

## Chapter 2

# Towards Fortigenesis and Fortology: An Informed Essay

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*When we try to pick out anything by itself, we find it hitched to everything else in the Universe*

– John Muir (1911).

The purpose of this chapter is to present the diversity of the origins of strength, or *fortigenesis*. However, to do this in entirety poses a problem in that each facet of the whole is, in turn, large enough to warrant a chapter-length presentation. Therefore, only some of these facets will be presented herein, and then merely as snapshots.

The central theoretical constructs of fortigenesis will be presented first. *Salutogenesis* was Antonovsky's (1979) concept to describe the origins of health; it is characterized by good physical, psychological, and social health, although frequently the concern is with the first of the three. Fortigenesis is an expansion of salutogenesis; it is an attempt to more pointedly describe a condition of strength at multiple endpoints, more than just health alone. *Fortology* is the study of fortigenesis. A following section deals with *resiling* (the verb form of resilience); in the present view, fortigenesis is considered as being supported by resiling, as an active process. Resiling, in turn, may be strengthened by a range of characteristics and behaviors, for instance, agency, engagement, gratitude, hope, locus of control, maturity, mindfulness, optimism, self-esteem, sense of humor, spirituality, wisdom, and more, in addition to health-promoting activities. Among this diverse range of variables, only *sense of coherence*, *general psychosocial well-being*, *self-efficacy*, and *social support* will be considered in any detail. I chose self-efficacy and social support to represent the

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Dedicated with deep gratitude to Rita Kellerman, who planted a seed in about 1982, which grew into fortigenesis, but also for nurturing me and my work into mature age. Thank you, Malan Heyns, Bok Marais, Pieter Strümpfer, and two reviewers, for comments on earlier drafts.

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individual and social sides of human functioning, respectively.<sup>1</sup> As girding the psychological variables, some *genetic* and *cultural* aspects will receive attention in an attempt to go somewhat beyond individual and social psychology.

In the end, I suggest virtually non-sequence, since theoretically I assume that one is dealing with a *system* (or *holos*) characterized by complexity and emergence. To present a complex web of interdependent variables in independent sections is contrary to systems thinking. Yet a unitary presentation, with all cross connections, is practically impossible in this linear medium. That is my testimony to poverty.

## Central Constructs

### *Salutogenesis*

Antonovsky's (e.g., 1979, 1987) work concerning the origins of health is an early link in the chain of greater attention to the positive in social sciences. Surprisingly, up to now he has been largely ignored by positive psychologists. He was an American-born and -educated Israeli sociologist of health at the Ben-Gurion University in Beer-Sheva, Israel. He died in 1994. He proposed studying the origins of health rather than of disease.

In 1979, Antonovsky presented extensive morbidity data which led him to comment that the question inevitably arises as to how—given the ubiquity and diversity of pathogens—“anyone ever stays alive” (p. 14). Yet later he writes, “most of us, most of the time, are not on our deathbeds, are not in hospital, and are more or less healthy”. This quandary led him to the construct of salutogenesis (Latin *salus*=health+Greek *genesis*=origin). It describes a coping resource that is presumed to mitigate life stress by affecting the overall quality of one's cognitive and emotional appraisal of impacting stimuli. This, in turn, engenders, sustains, and enhances physical health too. He commented that the problem of salutogenesis has to be confronted; otherwise, the problems of pathogenesis are likely to turn into a Sisyphean task.

### *Fortigenesis*

Arguing that Antonovsky struggled with a much more encompassing problem than the factors that affect physical health, I (Strümpfer, 1995) expanded the construct of salutogenesis to fortigenesis (Latin *fortis*=strong), concerning strength at more

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<sup>1</sup>Lifespan development is only referred to. Five/Six-factor personality variables are denied the attention they deserve, but see Bogg and Roberts (2004), Friedman and Martin (2011), and Kern and Friedman (2011).

endpoints than merely just the endpoint of health.<sup>2</sup> In the fortigenic context, strength means being aware of a demand, a goal, and a direction in which to act. It also means having the inherent ability and energy to make the effort to do what is required. And then it requires motivation, determination, steadfastness, and endurance to continue acting, and even to recuperate when the potency falters.

Like its predecessor concept, salutogenesis, the notion of fortigenesis holds an element of dynamism. The word *genesis* derives from the Greek *gen-*, meaning “to be produced”, which is the root of *gignomai*, meaning “to become”. It thus refers to sources of strength that have been developed or are currently being developed where such were not before, or where some were only developed to a lesser extent. Hence, demands can be endured, resiled, and even harnessed towards personal growth and steeling, leading the individual to attain greater heights than before. It implies a continuum rather than a static condition.

Beyond health, fortigenesis is also likely to contribute to effectiveness with regard to work, family life, friendships, community involvement, spiritual expression, and economic and political functioning. Fortigenesis is thus more embracing than *salutogenesis*, especially when *salus* is used in its literal sense of freedom from physical disease. Speaking figuratively about health—as in contexts of work and organizations, communities and societies, or even nations—overburdens its meaning unnecessarily. The strength conception thus seems to be more descriptive of the Antonovskian paradigm.

Saleeby (1992) introduced the description of *strength perspective* into Social Work, which I borrowed (Strümpfer, 2006). A strengths perspective is not foreign to Antonovsky’s way of thinking. Indeed, in 1991 he devoted a chapter to “the structural sources of salutogenic strengths”. In 1995, I highlighted Antonovsky’s own writings that indicated that he often used the word *strength* in a variety of contexts. To me, the most personal consideration appeared in the prologue to his 1979 book, where he wrote “I began groping toward the question that occurs to one when examining lives such as those of my parents: Whence the strength?” (p. 7).

In a seminal study, Antonovsky, Moaz, Dowty, and Wijzenbeek (1971) examined Israeli female survivors of Nazi concentration camps 25 years after the Holocaust, with respect to their physical, psychological, and social health status. Although these women were generally ailing more than were the controls, “a not-inconsiderable number” (p. 190) of them were found to be well-adapted. The authors’ question was “What, we must ask, has given these women the *strength*, despite their experience, to maintain what would seem to be the capacity not only to function well but even to be happy, at least on some level” (p. 190–191, emphasis added).

Antonovsky (1987) presents many thoughts about the context of work. Along with others, he wrote about the developmental tasks of retirement (Antonovsky & Sagy, 1990; Antonovsky, Sagy, Adler, & Vissel, 1990). It seems self-evident that fortigenesis is likely to come to the fore in all signature life events: marriage,

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<sup>2</sup>Emeritus Professor R.A. Whitaker, Department of Classics, University of Cape Town, suggested this term.

pregnancy, child birth, parenthood, divorce, and bereavement; also in employment, job loss, mid-career transition, retirement, and post-career living.

An emphasis on strengths is inherent in other constructs in the general paradigm; for instance, *personality hardiness* (Kobasa, 1982; Maddi, Khoshiba, Harvey, Fazel, & Resurreccion, 2011), Rosenbaum's (1990) *learned resourcefulness*, Ryan and Frederick's (1997) *vitality*, Schaufeli and Bakker's (2001) *engagement*, Shirom's (2006) *vigor*, and Wissing and Temane's (2008) *general psychological well-being*—all of which could be considered as fortigenic strengths.

