

The Portfolio model of resilience:

How “positive” psychology can inform the study of “negative” life events

John Grych

Marquette University

Sherry Hamby

University of the South

Victoria Banyard

University of New Hampshire

*This version July, 2014.*

*Under review and will almost certainly change before publication*

*Please do not disseminate without permission.*

The Portfolio model of resilience:

How “positive” psychology can inform the study of “negative” life events

Abstract

The study of resilience has focused attention on the human potential to overcome adversity and provided insight into protective factors that promote healthy functioning following stressful and traumatic experiences. However, this work also has limitations. Many of the protective factors identified simply represent the inverse of documented risk factors and the outcomes studies typically reflect the absence of psychopathology rather than the presence of good health. Research on positive psychology can contribute to understanding resilience by identifying additional qualities that may serve as protective factors and indicators of healthy functioning. Integrating insights from work on resilience and positive psychology offers the promise of developing a more comprehensive and holistic understanding of the processes that foster healthy adaptation in children and adults exposed to significant adversity. This article introduces the Portfolio Model of Resilience, which is intended to bridge the resilience and positive psychology literatures in order to guide research and enhance prevention and intervention programs.

The Portfolio model of resilience:

How “positive” psychology can inform the study of “negative” life events

Few people characterize their hopes for a happy life simply in terms of avoiding pain; human beings—even those who have experienced tremendous adversity—are motivated to seek joy, love, and meaning, not non-depression and non-anxiety. However, study of the effects of adversity on human functioning has focused primarily on the negative outcomes that follow from stressful and traumatic events.

Research on resilience developed in an effort to shift attention toward healthy outcomes in people who have experienced adversity, but predominantly has defined good outcomes in terms of the absence of pathology rather than the presence of health. Although there are compelling conceptual and applied reasons to focus on clinical syndromes, the emphasis on psychopathology has limited what we know about how many people overcome adversity and lead healthy, fulfilling lives and resulted in a narrow view of human functioning. The emphasis on suffering also neglects the fact that suffering and happiness are not incompatible. Everyone experiences pain and loss, but many people report high levels of fulfilment, well-being, and life satisfaction despite pain, loss, and even trauma. Our psychological theories need to reflect these complexities.

The goal of this article is to integrate research on positive psychology with work on resilience to develop a unified framework -- the Portfolio Model of Resilience -- that incorporates both adaptive and maladaptive processes and outcomes. We use the term “positive psychology” to refer to the field of research focused on studying well-being and the factors that promote it (e.g., Seligman & Csikszentmihalyi, 2000), and not to imply that these characteristics are inherently good or beneficial. Although qualities like compassion and gratitude are associated empirically with greater subjective well-being, critics—and even some proponents—have noted that whether a particular characteristic has a salutary effect on health is a function of the context in which it occurs (e.g., Lyubomirsky, 2012; McNulty & Fincham, 2012). Our goal is to draw on research on these characteristics, often called personal or

character strengths, to explore how they might promote resilience following stressful or traumatic events. Ultimately, we hope to provide a more comprehensive understanding of how individuals build fulfilling lives despite, or in some cases, because of adverse experiences. Research on resilience and character strengths have important implications for prevention and intervention because they focus on building qualities that enhance functioning rather than avoiding risks and reducing symptomatology. Yet to date, these fields remain largely unintegrated despite their overlapping interests and the potential for insights from each field to move the other forward.

### *The "Ordinary Magic" of Resilience*

The term "resilience" at times has been used to describe stable individual characteristics or capacities, but contemporary theorists define resilience as a state that is defined by two necessary conditions: exposure to significant adversity and healthy functioning following the adversity (Masten, 2007). Although there has been substantial discussion about how much adversity is "significant" and precisely what constitutes "healthy" functioning, resilience theorists agree that individuals who continue to function well after experiencing events that often lead to clinical symptomatology are exhibiting resilience. Resilience is conceptualized as a state rather than a stable quality of a person because it depends on the constellation of risk and protective factors that characterize the person's life at a particular time; if that constellation changes, individuals who appear resilient at one point could develop clinical symptoms later and those exhibiting symptoms could function more adaptively.

The study of resilience began with investigations of children who had experienced chronic and severe stress, such as poverty and maltreatment, but did not exhibit the developmental or psychological problems often associated with these stressors (e.g., Garmezy, Masten, & Tellegen, 1984; Werner & Smith, 2001). Although resilience initially was viewed as a rare phenomenon, it now is considered to be a common outcome following adversity. Masten (2001) refers to the capacity of children to adapt to stress as "ordinary magic" in light of longitudinal studies showing that many children exposed to

significant adversity do not exhibit clinical problems. Similarly, research on adults who experienced stressful or traumatic events, such as the loss of a spouse, life-threatening accidents, or natural disasters, indicates that most maintain psychological health or regain it after a brief period of symptoms (Bonanno & Mancini, 2012). Indeed, Bonanno (2004) has shown that resilience is the most frequent outcome to acute stressors in adulthood. Thus, the factors that promote resilience are not rare but are available, at least potentially, to many people. Empirical studies of resilience have focused primarily on identifying factors that are associated with good outcomes following adversity, and in the next section, we summarize work on key characteristics linked to resilient functioning.

### *Protective factors*

Research and theory examining resilience in different populations and following different types of adverse events consistently has identified a set of individual, relationship, and community/ecological factors associated with adaptive functioning (Masten, 2001; Vagi et al., 2013). These are often labeled “protective factors” because they enhance the likelihood of positive outcomes by mitigating the effects of adversity. They can be considered the building blocks of resilience.

*Individual factors.* A large number of individual characteristics have been linked to resilience, but they can be grouped conceptually into four categories. One group comprises processes involved in effective *self-regulation*, which involves sustaining and supporting goal-driven behavior both in the immediate situation (e.g., coping with a stressor) and over longer periods of time (e.g., graduating from college). Self-regulation is a multifaceted process that involves emotional, cognitive, behavioral, and physiological components, and includes complex constructs such as executive functioning (e.g., impulse control, attention) and planfulness. Some temperament and personality factors described as protective factors in resilience research also fit into these categories. For example, being low in neuroticism is associated with healthy functioning, in large part because it reflects good regulation of affect.

A second set of individual factors involves *cognitive functioning*. Intelligence (often assessed as IQ) consistently predicts resilient outcomes, in part by promoting success in school (e.g., Werner & Smith, 2001), but constructs such as problem-solving ability and cognitive flexibility also are important for academic success and effective coping. Individuals who are adept at understanding situational demands and the strategies that would be most effective for responding to them are more likely to weather adversity. *Self-efficacy* is a third category that involves evaluations of one's capacity to respond effectively in difficult situations. Individuals high in self-efficacy tend to experience a stronger sense of control in the face of stressful events and are more likely to engage in constructive forms of coping (e.g., Masten et al., 2004). Global perceptions of the self, including evaluations of self-worth, also have been conceptualized as protective factors in some studies, but since these constructs often are treated as indicators of psychological health, we limit this category to narrower beliefs about control and efficacy in order to avoid conflating protective factors with their hypothesized outcomes. The fourth category, *motives and meaning*, comes primarily from resilience research with adults. It involves having a coherent set of beliefs and goals and the sense that life has meaning and purpose, which includes but is not limited to spiritual and religious systems of belief (e.g., King, Hicks, Krull, & Del Gaiso, 2006; C. L. Park, 2010). As we discuss below, a strong sense of meaning promotes persistence in the face of adversity and the appraisal of stressful events in ways that reduce their impact.

*Interpersonal factors*. Other layers of the social ecology also are important to resilience. Across the lifespan, supportive and caring relationships with others are reliably related to more adaptive functioning, though which relationships are most salient evolves over time (e.g., Biglan, Flay, Embry, & Sandler, 2012). For children, caregivers are the most critical source of protection and nurturance. For example, secure attachment with caregivers in childhood has been shown to predict resilience in adulthood in a number of longitudinal studies (e.g., Fergusson & Lynskey, 1997; Sroufe, Egeland, Carlson, & Collins, 2005). Although parents remain important influences, peers become increasingly

important sources of support as children transition into adolescence, and romantic partners take on more significant roles in late adolescence and adulthood. These relationships buffer the negative effects of adversity and promote a positive sense of worth and efficacy (e.g., Collishaw et al., 2007). Individual qualities in turn affect relationships because people with certain characteristics are more likely to engage others and develop good relationships.

