social competence as indexed by peers and of
laboratory measures of attentional functioning. It is hypothesized that the competence level of a child, even if at risk, might serve as a protective factor against the expression of behavior disorder. The authors present a 3-model approach to stress resistance in a multivariate framework—the compensatory, challenge, and protective factor models; these are illustrated by selected data. Although the study of the etiology, symptom expression, course, and treatment of childhood disorders will remain central, the present authors maintain that this more traditional orientation should be complemented by a new look that emphasizes those adaptive and resilient individual and familial attributes whose neglect may have caused predictions of disorder to go awry. (35 ref) (PsycINFO Database Record (c) 2012 APA, all rights reserved)


Background: It is a universal finding that there is huge heterogeneity in people’s responses to all kinds of stress and adversity. Resilience is an interactive phenomenon that is inferred from findings indicating that some individuals have a relatively good outcome despite having experienced serious adversities. Methods: Resilience can only be inferred if there has been testing of environmental mediation of risks and quantification of the degree of risk. The use of ‘natural experiments’ to test environmental mediation is briefly discussed. The literature is then reviewed on features associated with resilience in terms of (a) those that are neutral or risky in the absence of the risk experience (such as adoption); (b) brief exposure to risks and inoculation effects; (c) mental features (such as planning, self-regulation or a sense of personal agency); (d) features that foster those mental features; (e) turning point effects; (f) gene-environment interactions; (g) social relationships and promotive effects; and (h) the biology of resilience. Results: Clinical implications are considered with respect to (a) conceptual implications; (b) prevention; and (c) treatment. Conclusion: Resilience findings do not translate into a clear programme of prevention and treatment, but they do provide numerous leads that focus on the dynamic view of what may be involved in overcoming seriously adverse experiences. (PsycINFO Database Record (c) 2013 APA, all rights reserved). (journal abstract)


BACKGROUND: With growing interest in resilience among mental health care providers globally, there is a need for a simple way to consider the complex interactions that predict adaptive coping when there is exposure to high levels of adversity such as family violence, mental illness of a child or caregiver, natural disasters, social marginalization, or political conflict. METHODS: This article presents diagnostic criteria for assessing childhood resilience in a way that is sensitive to the systemic factors that influence a child's wellbeing. The most important characteristics of children who cope well under adversity and avoid problems like depression, PTSD, and delinquency are highlighted. RESULTS: A
multidimensional assessment of resilience is presented that examines, first, the severity, chronicity, ecological level, children's attributions of causality, and cultural and contextual relevance of experiences of adversity. Second, promotive and protective factors related to resilience are assessed with sensitivity to the differential impact these have on outcomes depending on a child's level of exposure to adversity. These factors include individual qualities like temperament, personality, and cognitions, as well as contextual dimensions of positive functioning related to the available and accessibility of resources, their strategic use, positive reinforcement by a child's significant others, and the adaptive capacity of the environment itself. Third, an assessment of resilience includes temporal and cultural factors that increase or decrease the influence of protective factors. A decision tree for the diagnosis of resilience is presented, followed by a case study and diagnosis of a 15-year-old boy who required treatment for a number of mental health challenges. CONCLUSIONS: The diagnostic criteria for assessing resilience and its application to clinical practice demonstrate the potential usefulness of a systemic approach to understanding resilience among child populations.

Resilience Among Those Working on Humanitarian Aid Projects


This study examined the mental health of national humanitarian aid workers in northern Uganda and contextual and organizational factors predicting well-being. A cross-sectional survey was conducted among 376 national staff working for 21 humanitarian aid agencies. Over 50% of workers experienced 5 or more categories of traumatic events. Although, in the absence of clinical interviews, no clinical diagnoses were able to be confirmed, 68%, 53%, and 26% of respondents reported symptom levels associated with high risk for depression, anxiety disorders, and posttraumatic stress disorder (PTSD), respectively. Between one quarter and one half of respondents reported symptom levels associated with high risk regarding measured dimensions of burnout. Female workers reported significantly more symptoms of anxiety, depression, PTSD, and emotional exhaustion than males. Workers with the United Nations and related agencies reported fewest symptoms. Higher levels of social support, stronger team cohesion, and reduced exposure to chronic stressors were associated with improved mental health. National humanitarian staff members in Gulu have high exposure to chronic and traumatic stress and high risk of a range of poor mental health outcomes. Given that work-related factors appear to influence the relationship between the two strategies are suggested to support the well-being of national staff working in such contexts.