Salutogenesis remains the favored term, probably since in the majority of studies (e.g., in the Scandinavian countries), physical or psychological health is the typical criterion (see e.g. Eriksson, 2007).<sup>3</sup>

## **Fortology**

Wissing (1998) and Wissing and van Eeden (1997, 2002) suggested the need for a new subdiscipline in which “not only the origins of psychological well-being should/will be studied, but also the nature, manifestations, and consequently, ways to enhance psychological well-being and develop human capacities” (1997, p. 5). To this end, they expanded fortigenesis into *psychofortology* (or more generally fortology). Wissing (1998) pointed out a range of calls for more attention to resilience, strengths, and resources (or capacities) of people. However, she noted that research in this area was still fragmented and in need of integration. “The explication and differentiation of metatheoretical, theoretical, and empirical aspects are necessary” (p. 13). Furthermore, the designation of the domain of psychofortology could help to coordinate outputs and focus inputs. It may also help to enhance theory building that could be used as a background for the development of prevention, capacity building, and empowerment programs from a strength perspective at the individual, group, and community levels.

## **Continua**

Antonovsky rejected the traditional dualistic view that a person can only be either ill or well. As an alternative, he introduced the more embracing construct of a bipolar continuum of *dis-ease—health-ease*, along which individuals can move forwards or backwards as their health waxes and wanes.<sup>4</sup>

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<sup>3</sup>A search on Google Scholar (8 June 2011) referred to “about 170” references to *fortigenesis* found. Apart from self-references, about 60 journal or PDF articles were found published in South Africa, 47 references to South African doctoral or masters theses, 20 references to journal articles and three dissertations from abroad.

<sup>4</sup>I surmise that Antonovsky probably wrote “health ease/dis-ease”, this way around, under the influence of Hebrew writing from right to left; I prefer to reverse the direction, in view of the positive in the Greek-Roman tradition usually being represented on the right.

Thinking fortigenically, Antonovsky's continuum needs generalization to one of *weakness–strength*. From this generalized continuum, one could consider a variety of continua applicable to other endpoints: *hostility–love*, *neglect–care*, *ignorance* (or *nescience*)–*learn-ease*, and *fecklessness* (or *sloth*)–*work-well*. Such generalization opens vistas that remain hidden within the preoccupation with *salus*. At the *ease* end of the continuum, the concept of *coherence* remains viable and useful within all of these contexts, as does the concept of *breakdown* (Antonovsky, 1972) at the other end.

## Positive Psychology

In their millennial article, Seligman and Csikszentmihalyi (2000) bemoaned the fact that “psychology became a victimology” (p. 6), and that “psychologists have scant knowledge of what makes life worth living” (p. 5). They intended that psychology should change focus so as to build positive qualities; namely, a science of human strength.

The Positive Psychology website carries the banner *Authentic Happiness*. Seligman's biography there notes that he involved himself in “training Positive Psychologists ... whose practice will make the world a happier place” (2011). In early positive psychology, and still in much popular writing, there was/is an almost excessive emphasis on happiness. It suited a subculture around the ideal of happiness present in much of the Western world.

As time went on, Duckworth, Steen, and Seligman (2005, p. 630) described positive psychology as “the scientific study of positive experiences and positive individual traits, and the institutions that facilitate their development”. Biswas-Diener (2011, p. 24) referred to it as “the study of human flourishing”. In-depth presentations of the “science of happiness” noted that happiness is an unwieldy concept for scientific purposes. Instead, three domains are distinguished: the pleasant life (positive emotions), the engaged life (positive character), and the meaningful life (belonging to and serving in institutions that enable flourishing) (Duckworth et al., 2005; Seligman, Steen, Park, & Peterson, 2005).

With positive psychology now in its adolescence, there is currently debate among positive psychologists about the meaning of *positive*, the study of positive topics, and an integrated approach that maintains positive and negative in a balanced perspective (e.g., McNulty & Fincham, 2012). Wong (2011) elaborated on a distinction between a happiness orientation and a meaning orientation—*eudaimonia*. He pointed out the importance of a meaning orientation, not only in life in general—where development of character strengths and resilience may benefit from prior experience of overcoming negative conditions—but particularly for “the suffering masses” (p. 76). He accentuated shifting “the focus away from individual happiness and success to a meaning centered approach to making life better for all people” (p. 77). In his opinion, if the complexities of life are to be understood, the study of the paradoxical and interactive effects of positives and negatives is a more promising approach. This has indeed been an emerging trend.

Hart and Sasso (2011) quantified the accelerated interest in positive psychology from the year 1998, when Seligman inaugurated it, until to 2010, and illustrated its exponential growth. However, when they classified publications into five subdomains, the number of publications on resilience and synonymous concepts showed a sharper, and still rising, incline than the rest; they suggested tentatively that this category of research “may prove to be the Alpha dog” (p. 85).

Three avowed positive psychologists, Lyobomirsky, King, and Diener (2005, p. 844), pointed out that “an exclusively happy life is not only unrealistic—it is not necessarily the most desirable life”, and that happiness will, at times, be most adaptive, but “other times may require a level of misery or at least discontent”. These authors’ presented evidence indicating that happy people are also successful and flourishing people. In part, this could be due to success leading to happiness. However, their review brought the opposite direction of causation to the fore: in cross-sectional, longitudinal, and experimental studies that they reviewed, there was repeated support for the conviction that positive affect *causes* success. The review showed that happy people, compared to their less happy peers, “are more likely to have fulfilling marriages and relationships, high incomes, superior work performance, community involvement, robust health, and a long life” (p. 846). They suggested that happy people can occasionally experience negative emotions and, when the situation is really serious, “withdraw, conserve resources, or otherwise avoid harm” (p. 844).

Biswas-Diener (2011) was outspoken in saying that positive psychology is an applied science. His first plea was for a shift in focus, from individual happiness to group level well-being, with interventions that target families, workplaces, and communities. As an example of work group interventions, he pointed to Appreciative Inquiry (e.g., Cooperrider & Sekerka, 2003). Secondly, he pleaded for a shift towards greater emphasis on understanding personal and situational contextual factors that could affect the effectiveness of interventions.

Despite criticism, positive psychology has made important and extensive contributions, as are clear from the contents of the *Journal of Positive Psychology*, the *Journal of Happiness Studies*, and publications in general psychology journals, as well as the successes of international and national conferences.