*Broader situational and environmental factors.* Environmental characteristics play a key role in theories of healthy development (Bronfenbrenner, 1977), though they have been the subject of less empirical research on resilience. Certain environmental factors, such as collective efficacy, have effects on both the resources that promote resilience and the likelihood of being exposed to certain kinds of adversity (Swisher, 2008). In addition to providing resources that can promote well-being, environmental forces also may shape how resilience is expressed or what coping options are utilized. For example, Fleisher (2009) discusses “cultural resilience” or processes of adaptation and response to adversity by groups of people, often via social networks and relationships. But it also is possible that resilience is expressed differently in different environmental contexts due to cultural norms about relationships, role flexibility, and the acceptance of particular coping strategies. Ungar and colleagues (Ungar, Theron, & Didkowsky, 2011) describe “cultural relativity” as an underexplored but key aspect of resilience. The socioeconomic status of individuals and their families often is used as a marker for the ecological context in which individuals live, what resources are available to them, etc., and also is consistently related to better mental health outcomes (e.g., Wickrama & Noh, 2010).

*Proposed mechanisms of the path to resilience*

More research has focused on identifying protective factors associated with positive outcomes than explaining the processes through which these factors promote resilience. However, describing how particular factors foster healthy functioning is critical for understanding adaptive and maladaptive responses to adversity and developing prevention and intervention programs that can promote

resilience. The resilience literature has described a number of mechanisms by which protective factors may operate; these schemes tend to describe similar processes, but often use different terms for the same mechanisms or use the same terms to refer to different processes. Fergus and Zimmerman (2005) attempted to add clarity to this situation by organizing resilience processes into three primary categories, which they label compensatory, protective, and challenge. This classification effectively captures the essential differences among the processes, but in the interest of further increasing clarity and improving communication across sub-disciplines of research and practice, we use terms for the mechanisms that we believe best convey how each is proposed to work and avoid using terms that have been used inconsistently, ambiguously, or for more than one concept in studies of resilience.

*Additive model:* This type of mechanism involves protective factors directly promoting healthy functioning independent of the level of adversity individuals are exposed to. In statistical terms, protective factors have a main effect on psychological functioning. For example, secure attachment with a caregiver fosters healthy adjustment for all children regardless of their exposure to stress and adversity. From this perspective, individuals' psychological functioning can be viewed in terms of the balance of protective factors and stressors. A scale therefore makes an apt metaphor: as the number or potency of protective factors available to individuals increase, they tend to exhibit healthier functioning, whereas increasing exposure to adversity tends to reduce psychological health. Fergus and Zimmerman (2005) use the term "compensatory" for this mechanism, but because it could also apply to the next mechanism, we believe that "additive" offers more distinctive and immediately apparent meaning.

*Buffering model:* This type of model represents the protective process originally described by Garmezy in his pioneering work on resilience (e.g., Garmezy, et al., 1984). A buffering effect occurs when a protective factor reduces the impact of a stressful event on adjustment but does not lead to healthier functioning in the absence of the stressor. A metaphor for this mechanism is an umbrella: they are valuable for staying dry when it is raining (when stress is experienced), but do not make someone

more dry when it is not raining (in the absence of stress). Statistically, this describes a moderating or interaction effect because the association between stress and adjustment differs at different levels of the protective factor. In the simplest case, the stressor has an adverse effect on health when the protective factor is absent but no effect when the protective factor is present; in other cases, the strength or direction of the association between adversity and adjustment differs for individuals who are lower or higher on the protective factor. For example, Skopp, McDonald, Jouriles, and Rosenfeld (2007) found that exposure to intimate partner violence was positively related to children's externalizing behaviors when their mothers were low in warmth, but not at high levels of warmth. Luthar, Cicchetti, and Baker (2000) described multiple ways that risk and protective factors can interact to attenuate the impact of a stressor on individuals but vary in the specific nature of the interaction (e.g., protective-reactive, protective-stabilizing). Fergus and Zimmerman (2005) use the term "protective" for this mechanism, but since that term is used to label the factors that benefit people in any of the 3 ways described here, using it as the label for one of the mechanisms can create confusion.

*Inoculation model.* Inoculation models propose that exposure to manageable amounts of stress promotes the development of coping skills that in turn equip the individual to adapt to more markedly negative events that occur later in life. This also has been referred to as a "steeling" effect and is labelled the "challenge" model by Fergus and Zimmerman (2005). Vaccinations provide a metaphor for this type of effect: giving a small dose of a virus creates antibodies that help individuals defend against a more serious infection later. This model proposes that there is a nonlinear relationship between stress and both protective factors and health more broadly: low levels of stress promote the development of protective factors that maintain healthy functioning whereas high levels of stress are more likely to overwhelm individuals, undermining effective coping and leading to clinical symptoms. Almost all research on victimization and other forms of adversity assumes that the best score on any adversity measure is zero, but the inoculation model questions whether this is the case. Given that some form of

adversity will befall virtually every person who survives to adulthood, perhaps the experience of successful coping with minor adversities leaves people better equipped to deal with more significant losses. For example, children who experience the death of a pet often are quite distressed but may develop better emotion regulation skills by talking about the loss with a supportive parent. Research on posttraumatic growth also fits an inoculation model in that it suggests that adverse experiences can lead to positive changes in how individuals view themselves and the world, which in turn promote healthier functioning (Tedeschi & Calhoun, 2004). The posttraumatic growth model differs somewhat from the classic inoculation model in that the initial “dose” of stress is severe rather than minor or manageable, but similar in that the process of coping with the stress strengthens the individual; a parallel may be an individual becoming resistant to chickenpox by having chickenpox than by being immunized against it.

Most research investigating processes by which protective factors predict resilience have tested either additive or buffering models, with few directly testing inoculation effects. Additive effects tend to be more commonly documented than buffering effects, with the exception of the social support literature (Banyard & Williams, 2007), but it is not clear whether those findings indicate that the additive model better explains how protective factors work or the greater difficulty in detecting statistical interactions in correlational research. Further, it is possible that protective factors may function differently in different contexts or in relation to different types of stress, and so it may not be the case that a particular factor always operates through the same mechanism. However, explicating the specific ways that protective factors foster resilience – e.g., how they influence behavior, affect, cognition, relationships – is important for determining how people can respond effectively to adversity and for developing more effective prevention and intervention strategies.

#### *Limitations of resilience research for understanding psychological health*

The identification of factors that predict how individuals exposed to adversity maintain healthy functioning has made an important contribution to clinical psychology, but this work also has limitations

for understanding the processes that promote resilience (see Table 1). First, many protective factors simply are the inverse of risk factors. High levels of constructs such as self-regulation, intelligence, and income are related to healthy functioning, but low levels of these same constructs are associated with greater symptomatology. Labeling the opposite end of a risk factor as a "protective factor" does not add new information about the nature of the association between that construct and health.

Second, some constructs identified as protective factors in the resilience literature are static characteristics of the person or environment (e.g., gender) that do not shed light on the process by which resilience occurs or provide useful targets for prevention and intervention. Identifying predictors of better functioning is valuable, but it is important to take the next step and explain *how* these characteristics enable people to cope effectively with stress. Many of these factors, such as race and ethnicity, may be markers of other vulnerabilities or other types of adversity, such as the experience of discrimination. Research needs to move beyond social address markers and explore the reasons for demographic differences in risk and the likelihood of resilient responses to adversity when it occurs.

Third, the emphasis on psychopathology in psychological research also has affected the nature of the outcomes studied in resilience research. Although some attention has been paid to children's attainment of development tasks and competence in different domains and to adults' reports of well-being, in most studies of resilience the indicators of resilient functioning are low levels of clinical symptoms; these studies thus implicitly define health as the absence of pathology. A more comprehensive model of resilience would include the kind of positive experiences and emotions that enrich the quality of life. Positive emotions are desirable not only because they are phenomenologically pleasant, but because they have functional benefits: they promote creativity, engagement with others, and participation in productive and enjoyable activities (e.g., Fredrickson, 2001). These benefits in turn can lead to greater flexibility in problem-solving and coping and promote the development of resources. Research shows that individuals' experience of positive affect is largely independent of their experience

of negative affect (e.g., Zautra, Affleck, Tennen, Reich, & Davis, 2005). Although in any given moment positive and negative affect are inversely related, over time – even within the same day or same hour – positive and negative emotions co-occur, and people can experience high (or low) levels of both. The experience of positive affect can reduce negative affect in the moment and thus may play a role in reducing the negative impact of adverse events (e.g., Garland et al., 2010; Zautra, et al., 2005). Further, the factors that give rise to positive affect may be somewhat distinct from those that lead to negative affect and could be enhanced even if circumstances causing negative affect do not change.