A growing body of evidence suggests that most adults exposed to potentially traumatic events are resilient. However, research on the factors that may promote or deter adult resilience has been limited. This study examined patterns of association between resilience and various sociocontextual factors. The authors used data from a random-digit-dial phone survey (N = 2,752) conducted in the New York City area after the September 11, 2001, terrorist attack. Resilience was defined as having 1 or 0 posttraumatic stress disorder symptoms and as being associated with low levels of depression and substance use. Multivariate analyses indicated that the prevalence of resilience was uniquely predicted by participant gender, age, race/ethnicity, education, level of trauma exposure, income change, social support, frequency of chronic disease, and recent and past life stressors. Implications for future research and intervention are discussed. (PsycINFO Database Record (c) 2012 APA, all rights reserved). (journal abstract)


OBJECTIVE: Most research on the effects of severe psychological stress has focused on stress-related psychopathology. Here, the author develops psychobiological models of resilience to extreme stress. METHOD: An integrative model of resilience and vulnerability that encompasses the neurochemical response patterns to acute stress and the neural mechanisms mediating reward, fear conditioning and extinction, and social behavior is proposed. RESULTS: Eleven possible neurochemical, neuropeptide, and hormonal mediators of the psychobiological response to extreme stress were identified and related to resilience or vulnerability. The neural mechanisms of reward and motivation (hedonia, optimism, and learned helpfulness), fear responsiveness (effective behaviors despite fear), and adaptive social behavior (altruism, bonding, and teamwork) were found to be relevant to the character traits associated with resilience. CONCLUSIONS: The opportunity now exists to bring to bear the full power of advances in our understanding of the neurobiological basis of behavior to facilitate the discoveries needed to predict, prevent, and treat stress-related psychopathology.


Humanitarian aid work is intrinsically stressful. Humanitarian aid workers often live and work in physically demanding and/or unpleasant conditions, characterized by heavy workloads, long hours and chronic fatigue, and lack of privacy and personal space. They are often separated from their families for extended periods. They complain of inadequate time, resources, and support to do the job asked of them and of inadequate recognition for the job they do. They face conflict within their work team, created or intensified by prolonged close
proximity and intimate interdependence. They experience conflict with local authorities and moral anguish over the choices they often have to make (Who to help and who not? Deal with corrupt or vicious warlords or militias or not be permitted to provide aid at all?). They face chronic danger. They are repeatedly exposed to tales of traumatization and personal tragedy or to gruesome scenes and they may, themselves, have horrific experiences. While stress can be a source of growth and although many humanitarian aid workers withstand the rigors of their work without adverse effects, many others do not. As many as one-third or more of recently returned expatriate staff of humanitarian aid organizations show clinically significant signs of emotional distress. Similar levels of distress have been found among national staff of international and local humanitarian aid organizations and among human rights workers. The adverse emotional effects of work in the humanitarian aid field may include post-traumatic stress syndromes (resulting from direct exposure to or witnessing traumatizing experiences), "vicarious" or "secondary" traumatization (resulting from repeated exposure to the stories and witnessing the suffering of direct victims of trauma), depression, pathological grief reactions, anxiety, and multiple psychosomatic complaints.


A survey of humanitarian aid organizations was conducted, addressing their practices with respect to mitigating and managing stress in their field staff. Only 17 of over 100 nongovernmental organizations contacted responded to the survey. Even among those that did respond, the limits on their investment in this area were evident. Few reported even the most perfunctory screening of potential staff with respect to risk factors for adverse responses to stress. Many failed to provide hands-on training with respect to stress management. Awareness of the role of bureaucratic and organizational actions in reducing stress was limited. Concrete preparation of staff for returning home was all but absent. Implications both of the responses and the lack of responsiveness to the survey are discussed. (PsycINFO Database Record (c) 2012 APA, all rights reserved). (journal abstract)


Expatriate aid workers (n = 214) representing 19 nongovernmental organizations (NGOs) completed a predeployment survey, including measures of mental health (depression, anxiety, and posttraumatic stress disorder [PTSD]); risk factors (childhood trauma, family risk, and adult trauma exposure); and resilience factors (coping, social support, and healthy lifestyle) to assess their baseline mental health during preparation for deployment. Multiple regression analysis indicated that childhood trauma/family risk was not significantly related to depression, anxiety, or PTSD symptoms when controlling for report of prior mental illness; yet, adult trauma exposure was significantly related to all three. Social support
contributed significant variance to depression and PTSD. NGOs can help applicants recognize the effects of recent trauma and the resilience provided by a healthy social network. (PsycINFO Database Record (c) 2014 APA, all rights reserved). (journal abstract)


Two studies examined factors that predict expatriate managers' tendencies to think seriously about departing prematurely from their international assignments. Previous research (conducted outside of the expatriate context) has shown that individuals' willingness to stay with or leave their positions is an interactive function of outcome favorability and procedural fairness. A conceptually analogous interaction effect was found in the present studies. Whereas expatriates more seriously thought of departing prematurely when they perceived the non-work-related outcomes of their overseas assignments to be less favorable, this tendency was much less pronounced when procedural fairness was relatively high. Theoretical and practical implications are discussed, as are limitations of the studies and suggestions for future research. (PsycINFO Database Record (c) 2012 APA, all rights reserved). (journal abstract)


BACKGROUND: International humanitarian aid workers providing care in emergencies are subjected to numerous chronic and traumatic stressors.

OBJECTIVES: To examine consequences of such experiences on aid workers' mental health and how the impact is influenced by moderating variables.

METHODOLOGY: We conducted a longitudinal study in a sample of international non-governmental organizations. Study outcomes included anxiety, depression, burnout, and life and job satisfaction. We performed bivariate regression analyses at three time points. We fitted generalized estimating equation multivariable regression models for the longitudinal analyses.