A special issue of the *American Psychologist* (2011, Vol. 66, Issue 1) on comprehensive soldier fitness presents what could probably be called positive psychology’s most ambitious and most comprehensive venture. Seligman and Fowler (2011) commented on the unprecedented levels of post-traumatic stress disorder (PTSD), depression, suicide, and anxiety in the U.S. Army; they proposed the training of a resilient army. To this effect, a large team of positive psychologists are cooperating in the development and implementation of tests, fitness courses, and resilience training.<sup>5</sup>

Rand and Snyder (2003) expressed the opinion that positive psychology may eventually be integrated into psychology in general, as researchers habituate to its ideas; but then they foresaw “the more important possibility... that researchers will

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<sup>5</sup>This issue elicited responses from five critics, on moral and other grounds, see: *American Psychologist*, 2011, 66 (7), 641–645. Seligman’s rejoinder appeared on pp. 646–647.

routinely investigate their world from a positive along with a negative frame of reference” (p. 149). Of course, such a consideration applies equally to fortigenic thinking in the future.

### ***Antonovsky a Positive Psychologist?***

Antonovsky is sometimes wrongly thought of as a positive psychologist in view of his deep involvement with the positive end of his continuum. He was, however, also consistently and deeply heedful of the negative end; that is, of weakness, distress, and disease. As far back as a conference paper in 1968 (published in 1972), he introduced the concept of breakdown. In a medical context, he specified it as a state, or condition, which (1) is painful to the individual, and/or (2) functionally limits an individual in the exercise of faculties or performance of social roles, (3) is characterized by a kind and degree of acuteness-chronicity with a given degree of threat to life, and (4) is recognized by the medical institution of society as requiring care under its direction. He stated that: “I by no means advocate abandonment of the pathogenic orientation” (1979, p. 13). A counterbalancing emphasis on comfortless *stress* is equally characteristic of his writings. His contention was clear: stressors are omnipresent in human existence. He wrote, “My thesis ... is that all of us throughout life, even in the most benign and sheltered of environments, are fairly continuously exposed to what we call stressors” (p. 77). In 1987 he wrote that central to the salutogenic view is a “fundamental philosophic view of the human organism as prototypically being in a dynamic state of heterostatic disequilibrium” (p. 130). His insistence on awareness of pathogenesis and negative aspects of life did not, however, imply joylessness, but merely a well-balanced perspective on sadness and happiness, and on both weakness and strength. With voices calling for an integrated perspective on the positive with the negative, a reassessment of Antonovsky’s views could enrich the field of positive psychology.

Antonovsky (1987) developed the *Orientation to Life Questionnaire* (OLQ) and an indication of his commitment to keep both negative and positive constantly in mind is not often noted in the OLQ. The items are bipolar, with a negative and a positive end. It is scored in the positive direction but it could also be scored in the negative direction to obtain a Neg-SOC score, leaving practitioners to ask how much pathology is present here, or how little strength?

### **Sense of Coherence and Generalized Resistance Resources**

My expansion of salutogenesis into fortigenesis did not change the rest of the Antonovskian model, namely his core construct of sense of coherence (SOC) and what he called *generalized resistance resources*. These, too, remain valid within the wider sphere.



Antonovsky's oft-quoted definition of SOC is as follows:

The sense of coherence is a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement (1987, p. 19, italics deleted).

The three numbered components are labeled *comprehensibility*, *manageability*, and *meaningfulness*. Comprehensibility is enhanced during childhood and adolescence by consistency in life experiences, manageability through an appraisal that there are sufficient resources to deal with the environment, and meaningfulness through belonging and participation in decision making. SOC is not a particular coping style but rather an approach to choosing a coping strategy appropriate to a given stressor or combination of stressors. On the weakness–strength continuum, SOC explains moving away from the weakness end to the strengths end.

In the world of work, crucial variables for both preservation and continued development of SOC are: substantive complexity (including load balance rather than overload), which contributes to comprehensibility; job security, which contributes to predictability and manageability; and social relations within the work group. Among these, participation in socially and culturally valued decision making is perhaps the most important as it contributes to meaningfulness. Sagy and Antonovsky (2000) noted that even in childhood, participation in shaping outcomes is the most relevant experience related to adult SOC.

Jellesma, Rieffe, Terwogt, and Westenberg (2011) placed the start of the establishment of SOC in middle childhood, around the age of 10, when children develop independence from adults. This is when they begin to evaluate their behaviour and its consequences. Antonovsky (1979) noted that we emerge from childhood with some formed sense of coherence, though tentative. In his opinion, by the time one reaches young adulthood and the early years of employment, a tentative level of SOC begins to be established and one's location on the SOC continuum begins to show. It continues to strengthen in the presence of the conditions presented above, so that after the age of about 30, Antonovsky (1987, 1994) considered SOC to have become more or less fixed.

Referring to the term *dynamic* in the definition of SOC, he remarked that he was not committed to an understanding of SOC as “being determined forever and anon by genes or early childhood experience. It is shaped and tested, reinforced and modified not only in childhood but throughout one's life” (1979, p. 125). He noted that “a chance encounter, a courageous decision, or even an externally imposed change” (1987, p. 123), as well as “a radical change in one's structural situation” (1979, p. 125), such as in occupation, marital status, or place of residence, could all result in a significant change in SOC. Such ups and downs occur largely around a stable location on the SOC continuum. However, he also noted the possibility of cataclysmic stressors (p. 188) that hold the potential of a wide variety of unpredictable transforming experiences that weaken SOC.



The role of life experiences has to be introduced, too, in considering SOC changes over long periods of time. Antonovsky reasoned that a person who, in early adulthood, has a moderate level of SOC, will tend to move to a still lower level over time, since “selection of SOC-reinforcing situations and avoidance of SOC-debilitating situations will be less successful” (1987, p. 122). For a person with a weak SOC, the situation turns into a vicious circle because “the ‘loser’ continues to lose”, and life contains less and less of the three component of SOC. Smith, Breslin, and Beaton’s (2003) findings support this reasoning: they reported that people in unskilled occupations showed decline in SOC levels from 1994 to 1998, in both females and males, in a Canadian population health survey sample. In contrast, Antonovsky argued that a person with a strong SOC selects coping strategies that tend to reinforce SOC over time. Smith et al. (2003) found no support for this proposition. Contrary findings came from Eriksson and Lindström (2005): based on cross-sectional studies, they showed that, in general, SOC tends to increase somewhat with age over an entire lifetime.

Proceeding from there, Antonovsky (1979, p. 189) asked, if the sense of coherence is shaped by life experiences, what shapes life experiences? His answer was generalized resistance resources (GRRs; with generalized resistance *deficits* regarded as the antonym). GRRs refer to any characteristic of an individual, primary group, subculture, or society that is effective in avoiding or combating a wide variety of stressors, thus preventing tension from being transformed into stress. He considered physical, biochemical, artefactual-material, cognitive (including knowledge/intellectual), emotional (particularly ego identity), interpersonal-relational, valuative-attitudinal, and macro-sociocultural GRRs.

Antonovsky brought these considerations into play in dealing with SOC and disease—health-ease: they lead the person with a strong SOC to select the coping strategy that appears most appropriate for dealing with a particular stressor. Perhaps the selection is even in terms of what is appropriate for a given individual or at a given point in time.