Finally, there is a developmental disconnect in resilience research. Nearly all of this work focuses either on children or on adults, with little consideration of how protective factors and resilience may develop or change over the lifespan. Further, most child-oriented work examines chronic or repeated forms of adversity (e.g., maltreatment) whereas the adult literature more often studies acute events (e.g., death of a spouse), making it difficult to directly compare findings from these literatures. Longitudinal studies bridging childhood, adolescence and adulthood indicate that there is considerable continuity in resilient functioning over time, but that changes occur in both directions (i.e., toward and away from resilience) (for a review see Burt & Paysnick, 2012). Consequently, there is a need for theoretical models that link the processes studied with children with those from work on adults.

#### *What positive psychology can offer*

Like resilience research, the study of positive psychology developed out of the perception that the discipline of psychology paid far more attention to mental health problems and clinical syndromes than to health and well-being and consequently offered an incomplete picture of psychological functioning (Seligman & Csikszentmihalyi, 2000). Early efforts in this domain sought to describe particularly important components of psychological health and the characteristics that foster them, also referred to as character or personal strengths (Peterson, Park, Pole, D'Andrea, & Seligman, 2008). These researchers cast an intentionally wide net, identifying a wide range of personal qualities thought to

promote well-being. Although consensus has not yet emerged on the best higher-level model of organizing strengths, existing schemes have several factors in common. Peterson and his colleagues (Peterson, et al., 2008; Peterson & Seligman, 2004) have developed multiple frameworks for organizing character strengths, the best known of which is Values in Actions, which lists 24 strengths grouped into 6 categories: wisdom/knowledge, courage, humanity, justice, temperance, and transcendence.

Many of the strengths described in research on positive psychology are related conceptually to protective factors studied in the resilience literature but expand on or add unique elements to these factors. For example, strengths such as "grit" and "temperance" reflect effective impulse control and self-regulation but are oriented more toward attainment of long-term goals than managing arousal in the moment. Strengths such as "wisdom" and "creativity" represent important aspects of cognitive functioning that go beyond IQ. "Transcendence" involves a broad definition of spirituality and is instrumental in meaning making. Some strengths have interpersonal as well as intrapersonal qualities. For example, "forgiveness" "kindness" and "gratitude" all pertain to qualities of interactions and relationships with other people in addition to internal states. Unlike many protective factors, the strengths emphasized in the positive psychology literature generally do not represent the inverse or opposite pole of a risk factor; qualities such as ingratitude and a lack of curiosity are not considered to be risk factors for developing psychopathology. Thus, strengths may function as protective factors that could enhance psychological health following exposure to adversity.

The first wave of research in positive psychology provided evidence that particular character strengths were correlated with mental health in people who had experienced significant stress (e.g., Peterson, et al., 2008). Although there is variability across these studies, interpersonal and meaning-making strengths have been consistently associated with posttraumatic growth (Calhoun, Cann, Tedeschi, & McMillan, 2000; Peterson, et al., 2008). Other studies have examined psychological functioning following specific events, such as the 9/11 terrorist attacks. Findings from one such study

indicate that character strengths, particularly love and gratitude, were associated with post-traumatic growth (Peterson & Seligman, 2003). A meta-analysis of 11 studies of spiritual strengths showed that diverse forms of religiosity and spirituality were associated with post-traumatic growth, including positive religious coping, religious openness, and religious participation (Shaw, Joseph, & Linley, 2005). In fact, spiritual strengths have some of the highest associations with better outcomes following adversity (Peterson & Seligman, 2003). Further, several studies utilizing longitudinal and experimental designs provide evidence that strengths influence mental health and are not just correlates of well-being (e.g., Wood, Maltby, Gillett, Linley, & Joseph, 2008).

Research documenting links between strengths and mental health led to the development of a host of activities and interventions designed to increase happiness by building strengths (for reviews, see Seligman, Steen, Park, & Peterson, 2005; Sin & Lyubomirsky, 2009). Interventions that foster gratitude are among the most frequently studied; they involve activities such as regularly making lists of things for which one is grateful and writing and delivering letters to people for whom one is grateful (see Wood, Froh, & Geraghty, 2010). Findings suggest that these activities are related to greater well-being, but methodological limitations make it difficult to draw firm conclusions about their impact on mental health (see Wood, et al., 2010). Expressive writing is another type of activity that focuses on enhancing strengths. The type of writing exercise varies, but include asking individuals to write about positive life goals (Burton & King, 2009) and writing about a guiding principle for one's life (Banyard, Hamby, de St. Aubin & Grych, 2014). These exercises are associated with self-reflection, meaning making after adversity and well-being (e.g., Park, 2010).

Empirical evaluations of many of these activities and interventions document positive effects on mood and well-being, but few studies have employed longer term follow-ups to determine if the salutary effects are lasting (for an exception, see Cohn & Fredrickson, 2010). Concerns also have been raised about the quantity and quality of data used to support some interventions, including the

appropriateness of the comparison groups utilized in the research (e.g., Sin & Lyubomirsky, 2009; Wood, et al., 2010). More importantly in the present context, it is not clear if the beneficial effects of these activities generalize to individuals confronting significant adversity. Although much work needs to be done to establish their efficacy and generalizability, existing data suggest that a focus on strengths may provide new avenues for increasing the impact of prevention and intervention efforts (e.g., Lyubomirsky & Layous, 2013; Seligman, et al., 2005). However, they have not been part of programmatic efforts to improve mental health in people who have experienced significant stress or trauma.

#### *Limitations of research on positive psychology*

Research on positive psychology has been valuable for identifying personal qualities associated with well-being and offers the potential to offer insights about the capacity of human beings to overcome adversity. However, there also are limitations to this work (see Table 1). First, much of it is correlational, and correlations between well-being and particular strengths do not show that they have a causal effect on psychological functioning. It is possible that strengths result from or are indicators of achieving a certain level of mental health; i.e., it may be easier to be compassionate and generous when life is going well. Longitudinal and experimental designs have been utilized to study some strengths (e.g., gratitude, forgiveness) and allow for stronger inferences about their potential to improve mental health, but they are relatively rare.

Second, the processes by which these characteristics promote well-being have not been studied systematically. To contribute to a model of adaptation following adversity, and perhaps more importantly, to serve as a means for improving psychological health after experiencing traumatic events, it is critical to understand how these strengths function. This is particularly important for characteristics that often are conceptualized as stable personality characteristics. For example, what do generous people do that has a salutary effect on their well-being? How does forgiveness affect individuals and their relationships with others? Conceptual models that specify mechanisms of action have been

developed and tested for constructs such as meaning-making (C. L. Park, 2010) and gratitude (Wood, et al., 2010), but more process-oriented research is needed to explain the links between particular strengths and mental health outcomes. Adopting the focus seen in resilience research on testing the mechanisms by which protective factors promote health would advance the potential for work in positive psychology to inform prevention and intervention efforts.

Third, most positive psychology research has examined only linear main effects (McNulty & Fincham, 2012). In contrast to work on resilience, few studies have expanded beyond additive models to examine whether personal strengths may have moderating or nonlinear associations with well-being, particularly when considered in relation to experiences with adversity (for an exception, see Layous, Chancellor, & Lyubomirsky, 2014). Ironically, research on positive psychology has been criticized for failing to take into account negative aspects of functioning in developing models of well-being, and there has been limited attention to how positive traits function under circumstances of difficulty or adversity. Consequently, although many activities and interventions designed to enhance happiness appear to have beneficial effects (e.g., Lyubomirsky & Layous, 2013; Seligman, et al., 2005), it is not clear whether they would have the same effects in people who have experienced significant adversity. Positive psychology has developed into a research silo, and interventions designed to increase well-being have not drawn systematically on lessons learned from efforts to promote resilience or alleviate the consequences of adversity in other sub-disciplines of psychology.

*A model integrating adversity, resilience, and positive psychology*

Integrating research in the resilience and positive psychology fields holds great promise for drawing on the strengths of each to move toward a more complex, lifespan perspective on healthy functioning following adversity. In this section we describe a model that bridges work on resilience, positive psychology, and coping in an effort to understand how people build fulfilling lives despite experiencing stressful and traumatic events (see Fig. 1). The Portfolio model differs from prior efforts in

3 ways. First, our primary goal is to inform prevention and intervention efforts and so the model emphasizes what people *do* in the face of stress that promotes health and well-being, rather than simply describing qualities or resources that they *have*. Although the coping options available to individuals depend in part on the resources available to them, focusing on malleable behavior offers greater potential for prevention and intervention than addressing static personal characteristics or aspects of the environment. Second, it integrates character strengths studied in the positive psychology literature with protective factors identified in work on resilience to provide a more comprehensive accounting of the qualities that lead to better functioning in response to adversity. Third, it has a lifespan focus that considers continuities and discontinuities in how protective processes may operate in childhood and adulthood. See Table 2 for a summary of the unique aspects of the model.