RESULTS: Study participants from 19 NGOs were assessed at three time points: 212 participated at pre-deployment; 169 (80%) post-deployment; and 154 (73%) within 3-6 months after deployment. Prior to deployment, 12 (3.8%) participants reported anxiety symptoms, compared to 20 (11.8%) at post-deployment (p = 0.0027); 22 (10.4%) reported depression symptoms, compared to 33 (19.5%) at post-deployment (p = 0.0117) and 31 (20.1%) at follow-up (p = .00083). History of mental illness (adjusted odds ratio [AOR] 4.2; 95% confidence interval [CI] 1.45-12.50) contributed to an increased risk for anxiety. The experience of extraordinary stress was a contributor to increased risk for burnout depersonalization (AOR 1.5; 95% CI 1.17-1.83). Higher levels of chronic stress exposure during deployment were contributors to an increased risk for depression (AOR 1.1; 95% CI 1.02-1.20) comparing post- versus pre-deployment, and increased risk for burnout emotional exhaustion (AOR 1.1; 95% CI 1.04-1.19). Social support was associated with
lower levels of depression (AOR 0.9; 95% CI 0.84-0.95), psychological distress (AOR = 0.9; [CI] 0.85-0.97), burnout lack of personal accomplishment (AOR 0.95; 95% CI 0.91-0.98), and greater life satisfaction (p = 0.0213).

CONCLUSIONS: When recruiting and preparing aid workers for deployment, organizations should consider history of mental illness and take steps to decrease chronic stressors, and strengthen social support networks.

Resilience Training


Outlines the theory, research, and procedures of stress inoculation training (SIT). The 3 overlapping phases of SIT—conceptualization, skill acquisition and rehearsal, and application and follow-through—are described. SIT training procedures are illustrated, and guidelines for the selection and design of individual and group application of SIT are provided. (PsycINFO Database Record (c) 2012 APA, all rights reserved)


Organizational Resilience


Every job can lead to stress. How people cope with that stress can be influenced by many factors. The Department of Homeland Security (DHS) employs a diverse staff that includes emergency responders, border patrol agents, federal air marshals, and policy analysts. These employees may be exposed to traumatic situations and disturbing information as part of their jobs. DHS is concerned that long-term exposure to stressors may reduce individual resilience, negatively affect employees' well-being, and deteriorate the department's level of operation readiness. To explore DHS workforce resilience, the Institute of Medicine hosted two workshops in September and November 2011. The September workshop focused on DHS's operational and law enforcement personnel, while the November workshop concentrated on DHS policy and program personnel with
top secret security clearances. The workshops brought together an array of experts from various fields including resilience research, occupation health psychology, and emergency response. The report presents highlights from more than 20 hours of presentations and discussions from the two workshops, as well as the agendas and a complete listing of the speakers, panelists, and planning committee members.


Purpose: The purpose of this paper is to evaluate the role of personality hardiness in facilitating change or growth in transformational leadership of Norwegian Navy cadets following a stressful military training exercise.

Design/methodology/approach: Leadership styles were measured in cadets before and after an intensive leadership training exercise, and again six months later. Hardiness was measured near the end of the first academic year. Leader performance was measured with first year leader development grades.

Findings: Repeated measures ANOVAS showed a sustained increase in transformational and transactional leadership following the exercise, and a decrease in the passive-avoidant style (management by exception–passive and laissez-faire). Research limitations/implications: This research was conducted with a relatively small group and findings may not generalize readily to other populations. Practical implications: These results suggest high hardy individuals have a greater readiness to make use of stressful training experiences as opportunities for developmental growth as leaders.

Originality/value: This study is the first of its kind to explore the role of a key personality variable–hardiness–to facilitate positive benefit from a real-world training experience designed to develop better leadership capabilities. Further, it is one of few studies to identify factors contributing to the growth transformational leadership style. A strength of the study is that it was conducted in the context of a real-world leadership training activity. (PsycINFO Database Record (c) 2012 APA, all rights reserved). (journal abstract)


Over the past decade, research on two specific types of nontraditional work arrangements, expatriate employees and consultants, has increased. However, despite the plethora of research exploring the key factors associated with effective expatriation, few links have been made between the similarities in job attributes and experiences of consultants and expatriates. This article reviews the similarities between consultants and expatriates, including issues related to selection, socialization, learning orientation, role definition, family adjustment, career development, and repatriation. An examination of the management practices related to each of the key dimensions of expatriate assignments is made and lessons for consultants are offered. (PsycINFO Database Record (c) 2012 APA, all rights reserved). (journal abstract)
   Investigates employer practices toward expatriate managers and how those practices relate to retention-relevant outcomes (e.g., organizational commitment, intent to quit, and intent to return early to a domestic assignment). The psychological contract is investigated as a mediator of this relationship. A model in which the psychological contract mediates the relationship between organizational practices and retention-relevant outcomes is empirically constructed. The authors also refine the construct of the psychological contract and report managers' experiences as expatriates. (PsycINFO Database Record (c) 2012 APA, all rights reserved)