## General Psychosocial Well-Being

Although Keyes (2002, 2005a, 2007) does not present general psychosocial well-being as such, it appears to be an extension of Antonovsky’s work. Keyes produced an even more variegated representation than Antonovsky’s continuum. He produced empirical support for one continuum that represents mental ill-health and another that represents mental health. The first continuum is the traditional field of pathogenesis and psychopathology. However, he reasoned that “mental health, like mental illness, is a syndrome of symptoms of subjective well-being” (2007, p. 396).

In this model, complete mental health consists of the absence of diagnosable mental disorder and the presence of *flourishing*. Individuals who are purely flourishing experience high levels of emotional well-being and function well both psychologically and socially; they show enthusiasm for life and are actively and productively involved. In one study, flourishers “functioned superior to all others in terms of the fewest workdays missed, fewest half-day or less cutbacks of work, lowest level of

health limitations of activities of daily living, the fewest chronic physical diseases and conditions, the lowest health care utilization, and the highest levels of psychosocial functioning” (Keyes, 2007, p. 100; Keyes & Grywacz, 2002). Furthermore, this group was characterized by the highest level of functional goals, the highest level of self-reported resilience, the highest level of intimacy, and the lowest level of perceived helplessness. They generally functioned better than moderately mentally healthy adults who, in turn, functioned better than purely languishing adults.<sup>6</sup>

At the other end of this continuum are individuals in pure *languishing*. They are at the bottom levels of emotional, psychological, and social well-being. They experience emptiness, stagnation, and quiet despair. Notwithstanding their low levels of functioning, languishers still function in psychological and social contexts to an extent that cannot be described as mental illness.

Since mental illness, languishing, and flourishing are not permanent and stable conditions, one could hypothesize that—due to both a variety of subjective, personal, and external social experiences—people could move up and down along both continua. Along the first continuum, people who have previously been well become mentally ill, but people also recover from pure forms of a mental illness to an absence of such illness. Along the other continuum, people could theoretically move from pure languishing to pure flourishing, or in the opposite direction.

To measure his well-being construct, Keyes developed a Mental Health Continuum Scale, first in a long form (2002, 2005a), and later in a short form (2005b). Based on confirmatory factor analysis, he defined a three-factor model; namely, Emotional Well-being (or Positive Affect), Psychological Well-being, and Social Well-being. This three-factor structure has been confirmed in a Setswana-speaking South African sample by Keyes et al. (2008) and by Robitschek and Keyes (2009) in two U.S. college student samples.

Wissing and Temane (2008) factor analyzed data from several sets and from a diverse set of measures of constructs with various perspectives, all operationalizing facets of psychological well-being (but not including a Keyes’ measure). The measures overlapped partially between samples and also between Black and White samples. They identified a general well-being factor in all data sets. It was viewed as an emergent property of a variety of specific psychological strengths, as an evolutionally developed, domain-specific adaptation for coping with novel or extreme psychological challenges. It could also be viewed as the basic contributor to resiling and the opposite of a general neuroticism or risk/vulnerability factor.

## Resiling

Definitions of resilience emphasize an inordinately demanding or detrimental situation, or collection of factors, from which an individual or a group rebounds without breaking down, and afterwards maintaining a level of competent functioning—sometimes with

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<sup>6</sup>Karl Menninger (Menninger, Mayman, & Pryser, 1963, pp. 406–409) used the colorful expression of “weller than well” to describe something of the kind.

the additional requirement of being strengthened by the experience. The Latin roots of “resile” are *re-* and *salire*, reflecting a process of jumping or bouncing back, or returning to the original condition.<sup>7</sup> The imagery of jumping or bouncing brings to mind a certain roughness of reaction; however, resilient behaviour could also manifest in a calm evening-out of bumps, and as smoothing the road of life. While resilience is frequently considered in the context of extraordinary or risky circumstances, Masten (2001) described it as “ordinary magic”, emerging from “ordinary, normative human resources” (p. 235).

Walsh (2002) added another dimension to the construct. She noted that after an event of the magnitude of the September 11 attacks, there is no way to go back to “normal” as it was before. “Our world has changed and we must change with it” (p. 35). A new sense of normality needs to be constructed, “as we have to recalibrate our lives to face unanticipated challenges ahead”. For these reasons, she proposed a concept of *bouncing forward*, rather than back. Major disasters, such as wars, earthquakes, tsunamis, tornados on the scale of the Joplin, Missouri one of 22 May, 2011, and the attacks in Oslo and Utoya on July 22, 2011, all have such implications. Walsh’s (2007) emphasis is, furthermore, on multisystemic approaches in order to create family and community resilience.

Rutter (2006, p. 10) was outspoken, stating that “resilience is not a general quality that represents a trait of the individual”; for this reason, “research has to focus on the processes underlying individual differences in response to environmental hazards”. Commenting on long-living members in their study, Friedman and Martin (2011, p. 211) noted that: “Resilience was not a trait they were born with, nor an inner insight, but a process of perseverance and hard work”.

I described resilience as a pattern of *activity*, starting with the appraisal of demands, which arouses a motive to be strong in the face of inordinate demands, followed by goal-directed behavior of coping and rebounding, with accompanying emotions and cognitions (Strümpfer, 2004). The process is under the influence of various circumstances, opportunities, and contexts, as well as internal characteristics of the individual. The motive is a disposition that is activated temporarily by passing situational influences in the immediate environment, but which otherwise remains latent until activated. The individual will persevere with resiling behavior as long as the situational demands endure, but will thereafter become quiescent. How likely the motive is to be activated will vary from person to person. This model needs elaboration in terms of an existential striving towards flourishing. The very experience of distress could arouse a need for personal growth beyond overcoming or survival. It could be simply to prevent repetition of the experience, but even more, to reach previously nonexistent or unanticipated goals in functioning and being.

That a variety of variables commingle in resilience implies a huge potential for combinations and the likelihood that individuals have unique ways of resiling,

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<sup>7</sup>This meaning is reflected in words in other languages too, such as, in the Afrikaans noun *veerkrag* (strength to bounce back) and verb *terugveer* (bounce back). In Zulu *bekezela* literally means springing up and down like a pliable pole, or more generally to being forbearing, long-suffering, and patient in time of trouble. “*Bekezela*” was used as a message of encouragement in the days of the Struggle against Apartheid.

including variations over time. No one can be competent at everything either—attempting to be a Jack-of-all-resiliences would turn one into a master of none.

The concept of resilience is used in other fields, too, such as ecosystems, physics, and engineering. The difference in usage is that in human resiling people are changed through learning new knowledge and skills, strengthening their abilities, and forming new social ties.

The history of resilience in psychology started in the 1970s, mainly with studies of children from aversive, corrosive contexts, for instance, children of schizophrenic or substance-abusing parents; such studies are still ongoing, and now include child soldiers. Invariably it has been found that some of these children subsequently mastered their drawbacks and functioned competently, robustly, and resourcefully. Garmezy pioneered such studies (see obituary by Masten, Nuechterlein & Wright, 2011); other pioneers include Werner and Smith (1982), Anthony and Cohler (1987) in the United States, and Rutter (2006) in the United Kingdom. Keyes (personal communication, May 21, 2007) remarked that the blind spot in all of this early research was that it focused on protective factors against illness, and assumed that not being ill in the face of adversity amounted to being healthy. They were mostly, if not entirely, focused on prevention of pathology, which is not salutogenic (fortigenic), strictly speaking.