As illustrated in Figure 1, the model proposes that individuals' psychological health following stressful and traumatic events is a product of the characteristics of the adversity, the resources and assets available to them, and their behavior. The relationships among these constructs are proposed to be transactional: people who have the assets and resources to deal effectively with adversity will tend to function better over time, whereas those who do not will be increasingly vulnerable to adversity; in turn, health and well-being tend to enhance resources and assets. Although the largest influence on children's adaptation to adversity lies in their environment, especially their relationships with caregivers (e.g., Biglan, et al., 2012), over time the sources of resilience become increasingly internalized. Because both resources and sources of stress tend to be at least somewhat stable, there often is continuity in individuals' ability to adapt to adversity; however, changes in either can lead to changes in functioning.

#### *Resources and assets*

Consistent with prior work (e.g., Fergus & Zimmerman, 2005), we use the term *resources* to refer to sources of support outside of the person and the term *assets* to describe characteristics of the person that promote healthy functioning. Together, they represent what we refer to as each person's

unique “portfolio” of protective factors. Resources include people who provide emotional, instrumental, and/or financial support, characteristics of the social ecology such as neighborhood cohesion and collective efficacy, and socioeconomic status. For children, caregivers are the most critical resource for fostering resilience, and play an essential role in promoting the development of protective qualities such as self-regulation (Biglan, et al., 2012; Conger & Conger, 1982; Fergusson & Lynskey, 1997). Assets include characteristics identified as individual protective factors in the resilience literature and character strengths studied in positive psychology research. Resources and assets are proposed to have a reciprocal relationship: greater resources promote the development of assets, and assets in turn can build resources. For example, sensitive and responsive caregiving leads to greater social competence in children, and more socially competent children in turn are able to draw others toward them and develop mutually rewarding relationships that may help situate them in communities with greater social capital and collective efficacy. Similarly, people who are self-regulated and exhibit persistence in the face of difficulty are more likely to experience successes that further build their sense of efficacy.

Although any strength might potentially help cope with adversity, we organize them into categories representing functions that are proposed to be particularly critical for healthy adaptation: regulating emotions and behavior; building interpersonal relationships; and fostering meaning-making. Below we describe why these three areas offer particular promise for integration. In grouping protective factors we draw on an insight from the positive psychology literature that it is useful to think not only about individual factors but also about classes of constructs. We propose that it is the number and variety – what Schnell (2011) has called the “density and diversity” -- of these characteristics that is most critical for resilience. That is, what matters most for adapting to adversity is the total constellation of protective factors represented in one’s “portfolio” rather than the presence of any particular strength. The resilience and risk factor literatures have tended to treat each putative risk or protective factor as an independent phenomenon, but many of the most frequently studied constructs are not orthogonal

to each other. Bronfenbrenner's social ecological model also groups constructs, but only at the level of the context (individual, family, community). Although particular resources or assets may be more (or less) important at different ages or for responding to particular kinds of stressors, in general having more types of assets and resources (diversity) and more strengths within each category (density) will promote greater resilience.

*Regulatory strengths.* Self-regulation typically is conceptualized as modulation of physiological, emotional, and behavioral responses in the moment, and effective self-regulation plays a critical role in managing stress. It primarily has been studied in the context of managing negative emotions, but the capacity to generate and sustain positive emotions may be just as important (e.g., Fredrickson, 2001; Zautra, et al., 2005). Functionalist models of emotion state that positive affect leads people to engage the environment (Fredrickson, 2001; Oatley & Jenkins, 1996), which can further build their resources and promote effective coping. Therefore, the capacity to experience, maintain, or generate positive affect, which is at least somewhat independent of the capacity to manage negative affect, can support coping in difficult times and build essential assets and resources in good times (e.g., Garland, et al., 2010; Layous, et al., 2014).

Although the role of self-regulation in managing current stress has been emphasized, it also is important for attaining longer-term goals. Successfully achieving academic, occupational, and even relational goals requires individuals to maintain focus and effort over extended periods of time, plan and organize their time, and continue to strive despite difficulties and diversions. Aspects of self-regulation, such as executive functioning and planfulness, have been identified in longitudinal research as protective factors (Masten, et al., 2004; Moffitt et al., 2010), but several character strengths studied in the positive psychology literature also represent qualities that foster regulation over time. Most notably, perseverance and grit (Duckworth, Steen, & Seligman, 2005) reflect the ability to sustain motivation and overcome obstacles while striving toward a goal, and characteristics such as optimism

and future-mindedness support continued effort by symbolizing desired outcomes and enhancing beliefs in their attainability. These qualities also may help to generate positive affect, which in turn can promote adaptive behavior (e.g., Ong, Bergeman, Bisconti, & Wallace, 2006).

*Interpersonal strengths.* Interpersonal strengths are characteristics that foster the development and maintenance of close relationships, which are a primary source of happiness and meaning for many people as well as an important source of support when adversity occurs. Social support is one of the most commonly studied protective factors (for a review, see Thoits, 2011), but much of this work focuses only on the amount of social support available or people's perceptions of the benefits (and sometimes costs) of that support. In the resilience literature, far less attention has been paid to people's ability to establish social bonds and what they do to strengthen interpersonal connections. In any social milieu, including schools, communities and even families, the degree of social support individuals have ranges widely. The positive psychology literature offers the potential to identify personal qualities that are valuable for developing and maintaining good relationships and to explore how this process occurs rather than simply describing the level of support that exists.

The strengths included in this category have both intra- and interpersonal aspects, but in keeping with the emphasis of the model on behavior that promotes resilience, we include them here to emphasize their potential for building and sustaining supportive relationships. Qualities such as gratitude, compassion, generosity, forgiveness, and empathy all can be conceptualized as internal states, but when expressed behaviorally they enhance social bonds and strengthen interpersonal connections. For example, gratitude has been defined as a disposition that involves noticing and being thankful for past and present experiences (Wood, et al., 2010), and it has been shown to predict well-being in longitudinal research (Bono, McCullough, & Root, 2007; Wood, et al., 2008). Feeling grateful may enhance subjective well-being, but *acting* grateful, for example, by expressing appreciation to a friend, extends its internal benefits by enhancing interpersonal relationships. Numerous studies have

documented links between gratitude and indicators of positive social relationships (for a review see Wood, et al., 2010); for example, Lambert and Fincham (2011) showed that expressing gratitude promotes relationship maintenance behaviors. These relationships become particularly important protective factors when adversity occurs (Fredrickson, 2004).

*Meaning-making strengths.* Decades of research on the psychology of religion show that human beings are driven to seek meaning in their lives, particularly when stressful events occur, and that establishing a sense of meaning is associated with better psychological adjustment (for a review, see C. L. Park, 2010). For many people, a primary source of meaning comes from religion or spirituality, which offer systematic ways of answering fundamental questions about living. Although spirituality historically has been neglected in mainstream psychological research (Banyard & Graham-Bermann, 1993; Hamby, 2014b) and religious activities like prayer at times have been characterized as ineffective forms of coping, empirical studies consistently show that spirituality is associated with life satisfaction and post-traumatic growth (e.g., Shaw, et al., 2005), and in fact has some of the highest associations with adjustment following adversity (N. Park, Peterson, & Seligman, 2004; Peterson & Seligman, 2003).

The desire to explain and understand one's experiences is a powerful human characteristic, however, and is not simply the province of organized religion. We view "meaning-making" strengths as reflecting a broad conceptualization of spirituality that emphasizes having a sense of purpose and connection to something larger than oneself. People who are high on meaning-making strengths are able to make sense of the events that occur in their lives and maintain coherence between particular events and their broader beliefs and values. As we describe below, this is instrumental in coping with adversity in the short-term, but finding meaning in difficult experiences also can foster positive affect and optimism and support sustained effort toward achieving long-term goals.

*Implications for resilience*

In the model, assets and resources are proposed to promote healthy functioning in four ways. First, they reduce the likelihood that individuals will experience certain kinds of adversity (Path A). This can be designated an “insulating” effect. For example, individuals with greater economic resources tend to live in neighborhoods that experience less community violence, and people with well-developed relational strengths may be able to avoid or defuse potentially negative interpersonal interactions. Types of adversity that are more random (e.g., natural disasters) or unavoidable (e.g., death of a loved one) will not be prevented by individuals’ portfolio of assets and resources, but those with more “reliable resource reservoirs” (Hobfoll, 2002) are likely to have lower cumulative lifetime exposure to stress. Although reducing exposure to adversity might not be considered a process that promotes resilience because resilience is defined by the experience of significant adversity, decreasing exposure to stressful events is one way that a robust Portfolio of protective factors fosters healthy development.