Rutter (2006) noted a *steeling* effect of resistance to later stress, which sometimes arises out of earlier experience of stress and adversity. An example is Elder's (1974, 2005) study of children of the Great Depression, whose lives were marked by economic hardship: children who had coped successfully with poverty developed resilient life trajectories.

Research on how adults resile has also developed apace, particularly in connection with catastrophic events. Bonanno and his associates' extensive studies on bereavement (e.g., Bonanno, Moskowitz, Papa, & Folkman, 2005) and on disaster victims can serve to illustrate the area. Bonanno's (2004) research concerned the ability of adults to maintain relatively stable, healthy levels of both psychological and physical functioning when they were exposed to an isolated and potentially highly disruptive event, while in otherwise normal circumstances. In this work he observed that resilient individuals "may experience transient perturbations in normal functioning, but generally exhibit a stable trajectory of healthy functioning across time, as well as the capacity for generative experiences and positive emotions" (p. 21). Bonanno and Mancini (2008, p. 371) commented that resilient individuals, too, may experience some mild or moderate, mostly short-term stress reactions, which usually do not upset their ability to function. However, Bonanno (2005) noted that resilient individuals tend to continue functioning near or at their usual levels, for example, in fulfilling responsibilities and in engaging in new relationships and creative activities. He also showed that resilience is more prevalent than generally accepted in the literature, being the most common behavioral outcome after potentially traumatic events. He maintained that resilience and recovery reveal discrete and empirically separate outcome trajectories. Bonanno, Rennieke, and Dekel (2005) noted that people who exhibit a recovery trajectory experience psychological symptoms at threshold or subthreshold levels, as well as significant

disruption in their daily functioning; they struggle with these for many months before returning to their baseline, pre-trauma levels.

An interview study 6 months after the September 11 attack provided an example. Bonanno, Galea, Bucciarelli, and Vlahof (2006, p. 184) found that 65 % of the sample ( $n=2,752$ ) reported one or no PTSD symptom, their criterion for resilience. This number decreased as people experienced greater exposure; for example, 33 % of individuals physically injured, and 33 % of individuals who lost a friend or relative and saw the attack. Recovery covered persons with two PTSD symptoms, with 29 % classified as such.<sup>8</sup> Bonanno and Mancini (2008, p. 371) concluded that: “Our point is merely that as undesirable as [potentially traumatic events] might be, many people cope with such events extremely well and are able to continue meeting the normal daily demands of their lives”.

## Self-efficacy

In Antonovsky’s conception of sense of coherence, the first of the sources of strength is *resources under control of self*. It is akin to self-efficacy. Bandura (e.g. 1977, 1997) is the father of the self-efficacy construct. It concerns the belief that one has the capability to mobilize the motivation, cognitive resources, and courses of action that are required to execute a specific behavior successfully, in order to attain a certain outcome. It influences one’s choice of activities regarding the expenditure of effort, the degree of persistence in the face of obstacles, and the performance of the task at hand. The greater the level of self-efficacy, the greater will be both the goal striving and the actual pursuit of the challenge. Furthermore, once persons high in self-efficacy have taken action, they invest more effort and persist longer than those who are low in it; when they run into setbacks, they are likely to recover more rapidly and maintain their commitment to their goals. There is also an effect of reinforcement in that experiences of mastery strengthen future self-efficacy. Whether in a health, work, educational, sport, or other context, self-efficacy serves as a moderator between demands and outcome (e.g., Williams, Wissing, Rothman, & Temane, 2010).

Self-efficacy has two components. First, the *efficacy expectation* is a belief that *I myself can* successfully produce the behavior that is required to generate the outcome. Bandura (1977) listed four major sources of efficacy expectations: performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal. Second, the *outcome expectation* is a person’s estimate that a given behavior will lead to a particular outcome. People fear and avoid situations that they estimate as exceeding their coping skills, but they confidently enter situations they believe

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<sup>8</sup>Neria, DiGrande, and Adams (2011), by implication, indicated a limitation of these findings. They excluded from their review studies that reported an incomplete assessment of PTSD, such as two or three symptoms. They applied the inclusion rules of a strict clinical assessment, following the DSM of Mental Disorders (4th ed., rev.), also excluding persons with a previous history of PTSD.

they can master. The distinction between the two components is important, since I may well believe that a particular action will lead to a particular outcome, but I may doubt whether I can produce that action. Williams (2010) reviewed the literature on the debate of whether the relationship between self-efficacy expectation and outcome expectation is only in this direction, as Bandura has theorized, or bidirectional, as others have argued—both sides with experimental data.

*Generalized* perceived self-efficacy pertains to global optimistic beliefs about being able to cope with a wide variety of demanding situations. The Schwarzer and Jerusalem General Self-efficacy Scale (Scholz, Doña, Sud, & Schwartz, 2002; Schwarzer, Mueller, & Greenglass, 1999), and the Chen, Gully, and Eden (2001) General Self-Efficacy Scale both have this aim. However, Bandura's (1997) conceptualization is that self-efficacy is situation specific, which implies that in its measurement, the item wording should refer to the particular challenges to be met. The Coping Self-efficacy Scale (Chesney, Neilands, Chambers, Taylor, & Folkman, 2006) is an example. Schwartz and Luszczynka's (2008) scales to measure aspects of health self-efficacy are even more specific; namely, scales for nutrition, physical exercise, alcohol resistance, smoking cessation, condom use, and medication adherence. McAuley et al. (2011) provided other examples; namely, measures of barriers to self-efficacy and self-efficacy for walking.

Typically, self-efficacy refers to individual performance, but there is also literature on *collective-efficacy* that can refer to teams, departments, organizations, or even nations (Gully, Incalcaterra, Joski, & Beaubien, 2002). Bandura (2010, p. 165) wrote that "People do not live their lives in individual autonomy. Many things they seek are achievable only by working together through interdependent effort". Collective-efficacy is a shared belief in the capabilities of the particular collective to pool and organize their knowledge, skills, and resources, to execute the required activity. Team self-efficacy, for instance, refers to what people as a team will choose to do, the effort they will put into that choice, and their staying power when their collective efforts fail; it involves coordinating, interweaving, and reciprocating their mutual influences (Bandura, 1997).

Over time, meta-analyses on the effects of self-efficacy in various areas of activity have demonstrated that it is a robust predictor of behavior (Williams, 2010). Some examples concern team -self-efficacy (Gully et al., 2002), reducing chronic disability (Marks, Allegante, & Lorig, 2005), sport performance (Moritz, Feltz, Fahrbach, & Mack, 2000), academic outcome (Multon, Brown, & Lent, 1991), health-related physical activity (Nickel & Spink, 2010), and work-related performance (Stajkovic & Luthans, 1998).