Second, consistent with the additive mechanism described above, assets and resources can have a “main effect” on health and well-being (Path D). Conceptual models such as the Broaden and Build theory (Fredrickson, 2001) and Dynamic Model of Affect (Zautra, et al., 2005) describe how positive experiences and emotions enhance well-being. For example, people who experience higher levels of gratitude report greater positive affect in their daily life (e.g., Wood, et al., 2008), regulatory strengths like endurance and emotion regulation help people to achieve important goals that in turn increase their quality of life, and secure and supportive interpersonal relationships enhance psychological and physical health across the lifespan (e.g., Fergusson & Lynskey, 1997; Sroufe, et al., 2005).

Third, resources and assets can have a buffering (moderating) effect on health and well-being (Path B). In the model, this effect occurs because individuals’ unique constellation of protective factors – their portfolio – shapes what they do when faced with adversity (Path C); effective coping then mitigates the impact of the stressor on mental health and well-being (Path F). More specifically, we argue that the

resources available to the individual and their personal strengths influence coping by guiding individuals' appraisals and behavior (also see Layous, et al., 2014).

Decades of research on coping show that individuals' appraisals of events are critical for determining their impact. Lazarus and Folkman's (1984) influential model of stress and coping holds that two types of appraisal are particularly significant: perceptions of how threatening the event is, and beliefs about one's ability to cope effectively with the event. The focus on appraisals underscores the importance of the *meaning* of an adverse event to an individual; when a threatening or stressful event occurs, people try to make sense of why it occurred and what it may mean for and about their lives (Lazarus & Folkman, 1984; C. L. Park, 2010). Meaning-making strengths, which reflect how individuals perceive and understand the world, are proposed to shape the kinds of appraisals individuals make for specific events. People who have a coherent sense of meaning may find it easier to fit stressful events into their world view and experience them as less negative and more controllable and may be more adept at finding silver linings in dark clouds. For example, Skaggs and Barron (2006) reported that individuals who view an adverse event as something that helped them to develop as a person show better functioning than those who cannot find meaning in the experience.

Strengths also are proposed to guide coping behavior. Regulatory strengths help to modulate affect and physiological arousal in the face of stressful events and to help individuals to sustain positive affect and motivation to engage in constructive behavior. Relational strengths tend to engender support from others; for example, Wood and his colleagues (2007) found that more grateful people were more likely to seek and utilize social support and to use coping strategies that involved engaging with the problem. Meaning-making strengths can be important sources of effective coping because they help individuals draw meaning from their experiences and sustain goal-driven behavior, and can also reinforce regulatory and interpersonal strengths (Hamby, 2014a).

Finally, the inoculation effect of experiencing mild- to moderate levels of stress is represented in Paths E and G. These paths indicate that the associations between adversity and adjustment may be nonlinear: low levels of stress are hypothesized to build coping resources and promote better psychological health whereas high levels of stress can overwhelm individuals' capacity to cope and lead to mental health problems. Few studies have investigated inoculation effects, and the limited empirical data pertinent to this hypothesis are equivocal. For example, the National Survey of Children's Exposure to Violence shows a linear association between the degree of adversity faced by individuals and their health (Turner, Finkelhor, & Ormrod, 2010). Consequently, Fig 1 notes that paths E and G may be curvilinear or linear.

#### *Characteristics of adverse events*

Most of the research on the effects of adversity focuses on a single type of adversity or a closely linked set of stressful or traumatic events. However, recent work from a range of perspectives demonstrates the interconnected and overlapping nature of adversities, including research on different forms of violence (Hamby & Grych, 2013), adverse childhood experiences (Felitti et al., 1998), and complex trauma and cumulative risk (Banyard, Williams, Saunders, & Fitzgerald, 2008). Moreover, different types of adversity appear to have similar outcomes and may operate through similar processes. These findings point to the value of developing overarching models of adversity that can identify risk and protective factors and mechanisms that apply to many types of stress and trauma. At the same time, it is important to examine whether there are differences among stressful events that may influence how people perceive and respond to them. For example, acute vs chronic stressors have different implications for the sufficiency of individuals' resources and assets, and adversities that are perpetrated by people who are in critical support roles, such as parents, may have different effects than those whose sources are independent of key resources. Other characteristics, such as whether a

particular adversity represents a threat to vs. loss of important goals, have implications for the types of appraisals and behaviors that are likely to be effective.

### *Psychological Health and Well-being*

The final component of the model, psychological health, is defined broadly to include indicators of well-being in addition to symptoms of psychopathology. Traditionally research has focused either on the level of clinical symptoms or the degree of happiness or well-being experienced by individuals, but as noted above, they are not distinct domains. Well-being is a broad construct that incorporates satisfaction with different aspects of life, indicators of effective functioning in important domains, such as school, work and relationships, and individuals' characteristic balance of positive and negative emotions, which provides the affective tone to the thoughts, actions, and events that occur in daily life. As noted above, although greater well-being is associated with lower levels of psychopathology, well-being is somewhat independent of clinical symptoms and it is possible that particular protective factors may have different associations with indicators of good and poor psychological health. Thus, although there is value in taking a broad and holistic approach to defining psychological functioning, it also is important to examine specific aspects of health, including forms of thriving identified in research on positive psychology, to better understand how they are affected by the processes outlined in the model.

### *Developmental considerations*

The resources, assets, and adversities described in the model all are expected to change over the course of development. A full treatment of the developmental trajectories of each element is beyond the scope of this paper, but we highlight a few points for illustration. Assets such as self-regulation skills develop over the course of childhood, though different strengths develop at different rates. For example, basic abilities to self-soothe and inhibit aggression normally become established in childhood whereas aspects of executive functioning (e.g., inhibitory control) continue to develop into early adulthood (Burt & Masten, 2009). Similarly, meaning-making strengths depend in part on

cognitive development and evolve over the course of adolescence and early adulthood, and may become increasingly salient as individuals get older. The relative influence of internal assets vs external resources also is likely to change over the lifespan. Most of the protective factors available to children are external resources, most centrally their caregivers, whereas internal assets become increasingly important as autonomy increases in adolescence and adulthood. External resources remain influential for adults, but they are in a position to exert more control over the resources available to them. The developmental period from adolescence through early adulthood is also the period of greatest risk for some important adversities (e.g., sexual assault and intimate partner violence), though the risk for others, such as physical maltreatment, diminishes over time.

It also is important to note the transactional nature of the relations among the model's components. Although arrows representing reciprocal effects are omitted from the model in Figure 1 to enhance readability, each of the constructs can influence the others over time. For example, individuals' assets are shaped by the resources available to them earlier in life, which in turn affect the likelihood of experiencing certain types of adversity. Similarly, individuals who exhibit resilience after adversity are more likely to continue to build intra- and interpersonal resources that further protect them in the future. Hobfall (2002) used the term "resource caravans" to describe how individuals who have greater resources are able to continue to build on them over time. At the same time, adversity experienced over the course of childhood and adolescence can undermine the development of resources, and so children who are exposed to high levels of adversity are likely to have fewer of the environmental, relational, and individual resources that foster well-being. This transactional process explains why considerable continuity in both maladjustment and resilience has been documented by studies that follow participants from childhood into adolescence (e.g., Masten, et al., 2004; Werner & Smith, 2001).

However, age also presents opportunities to change. One of the most important factors explaining why youths exhibiting a maladaptive trajectory switched to the resilient group in adulthood in

these longitudinal studies was their capacity to take advantage of “second chance” opportunities in adolescence. These opportunities most often involved developing a satisfying intimate relationship with a well-functioning partner, a stable job, or entry into secondary education (e.g., Werner & Smith, 2001). Of course, their capacity to take advantage of these opportunities was influenced by the assets and resources that they had developed earlier in life, but these findings speak to the importance of considering context in understanding how resilience develops.

#### *Implications for future research*

The Portfolio Model of Resilience identifies several directions for research investigating how children and adults cope with and overcome adversity. In the next section we describe some of the most pressing issues highlighted by the model.

#### *Specifying relations among resources, assets, behavior, and health*

An important benefit of the model is that by introducing new constructs to the study of resilience it generates novel research questions. For example, it raises questions about whether personal strengths and protective factors have different associations with adaptive and maladaptive outcomes, such that strengths are more closely related to (greater) well-being and protective factors are more closely associated with (lower) clinical symptoms. As noted above, happiness and clinical symptoms are somewhat independent, and it is possible that specific assets and resources may have different associations with positive and negative emotions or different aspects of psychological health.

The model also raises questions about the specific relations among protective factors and coping; i.e., how resources and assets influence what people *do* in response to adversity. For example, how does the process of meaning-making affect how individuals appraise and respond to stress in the moment? How does perseverance relate to individuals’ success in managing their affect and behavior at the time a stressor occurs? Investigating protective factors and personal strengths together creates opportunities to test hypotheses that reflect the full constellation of assets available to people. Kleiman and

colleagues (2013) provide an illustrative example. They found that the interaction of gratitude and grit predicted increased meaning in life, which in turn predicted lower levels of suicidal ideation over 4 weeks in a sample of college students. Further, although we have identified what we view as the most promising strengths for understanding resilience, the characteristics included in the model are not exhaustive, and empirical work will be needed to determine which categories and which characteristics have the most salient impact on functioning.

#### *Investigating the mechanisms by which strengths promote resilience*

Research on resilience and well-being has identified a number of correlates of better mental health, but still has far to go in identifying which have a causal effect on functioning and how they promote resilience (e.g., Vagi, et al., 2013). The Portfolio model offers a guide for specifying and testing the processes by which particular strengths influence psychological health directly (additive effect; Path D) and indirectly via appraisals and behavioral responses to stressors (buffering effect, Path C). We have suggested a number of possibilities above, but the value of the model for improving prevention and intervention lies in documenting how specific self-regulatory, relational, and meaning-making strengths promote resilience following adversity. To answer this kind of question, it will be critical to utilize longitudinal, and where feasible, experimental designs to investigate whether the resources and assets described in the model promote mental health or simply act as indicators of resilience. Moreover, these processes are likely to operate differently at different ages, and so it will be important to consider developmental changes in the salience and function of particular strengths.

#### *Unpacking adversity*

The nature of the adversity experienced also will need to be incorporated into empirical work. Although many types of stress and trauma have similar effects on functioning, it is possible that certain strengths will prove to be more effective in responding to particular kinds of adversity. Considering the “fit” between strength and stressor will provide a more nuanced understanding of the potential additive

and buffering processes that foster resilience. For example, a person with a particular portfolio might cope very well with loss of a job but be devastated by the loss of a loved one.

*Differentiating facets of psychological health*

Similarly, it will be important to expand the dimensions of health studied to more fully represent the range of human functioning, from clinical symptoms to thriving. Posttraumatic growth and physical health probably have received the most attention after psychopathology, but other forms of well-being, including meaning-based, spiritual, and social, and the balance of positive and negative affect may offer a more comprehensive understanding of how resilience is experienced and expressed. The field would benefit from a more consistent effort to systematically assess multiple outcomes, which will require a more integrated approach to conceptualizing how individuals build fulfilling lives after experiencing trauma and adversity.

*Exploring situational and cultural factors*

Finally, greater attention to situational and cultural contexts also is needed. Much of the work on both resilience and positive psychology implicitly adopts a culture-neutral, resource-neutral view of many aspects of psychology (Banyard & Graham-Bermann, 1993; Hamby, 2014b). McMillan (2004) notes the lack of attention to situational and cultural contexts in research on post-traumatic growth and outlines a number of ways that such contexts may influence growth after stress. In Tedeschi and Calhoun's (2004) model, PTG is achieved mainly through cognitive processes: the shattering of assumptions or worldviews by the trauma (Janoff-Bulman, 2004) and the rebuilding of schemas through cognitive processing and reflection. There has been little effort to understand the ways that individual cognitive processes are influenced by an individual's broader social ecology, or how emotional and motivational factors may interact with cognitive processes in the process of meaning-making.

*Implications for prevention and intervention*

We believe there is a real hunger in the field for work that can help people achieve true thriving and success and not simply the avoidance of symptoms. We recognize that in some quarters positive psychology is not highly regarded, but caution against dismissing an entire field and losing the opportunity to make use of insights that could help move the understanding of human functioning forward. The Portfolio Model proposes that promoting regulatory, relational, and meaning-making strengths will foster well-being and/or reduce symptoms in people who are struggling to cope with high levels of stress and mental health problems, and offers a number of directions for enhancing prevention and intervention efforts.

#### *Enhancing prevention*

Prevention programs tend to suffer from many of the limitations noted earlier in this paper. Too often they are reactive rather than proactive and focus on identifying risk factors and warning signs rather than building a foundation of skills for healthy relationships, self-efficacy, and decision-making (for an exception, see Social Emotional Learning; Durlak & Weissberg, 2011). Research stemming from the model could identify character strengths and protective factors that may be most relevant to the development of a range of problems from interpersonal violence perpetration to depression. For example, early in life programs could focus on building resources and assets, such as parenting competencies, in order to create more nurturing environments (Biglan, et al., 2012). Such efforts could have both inoculating and additive effects by reducing children's exposure to adversity, fostering strengths, and directly enhancing psychological functioning. Protective factors that have buffering effects may be particularly important targets for more focused prevention programs designed for individuals already experiencing adversity. For example, the Big Brothers/Big sisters program fosters supportive relationships (resources) in youths who are at risk for behavioral and emotional problems. Wolfe's "4<sup>th</sup> R" program demonstrated success in preventing interpersonal violence among youth who had experienced child maltreatment (Wolfe, Scott, Wekerle, & Pittman, 2001) and Finkelhor and

colleagues (Finkelhor, Vanderminden, Turner, Shattuck, & Hamby, 2014) showed that high quality prevention tools (those that used active learning and/or involved parents and/or lasted more than one session) were more highly related to decreased victimization among at-risk youth. Many bystander programs work to help friends be better supports when they receive a disclosure about interpersonal violence, which may have positive effects on community as well as interpersonal resources (Banyard & Williams, 2007).

The emphasis of the model on what people do to respond to adversity also highlights the value of building key skills across the lifespan and developing constructive ways to appraise and cope with difficult events. This can include timing programs to match particular developmental moments. For example, Testa and colleagues (2010) evaluated an intervention for incoming college students that involved teaching parents how to have directed conversations about alcohol abuse and sexual assault with their children prior to beginning their first semester.

#### *Improving intervention*

Enhancing well-being and personal strengths rather than simply reducing symptoms is central for some models of psychotherapy (e.g., ACT; Hayes, Strosahl, & Wilson, 2012) but traditionally has been emphasized much less than reduction of symptoms. Research on well-being has given rise to a wide range of activities designed to foster happiness and improve people's quality of life, and they may add value to existing prevention and intervention programs focused more on clinical problems. Many are fairly simple exercises that can be used in daily life. For example, activities designed to foster gratitude (e.g., Emmons & McCullough, 2003; Froh, Kashdan, Ozimkowski, & Miller, 2009) could be integrated into interventions for trauma victims.

As described above, the model's focus on building strengths describes how individuals could respond to stress in ways that could not only alleviate current symptoms and enhance well-being but perhaps also create further buffers against future adversity. The proposed effects of character strengths

on appraisals and coping, for example, offer specific behavioral strategies that could be integrated into psychotherapy. The Portfolio Model also supports the value of performing a more systematic assessment of multiple dimensions of well-being. Some forms of well-being, particularly spiritual well-being, have been relatively neglected in mainstream psychology. This is an important domain for many people and the model's emphasis on more systematic attention to meaning-making would be helpful in many direct care settings. Likewise, a multifaceted conceptualization of psychological health has implications for the development of better assessment tools to capture the range of well-being, as well as intervention goals that go beyond symptom reduction.

### *Conclusions*

Understanding the effects of victimization and other adversities has advanced tremendously in recent decades. The study of resilience has made significant contributions to describing the processes by which people adapt to adversity, and research on positive psychology has brought new attention to the importance of studying factors that promote happiness and well-being. However, each field also has limitations that have constrained their capacity to explain how people overcome stressful and traumatic experiences. Integrating insights from work on resilience and positive psychology holds great promise for developing a more comprehensive and holistic understanding of how individuals can thrive despite experiencing adversity. The Portfolio Resilience Model bridges these two fields and offers new ideas for prevention and intervention. By expanding the range of protective factors studied and investigating how they affect individuals' affect and behavior in the short- and long-term, we will learn more about how people adapt to life's slings and arrows to build happy and meaningful lives. These lessons in turn will improve the intervention and prevention strategies we develop to assist them in that work.