## Genetics and Neuroscience

An important area in genetics and neuroscience pertinent to resiliency (and fortigenesis) is that of gene-by-environment interaction ( $G \times E$ ), as it impacts the individual. Rutter (2006, p. 6) emphasized that "the influence of the genes was only shown

through demonstration of the *interaction* with the environmental hazard” (emphasis added). “Gene-environment interactions occur when the effect of exposure to an environmental pathogen on a person’s health is conditioned on his or her genotype” (Caspi & Moffitt, 2006, p. 583). These authors argued that collaboration between  $G \times E$  research and experimental neuroscience could solve the greatest mystery of human psychopathology (and additionally, fortigenesis): “How does an environmental factor, external to the person, get inside the nervous system and alter its elements to generate the symptoms of a disordered mind” (or to promote a healthy, well-functioning mind)? Cicchetti, Rogosch, and Sturge-Apple (2007, p. 1162) commented that “Genes are equally likely to serve a protective function against environmental insults for some individuals”, and that, for instance, “not all maltreated children are aggressive or develop antisocial behavior”.  $G \times E$  is a rapidly developing area of research and I have to limit this discussion to just a small area.

Recent advances in rapid genome sequencing favor research of this kind. The protocol of  $G \times E$  research is to tease out the relationship between variation in specific genes and the impact of specific environmental risks on specified psychopathology, versus reduced pathology (if not fortigenesis), in persons exposed to the same environmental risks (Kim-Cohen & Gold, 2009). In this connection, persons who are risk-exposed and have increased levels of psychopathology have typically been shown to carry a vulnerability version of the gene. Persons with comparable risk-exposure, but with reduced levels of psychopathology—or who resile more against the source of the risk—have been shown to carry a protective version of the gene. The polymorphism of two genes which influence, respectively, the production of monoamine oxidase A (*MAOA*) and the serotonin transporter (*5-HTT*), moderate early maturation of the brain, as well as the continuing regulation of the stress response, behavior, and mood (Kim-Cohen & Gold, 2009).

Neuroscience, on the other hand, has provided technologies of neuroimaging—namely, EEG, functional magnetic resonance (fMRI), and positron emission tomography (PET)—by means of which brain structure and function can be assayed. Such technology is making it possible to observe the functional impact of different forms of polymorphic genes, but also to identify neural pathways through which the different forms contribute to different outcomes.

Serotonin, norepinephrine, and dopamine are selectively degraded by *MAOA* to regulate behavior (Kim-Cohen et al., 2006). In a large sample, Caspi et al. (2002) demonstrated that boys who had been maltreated and were characterized by a genotype that conferred low levels of *MAOA* expression grew up developing conduct disorder, antisocial personality, and violent criminality in adolescence and adulthood. Similarly risk-exposed boys who had a genotype that conferred a high level of *MAOA* expression were less likely to develop antisocial problems. Kim-Cohen et al. (2006) demonstrated that the moderating effect of *MAOA* also takes place at ages closer in time to the experiences of maltreatment. In a sample of 7-year-old boys who had been exposed to physical abuse, a significant main effect of abuse on mental health problems was demonstrated. This effect was significantly smaller among boys who had high *MAOA* activity than among those with low *MAOA* activity.



It has been found, too, that a normal heritable variation in serotonin signaling, associated with the serotonin transporter *5-HTT* gene, can result in increased amygdala response to threatening environmental stimuli (Hariri & Brown, 2006). In a prospective longitudinal study, Caspi et al. (2003) demonstrated that individuals who had experienced childhood neglect, maltreatment, or stressful experiences, and who had one or two copies of the relatively low-expressing “short” allele (S/S) of the *5-HTT* gene, developed depressive symptoms, diagnosable depression, or suicidality. Similarly risk-exposed individuals who had two copies of the “long” allele (L/L) of the *5-HTT* gene did not have the same vulnerability to distress.

In an extensive replication and extension of the Caspi et al. (2003) study, Kendler, Kuhn, Vittum, Prescott, and Riley (2005) obtained samples from a large twin study (using one member of a twin pair) and an equal number of females and males. Diagnostic criteria for major depression and generalized anxiety syndrome were in DSM-III-R terms. Stressful life events were in terms of events identified during interviews and were classified as minor, low moderate, high moderate, and severe. Genotyping was as S/S, S/L and L/L on the *5-HTT* gene.<sup>9</sup> Event exposure was found to have nearly a twofold risk for major depression in participants with S/L and L/L alleles; for those with S/S alleles, the hazard risk was over sixfold, indicating a significantly increased sensitivity to depressogenic effects.

Suomi (2006) reviewed four studies on risk, resilience, and G x E interactions in rhesus monkeys. The studies compared baby monkeys reared with their mothers and peers (MP-rearing) and others reared from birth away from their mothers and other adults but continuously in the presence of three to four like-reared others (PO-rearing) with whom they rapidly develop attachments. It was found that monkeys who were carriers of the S/S *5-HTT* gene showed “delayed early neurobiological development, impaired serotonergic functioning, and excessive aggression, HPA reactivity, and alcohol consumption as they were growing up—but *only if they had been PO-reared*” (p. 864, italics in original).

Caspi, Hariri, Holmes, Uher, and Moffitt (2010) commented that subsequent to the Caspi et al. (2003) publication, the G x E interaction at the *5-HTT* has become the most investigated gene variant in psychiatry and psychology. They provided an impressive review of the research, concluding that the initial finding had been thoroughly replicated. Thapar, Harold, Rice, Langley, and O’Donovan (2006) concluded that the evidence has been most convincing with respect to depression and antisocial behavior.

Cicchetti et al. (2007) investigated the joint role of polymorphism of *MAOA* and *5-HTT* genes. The interaction of maltreatment and depressive symptomatology was studied in samples of adolescents from low socioeconomic background; they were classified as with and without maltreatment as children. Extensively maltreated adolescents with low *MAOA* activity showed heightened depressive symptoms, whereas similarly risk-exposed adolescents with high *MAOA* activity showed fewer

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<sup>9</sup>Hariri and Brown (2006), reported that, in Caucasians, the frequencies of these genotypes are approximately 16 % S/S, 48 % S/L, and 36 % L/L.

depressive symptoms. Sexually abused youths with the S/S version of the *5-HTT* gene were characterized by higher depression, anxiety, and somatic symptoms, but this interaction was moderated by their *MAOA* levels. Both sets of finding highlight the complex, multilayered background to resiling.

This field of research, along with adjacent fields in genetics and neuroscience, is explosive in the volume of research performed in the most sophisticated of methodologies and techniques. It is a pity that the emphasis is most frequently on pathogenesis rather than fortigenesis. Unfortunately no simple conclusions are possible: genes tend to function in suites, which tend, in turn, to function to determine characteristics and behaviors. Genetics and the environment (with its own vast variations) interact everywhere.