References

- Banyard, V., & Graham-Bermann, S. A. (1993). A gender analysis of theories of coping with stress. *Psychology of Women Quarterly, 17*(3), 303-318. doi: 10.1111/j.1471-6402.1993.tb00489.x
- Banyard, V., & Williams, L. M. (2007). Women's voices on recover: A multi-method study of the complexity of recovery from child sexual abuse. *Child Abuse & Neglect, 31*(3), 275-290. doi: 10.1016/j.chiabu.2006.02.016
- Banyard, V., Williams, L. M., Saunders, B. E., & Fitzgerald, M. M. (2008). The complexity of trauma types in the lives of women in families referred to family violence: Multiple mediators of mental health. *American Journal of Orthopsychiatry, 78*(4), 394-404. doi: 10.1037/a0014314
- Biglan, A., Flay, B. R., Embry, D. D., & Sandler, I. N. (2012). The critical role of nurturing environments for promoting human well-being. *American Psychologist, 67*(4), 257-271. doi: 10.1037/a0026796
- Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59*(1), 20-28. doi: 10.1037/0003-066X.59.1.20
- Bonanno, G. A., & Mancini, A. D. (2012). Beyond resilience and PTSD: Mapping the heterogeneity of responses to potential trauma. *Psychological Trauma, 4*(1), 74-83. doi: 10.1037/a0017829
- Bono, G., McCullough, M. E., & Root, L. M. (2007). Forgiveness, feeling connected to others, and well-being: Two longitudinal studies. *Personality and Social Psychology Bulletin, 34*(2), 182-195. doi: 10.1177/0146167207310025
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*(7), 513-531.
- Burt, K. B., & Masten, A. S. (2009). Development in the transition to adulthood: Vulnerabilities and opportunities. In D. C. G. I. R. (Eds.) (Ed.), *The origins and organization of adaptation and maladaptation* (pp. 5-18). New York, NY: Oxford University Press.

- Burt, K. B., & Paysnick, A. A. (2012). Resilience in the transition to adulthood. *Development and Psychopathology, 24*(2), 493-505. doi: 10.1017/S0954579412000119
- Burton, C. M., & King, L. A. (2009). The health benefits of writing about positive experiences: The role of broadened cognition. *Psychology and Health, 24*(8), 867-879. doi: 10.1080/08870440801989946
- Calhoun, L. G., Cann, A., Tedeschi, R. G., & McMillan, J. C. (2000). A correlational test of the relationship between posttraumatic growth, religion, and cognitive processing. *Journal of Traumatic Stress, 13*(3), 521-527. doi: 10.1023/A:1007745627077
- Cohn, M. A., & Fredrickson, B. L. (2010). In search of durable positive psychology interventions: Predictors and consequences of long-term positive behavior change. *The Journal of Positive Psychology, 5*(5), 355-366. doi: 10.1080/17439760.2010.508883
- Collishaw, S., Pickles, A., Messer, J., Rutter, M., Shearer, C., & Maughan, B. (2007). Resilience to adult psychopathology following childhood maltreatment: Evidence from a community sample. *Child Abuse & Neglect, 31*(3), 211-229. doi: 10.1016/j.chiabu.2007.02.004
- Conger, J. C., & Conger, A. J. (1982). Components of heterosocial competence. In J. P. Curran & P. M. Monti (Eds.), *Social skill training: A practical handbook for assessment and treatment* (pp. 313-347). New York, NY: Guilford Press.
- Duckworth, A. L., Steen, T. A., & Seligman, M. E. P. (2005). Positive psychology in clinical practice. *Annual Review of Clinical Psychology, 1*, 629-651. doi: 10.1146/annurev.clinpsy.1.102803.144154
- Durlak, J. A., & Weissberg, R. P. (2011). Promoting social and emotional development is an essential part of students' education. *Human Development, 54*(1), 1-3. doi: 10.1159/000324337
- Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology, 84*, 377-389. doi: 10.1037/0022-3514.84.2.377

- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., . . . Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventative Medicine, 14*(4), 245-258.
- Fergus, S., & Zimmerman, M. A. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health, 26*, 399-419. doi: 10.1146/annurev.publhealth.26.021304.144357
- Fergusson, D. M., & Lynskey, M. T. (1997). Physical punishment/maltreatment during childhood and adjustment in young adulthood. *Child Abuse & Neglect, 21*(7), 617-630. doi: 10.1016/S0145-2134(97)00021-5
- Finkelhor, D., Vanderminden, J., Turner, H., Shattuck, A., & Hamby, S. (2014). Youth exposure to violence prevention programs in a national sample. *Child Abuse & Neglect, 38*(4), 677-687.
- Fleisher, M. (2009). Coping with macro-structural adversity: Chronic poverty, female youth gangs, and cultural resilience in a US African-American urban community. *Journal of Contingencies and Crisis Management, 17*(4), 274-284. doi: 10.1111/j.1468-5973.2009.00589.x
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218-226. doi: 10.1037/0003-066X.56.3.218
- Fredrickson, B. L. (2004). Gratitude, like other positive emotions, broadens and builds. In R. A. Emmons & M. E. McCullough (Eds.), *The Psychology of Gratitude* (pp. 145-166). New York, NY: Oxford University Press.
- Froh, J. J., Kashdan, T. B., Ozimkowski, K. M., & Miller, N. (2009). Who benefits the most from a gratitude intervention in children and adolescents? Examining positive affect as a moderator. *The Journal of Positive Psychology, 4*(5), 408-422. doi: 10.1080/17439760902992464

- Garland, E. L., Fredrickson, B., Kring, A. M., Johnson, D. P., Meyer, P. S., & Penn, D. L. (2010). Upward spirals of positive emotions counter downward spirals of negativity: Insights from the broaden-and-build theory and affective neuroscience on the treatment of emotion dysfunctions and deficits in psychopathology. *Clinical Psychology Review, 30*(7), 849-864. doi: 10.1016/j.cpr.2010.03.002
- Garmezy, N., Masten, A. S., & Tellegen, A. (1984). The study of stress and competence in children: A building block for developmental psychopathology. *Child Development, 55*, 97-111. doi: 10.2307/1129837
- Hamby, S. (2014a). *Battered women's protective strategies: Stronger than you know*. London: Oxford University Press.
- Hamby, S. (2014b). *Battered women's protective strategies: Stronger than you know*. New York, NY: Oxford University Press.
- Hamby, S., & Grych, J. (2013). *The web of violence: Exploring connections among different forms of interpersonal violence and abuse*. New York, NY: Springer.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change* (2nd ed.). New York, NY: The Guilford Press.
- Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology, 6*(4), 307-324. doi: 10.1037/1089-2680.6.4.307
- Janoff-Bulman, R. (2004). Posttraumatic growth: Three explanatory models. *Psychological Inquiry, 15*, 30-34.
- King, L. A., Hicks, J. A., Krull, J. L., & Del Gaiso, A. K. (2006). Positive affect and the experience of meaning in life. *Journal of Personality and Social Psychology, 90*(1), 179-196. doi: 10.1037/0022-3514.90.1.179

- Kleiman, E. M., Adams, L. M., Kashdan, T. B., & Riskind, J. H. (2013). Gratitude and grit indirectly reduce risk of suicidal ideations by enhancing meaning in life: Evidence for a mediated moderation model. *Journal of Research in Personality, 47*(5), 539-546.
- Lambert, N. M., & Fincham, F. D. (2011). Expressing gratitude to a partner leads to more relationship maintenance behavior. *Emotion, 11*(1), 52-60. doi: 10.1037/a0021557
- Layous, K., Chancellor, J., & Lyubomirsky, S. (2014). Positive activities as protective factors against mental health conditions. *Journal of Abnormal Psychology, 123*, 3-12. doi: 10.1037/a0034709
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer Publishing Company, Inc.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*(3), 543-562. doi: 10.1111/1467-8624.00164
- Lyubomirsky, S. (2012). Positive psychologists on positive constructs. *American Psychologist, 67*(7), 574. doi: 10.1037/a0029957
- Lyubomirsky, S., & Layous, K. (2013). How do simple positive activities increase well-being? *Current Directions in Psychological Science, 22*(1), 57-62. doi: 10.1177/0963721412469809
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*(3), 227-238. doi: 10.1037/0003-066X.56.3.227
- Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology, 19*, 921-930. doi: 10.1017/S0954579407000442
- Masten, A. S., Burt, K. B., Roisman, G. I., Obradovic, J., Long, J. D., & Tellegen, A. (2004). Resources and resilience in the transition to adulthood: Continuity and change. *Development and Psychopathology*(4), 1071-1094. doi: 10.1017/S0954579404040143
- McMillen, J. C. (2004). Posttraumatic growth: What's it all about? *Psychological Inquiry, 15*(1), 48-52.

- McNulty, J. K., & Fincham, F. D. (2012). Beyond positive psychology? Toward a contextual view of psychological processes and well-being. *American Psychologist*, *67*(2), 101-110. doi: 10.1037/a0024572
- Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., . . . Caspi, A. (2010). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Science of the United States of America*, *108*(7), 2693-2698. doi: 10.1073/pnas.1010076108
- Oatley, K., & Jenkins, J. M. (1996). *Understanding emotions: In psychology, psychiatry, and social science*. Cambridge, MA: Blackwell.
- Ong, A. D., Bergeman, C. S., Bisconti, T. L., & Wallace, K. A. (2006). Psychological resilience, positive emotions, and successful adaptation to stress in later life. *Journal of Personality and Social Psychology*, *91*(4), 730-749. doi: 10.1037/0022-3514.91.4.730
- Park, C. L. (2010). Making sense of the meaning literature: An integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological Bulletin*, *136*(2), 257-301. doi: 10.1037/a0018301
- Park, N., Peterson, C., & Seligman, M. E. P. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology*, *23*(5), 603-619. doi: 10.1521/jscp.23.5.603.50748
- Peterson, Park, N., Pole, N., D'Andrea, W., & Seligman, M. E. P. (2008). Strengths of character and posttraumatic growth. *Journal of Traumatic Stress*, *21*(2), 214-217. doi: doi:10.1002/jts.20332
- Peterson, & Seligman, M. E. P. (2003). Character strengths before and after 9/11. *Psychological Science*, *14*(381-384). doi: 10.1111/1467-9280.24482
- Peterson, & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. Washington, D.C.: APA Press and Oxford University Press.

- Schnell, T. (2011). Individual differences in meaning-making: Considering the variety of sources of meaning, their density and diversity. *Personality and Individual Differences, 51*(5), 667-673. doi: 10.1016/j.paid.2011.06.006
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*, 5-14. doi: 10.1037/0003-066X.55.1.5
- Seligman, M. E. P., Steen, T., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist, 60*(5), 410-421. doi: 10.1037/0003-066X.60.5.410
- Shaw, A., Joseph, S., & Linley, P. A. (2005). Religion, spirituality, and posttraumatic growth: A systematic review. *Mental Health, Religion, and Culture, 8*(1), 1-11. doi: 10.1080/1367467032000157981
- Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology, 65*(5), 467-487. doi: 10.1002/jclp.20593
- Skaggs, B. G., & Barron, C. R. (2006). Searching for meaning in negative events: Concept analysis. *Journal of Advanced Nursing, 53*(5), 559-570. doi: 10.1111/j.1365-2648.2006.03761.x
- Skopp, N., McDonald, R., Jouriles, E. N., & Rosenfield, D. (2007). Partner aggression and children's externalizing problems: Maternal and partner warmth as protective factors. *Journal of Family Psychology, 21*(3), 459-467. doi: 10.1037/0893-3200.21.3.459
- Sroufe, L. A., Egeland, B., Carlson, E., & Collins, W. A. (2005). Placing early attachment experiences in developmental context. In K. E. Grossman, K. Grossman & E. Waters (Eds.), *Attachment from infancy to adulthood: The major longitudinal studies*. New York, NY: The Guilford Press.
- Swisher, R. (2008). Neighborhoods and youth: How neighborhood demographics and social processes affect youth outcomes. *The Prevention Researcher, 15*(2), 7-11.

- Tedeschi, R. G., & Calhoun, L. G. (2004). The foundations of posttraumatic growth: New considerations. *Psychological Inquiry, 15*, 1-18.
- Testa, M., Hoffman, J. H., Livingston, J. A., & Turrisi, R. (2010). Preventing college women's sexual victimization through parent based intervention: A randomized control trial. *Prevention Science, 11*, 308-318. doi: 10.1007/s11121-010-0168-3
- Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior, 52*(2), 145-161. doi: 10.1177/0022146510395592
- Turner, H., Finkelhor, D., & Ormrod, R. (2010). Poly-victimization in a national sample of children and youth. *American Journal of Preventative Medicine, 38*(3), 323-330. doi: 10.1016/j.amepre.2009.11.012
- Ungar, M., Theron, L. C., & Didkowsky, N. (2011). Adolescents' precocious and developmentally appropriate contributions to their families' well-being and resilience in five countries. *Family Relations, 60*(2), 231-246.
- Vagi, K. J., Rothman, E. F., Latzman, N. E., Tharp, A. T., Hall, D. M., & Breiding, M. J. (2013). Beyond correlates: A review of risk and protective factors for adolescent dating violence perpetration. *Journal of Youth and Adolescence, 42*, 633-649. doi: 10.1007/s10964-013-9907-7
- Werner, E. E., & Smith, R. S. (2001). *Journeys from childhood to midlife: Risk, resilience and recovery*. Ithaca, NY: Cornell University Press.
- Wickrama, K. A. S., & Noh, S. (2010). The long arm of community: The influence of childhood community contexts across the early life course. *Journal of Youth and Adolescence, 39*, 894-910. doi: 10.1007/s10964-009-9411-2
- Wolfe, D. A., Scott, K., Wekerle, C., & Pittman, A. (2001). Child maltreatment: Risk of adjustment problems and dating violence in adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(3), 282-289. doi: 10.1097/00004583-200103000-00007

- Wood, A. M., Froh, J. J., & Geraghty, A. W. A. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review, 30*, 890-905. doi: 10.1016/j.cpr.2010.03.005
- Wood, A. M., Joseph, S., & Linley, P. A. (2007). Coping style as a psychological resource of grateful people. *Journal of Social and Clinical Psychology, 26*, 1108-1125.
- Wood, A. M., Maltby, J., Gillett, R., Linley, P. A., & Joseph, S. (2008). The role of gratitude in the development of social support, stress, and depression: Two longitudinal studies. *Journal of Research in Personality, 42*, 854-871. doi: 10.1016/j.jrp.2007.11.003
- Zautra, A. J., Affleck, G. G., Tennen, H., Reich, J. W., & Davis, M. C. (2005). Dynamic approaches to emotions and stress in everyday life: Bolger and Zuckerman reloaded with positive as well as negative affect. *Journal of Personality, 73*, 1511-1538. doi: 10.1111/j.0022-3506.2005.00357.x

Table 1

*Key Strengths & Limitations of Research on Resilience & Positive Psychology*

---

*Resilience Research*

*Strengths*

- 1) Focuses attention on adaptive functioning after adversity
- 2) Identifies a set of protective factors associated with resilience
- 3) Addresses multiple levels of ecology (e.g., individual, family, community)
- 4) Describes mechanisms by which protective factors foster resilience
- 5) Identifies trajectories of adaptation

*Limitations*

- 1) Many protective factors are the inverse of risk factors.
- 2) Resilience often is defined as the absence of pathology rather than the presence of health
- 3) Not developmentally integrated; studies of children or adults tend to address different kinds of adversity
- 4) Some protective factors are static characteristics (e.g., age, gender, SES) that do not readily explain how resilience develops or identify targets for intervention

*Positive Psychology Research*

*Strengths*

- 1) Conceptualizes health in terms of positive indicators of well-being and not just the absence of pathology
- 2) Identifies a set of correlates of diverse forms of well-being (strengths)
- 3) Describes relations among strengths, including higher-order categories
- 4) Generates activities and interventions designed to increase strengths and well-being
- 5) Incorporates spirituality, transcendence, and religiosity into the study of well-being

*Limitations*

- 1) Most research is correlational and provides little evidence of causal effects of strengths
  - 2) The mechanisms by which strengths enhance well-being are not well-understood
  - 3) Work on mechanisms is limited primarily to main effects and linear relationships.
  - 4) Little attention to whether character strengths associated with well-being generalize to people who have experienced significant adversity
-

Table 2

*Key Elements of the Portfolio Resilience Model*

---

- 1) Builds systematically and integratively on research in resilience and positive psychology
  - 2) Introduces new potential protective factors that are not simply the inverse of risk factors
  - 3) Proposes that the *density and diversity* of resources, assets, and coping skills are more important than particular characteristics for understanding resilience
  - 4) Identifies 3 higher-order functional categories of strengths that are particularly salient for resilience: regulatory, interpersonal and meaning-making strengths
  - 5) Incorporates key resilience mechanisms (additive, buffering, inoculating, and insulating) in a single model
  - 6) Adopts a multi-dimensional approach to defining well-being, including psychological, physical, and spiritual aspects
  - 7) Identifies specific paths to targets for prevention or intervention
  - 8) Adopts a developmental, lifespan focus
-

Figure 1. The Portfolio Resilience Model