This section is incomplete with respect to both genetics and neuropsychology. However, it is even more inadequate in representing the biological sphere which girds *all* human functioning. Cicchetti and Blender (2006) devoted attention to mechanisms of neural plasticity integral to the anatomical structures of cortical tissue, which cause the formation of the brain to be an extended malleable process. Kebza and Šolcová (2011) noted the role of the immune system on resilience. Luthar and Brown (2007) noted, *inter alia*, the role of the HPA axis. In connection with appraisal, I reviewed some information on neuroanatomy and neurochemistry (particularly oxytocin; Strümpfer, 2007; but see Campbell, 2010, for a recent review).

## Culture

In the past, psychology has often functioned without a cultural perspective. An inordinate amount of psychological knowledge, research, and publication has been based on a Western perspective, with relatively little acknowledgement of the reality that matters may be different in Oriental, African, South American, and other cultures, as indicated below. Yet culture interpenetrates, to a greater or lesser degree, virtually all aspects of psychological functioning.

### *Independent and Dependent Construals*

Markus and Kitayama (1991, 1994) introduced the concepts of independent and interdependent construals of the self. In the *independent* (ideocentric) construal, the normative imperative is “to become independent from others and to discover and express one’s unique attributes” (1991, p. 226). Being true to one’s own preferences, goals, convictions, and rights, and to be confident and efficacious, are central (Markus & Kitayama, 1994). Interpersonal and social interactions and relationships are considered to be matters of relatively independent personal choice, with relatively few obligations towards others.

In the *interdependent* (allocentric) construal, the normative imperative is to maintain interdependence among individuals, to find ways “to fit in with relevant others, to fulfill and create obligation ... to become part of various interpersonal relationships” (1991, p. 227). The self is determined by relationships, and by mutual and group dependencies. The self becomes whole in interaction with others, so that there is no self without the collective. Individual needs are experienced as secondary and subordinate to social relationships, group norms, and solidarity. Compromise and consensus are the bases of decision making. Attention to the needs, desires, and goals of others is not indiscriminate, though, but directed towards those who share a common fate, such as family members or a work group. The authors refer to Africans, Japanese, Chinese, and Hindu cultures, as well as to religious groups, such as Quakers, to illustrate aspects of this conception of the self (1991).

Ancestors are included in some interdependent cultures, for instance, in African, Aboriginal, and Chinese cultures. In Southern Africa, a significant proportion of Black people accept relatedness to ancestral spirits, which could be experienced in dreams and through divination by a *sangoma/inyanga*. The ancestors are considered to remain concerned about their living relatives, and to know the cause of their problems and how these could be remedied.

In African cultures, the concept of *ubuntu* is also encapsulated within the interdependence sphere. The term derives from a Zulu aphorism that means “People are people because of other people”, or “through other persons” (Groenewald, 1996). It implies that a person cannot exist in isolation, and it calls for the pursuit of consensus and reconciliation. Terms used in explaining *ubuntu* are human(e)ness, interconnectedness, and communalism. “It can be interpreted as both a factual description and a rule of conduct or social ethic. It both describes humans being as ‘being-with-others’ and prescribes what ‘being-with-others’ should be all about” (Louw, 2005, p. 2). Equivalent expressions exist in other African languages, too. The concept has entered English, to some extent, under the influence of Archbishop Desmond Tutu.

When *essentialism* refers to underlying, immutable, and identity-defining causal factors, it is a threat to the concepts of independence, interdependence, and *ubuntu*. In popularizing the *ubuntu* concept, there has been a tendency to both over-include and oversimplify when using this lens to view behaviors that are in reality more complex; it has suffered through a view that any African person possesses that set of characteristics (Van der Waal, C.S., personal communication, November 25, 2010). *Ubuntu* is not the essence of being African. For instance, an African professional in a Western-dominated technological, scientific, or business environment could—depending on situational demands—practice both independent and *ubuntu* values, whereas a totally urbanized colleague may experience none of the traditional interdependence values (Strümpfer, 2007).

Markus and Kitayama (1991) emphasized general tendencies within a culture as a whole while at the same time acknowledging individual and subgroup differences. They noted, too, that in the West, somewhat marginalized groups (e.g., women, the poor, the elderly, and the unschooled) tend to reveal more interdependence (Markus & Kitayama, 1991). In the past, Afrikaners in South Africa developed an interdependent inclination through experiences of the Anglo-Boer War, the Great Depression,

poverty, mining, and industrialization; it typically includes attachment and respect for ancestors. Similarities could be found, for instance, in Ireland and Israel. As with much else, the effect of individuals' lifespan development (Elder, 1974, 2005) and of the sociohistorical state of the culture they happen to be exposed to, exert their influence here as well. A prominent consideration is that modernization and economic growth tend to increase individualism (Hamamura, 2011).

Personality assessment in Chinese and African cultures revealed the prominence of considerations of interdependence. In assessing the Five Factor Model of personality, Cheung et al. (2001) found that in the Chinese culture, a sixth factor of interpersonal relatedness was needed. The authors labeled the components of this factor relatedness, reciprocity orientation, harmony, and face. In an ongoing study, Valchev et al. (2011) collected personality-descriptive terms based on free descriptions of target persons by samples from the three main Nguni cultural-linguistic groups in South Africa: Zulu, Xhosa, and Swati. From these, they developed 26 clusters of descriptive terms. To obtain a coherent picture of the clusters as personality concepts, they projected them onto the Five Factor personality dimensions as a template. Variations on an Agreeableness theme included 11 clusters, by far the most prominent among Nguni personality concepts. By comparison, other themes were Emotional Stability (3 clusters), Extraversion (2), Openness (2), Conscientiousness (2), and Honesty (2). The authors commented that clusters that related to harmonious functioning in the social environment, virtues of empathy and benevolence, and successful socialization, were larger in number, more elaborated, and based on larger arrays of responses.

## Social Support

In an analytic presentation, social support should have been presented earlier. Thinking systemically, it largely belongs after the section on culture and partially overlaps with it.

De Saint-Exupéry (1995, p. 21), a pioneer airline pilot over the Sahara, commented: "There is only one true form of wealth, that of human contact". Togetherness with others—in dyads, in families, in neighborhoods, in communities, and in large units—provides individuals with immense support in resiling.

Social support is a coping resource on which people can draw when handling stressors. It is about networks of communication and mutual obligations within relationships. In an attempt to reduce the negative effect of a stressful situation, people are likely to seek information, reassurance, and even consolation from those near to them (Taylor, Welch, Kim, & Sherman, 2007). In general, it refers to the awareness that one is loved, cared for, esteemed, and valued in intimate relationships, as well as in less intense ways as social relationships extend further out. Its reverse is social isolation, leading to feelings of loneliness and even despair.

Taylor et al. (2007) defined implicit social support as "the emotional comfort one can obtain from social networks without disclosing or discussing one's problems

vis-à-vis specific stressful events” (p. 832). It refers to “the advice, instrumental aid, or emotional comfort one can recruit from social networks” (p. 832). This means that one can be in the company of close others, or just remind oneself of close others, without bringing one’s problems out into the open.

Social support has received extensive attention in research in a cultural context; clearly in the Markus-Kitayama mode. Kim, Sherman, Ko, and Taylor (2006) reviewed research which compared Asian-Americans and Asians with Euro-Americans. In the Oriental category they referred to research on Chinese, Japanese, Korean, Vietnamese, Indian, and Filipino samples. Compared to Euro-Americans, all of these groups showed significantly greater caution in explicitly enlisting social support from those close to them. They tended instead to accept implicit forms of support, without disclosing distress. There also appeared to be an assumption that people should anticipate the needs of close others, thus providing support without any need for explicit requests. Three reasons could be behind this orientation: a stronger belief that individuals are responsible to solve their problems independently; sensitivity to the potential of negative consequences for relationships, such as losing face, disrupting harmony within the group, or provoking criticism; and unsolicited support being more freely available, due to an obligation on others to provide. Euro-Americans, by contrast, tended to seek social support more explicitly, and seemed to assume that they are free to do so, and that others are free to provide this support or not.

Taylor et al. (2007) demonstrated experimentally that in samples of Asian-Americans and Asians, compared to Euro-Americans, tasks that required imagining receiving social support that is inappropriate to one’s cultural group elicited negative physiological reactions.

Three concerns need to be raised about the findings reported above. The first was indicated by Taylor et al. (2004): the findings involved Asian and Asian-American participants, but not samples from Latin and Mediterranean interdependent cultures; they could have added African and Arab cultures (though Uchida, Kitayama, Mesquita, Reyes, & Morling, 2008, first used adults from Japan and the United States, and second, students from Japan, the Philippines, and the United States, obtaining reminiscent results). The second concern is the nature of the support consistently referred to; *recruiting* social networks for help (Taylor et al., 2004, p. 361) or social support *seeking* (Kim, Sherman, Ko, & Taylor, 2006). Findings presented below indicated that perceived support availability without actually utilizing it, and even invisible support, may be more beneficial than actual enacted support, whereas in the two studies quoted there, receiving support was found to not be conducive (see also Bolger & Amarel, 2007). A more refined conception of the social support entity would sharpen these conclusions. The third concern is the perennial one about students as participants. In this particular context, Uchida et al. (2008) remarked on complicating variables in adolescence and in first- and second-year students.

Two noteworthy publications involving Ghanaian participants concern the grounding of personal relationships along cultural lines. Anderson, Adams, and Plaut (2008) described that in *voluntaristic-independent* construals, “people experience relationship as the discretionary product of free agents” (p. 364), but as “an environmental affordance” in *embedded-interdependent* construals (p. 362). Adams

and Plaut (2003) reported that Euro-Americans indicated a preference for a large network of friendships, characterized by companionship and emotional support; Ghanaians' preferences were instead for small friendship groups, caution towards friends, and with an emphasis on practical assistance. Among American students, Anderson et al. (2008) found that the influence of a target's attractiveness on expectations about desirable life outcomes (e.g., achievements, abilities, and career progress) was much more evident among American than Ghanaian students, where they were either ambiguous or absent.

W. Stroebe and Stroebe (1996) reviewed how social support became a fashionable topic for research when health researchers became aware of the health consequences of being socially integrated, particularly through findings from prospective studies which indicated that social support reduced mortality (also Kim et al., 2008). Conversely, social isolation has been linked, at least in part, to the probability of a coronary condition (Sorkin, Rook, & Lu, 2002). A multitude of studies, particularly in the 1980–1990s, have attempted to elucidate the complexities of these relationships. Confusion resulted from not distinguishing between different conceptions of social support. Anticipation of receiving (or seeking) social support and providing social support emerged as useful distinctions.

*Anticipated* support (Krause, 1997), or the perceived availability of support, could be tied into Antonovsky's (1987) concept of manageability through resources under the control of others. It implies a more general orientation; that is, one believes that strengths, capabilities, talents, and means in the hands of legitimate, reliable, and trusted others are at one's disposal. Bolger, Zuckerman, and Kessler (2000), and Taylor et al. (2004) noted that perceived support availability, yet without utilizing it, may actually be more beneficial than mobilizing it. In fact, actual support transactions may not improve adjustment to distress. Taylor et al. suggested three possible reasons: the support provided may be different from what is needed, overly intrusive support may exacerbate distress, and efforts to provide support may be perceived as interfering and controlling. Bolger et al. (2000) added the suggestion that received support may be ineffective since it involves a cost to the recipient's self-esteem in that it makes salient the difficulty in coping with the stressor. Empirical data have also highlighted the differential effects of providing and receiving social support. In a study of graduating law students and their partners, Bolger et al. found that the most beneficial support against depression was support that remained invisible to the recipient, who thus benefited without incurring the cost of receiving it.

*Receiving* social support has not proved to be consistently beneficial. The older literature (often with cross-sectional, correlational approaches) reflected inconsistent findings, but more recent research (employing more complex designs) has brought explanations concerning the negative effects of receiving social support. In contrast, providing support (also referred to as instrumental support) has been found to have salutary effects. In a sample of older married adults, Brown, Nesse, Vinokur, and Smith (2003) found that receiving instrumental support from others had no effect on mortality when providing support was controlled, and it even appeared to increase the risk of mortality. However, they found that older adults who reported providing support to others reduced their own risk of mortality.

Warner, Schütz, Worm, Ziegelmann, and Tesch-Romer (2010) used both physical and mental quality of life (QoL), in terms of multimorbidity, as criteria in an elderly sample. Their working mechanisms included received, anticipated, and provided emotional support, with self-esteem and control beliefs as moderators. Received support was associated negatively with both physical and mental QoL; the findings were, however, complexly influenced by the moderators. Anticipated support and providing support were both associated positively with physical QoL.

## Implications of Culture for Conceptualization

Looking back at the culture constructs presented above, it is clear that they would manifest differently when embedded in cultures with predominantly independent or interdependent construals; that is, none of them would remain untouched by the distinction.

- In contrast to an individualistic construal, under an interdependent construal, *salus* and *fortis* would, firstly, refer to mutually experienced conditions, as would salutogenesis and fortigenesis.
- An interconnected SOC is rather different from what is understood in typical Western psychology and sociology. Who and what coheres, and how? When the essential nature of a person's existence is perceived differently, what do comprehensibility, manageability, and meaningfulness refer to?
- What does *general* well-being mean in a community, compared to an individual? Health and illness under interdependence are largely concerns of the social unit, with the individual's experience being largely a submerged part of the whole. When calamity strikes, the whole social unit experiences languishing, and when it is a time of boon, all are likely to flourish. To languish or flourish individually may hardly be a consideration.
- The emphasis on *self* in self-efficacy brands it as an extreme characteristic of independent construal. Above, I indicated collective-efficacy, where an interdependent perspective presumes that the social unit strives to be efficacious, with the individual serving to increase communal efficacy.
- Concerning agency, Markus and Kitayama (2004) and Markus, Uchida, Omoregie, Townsend, and Kitayama (2006) illustrated how the models of agency differ in these two cultural contexts, providing disparate guidelines for behavior.
- Concerning resilience, though the present section on culture is limited in its coverage, it is clear that culture is a powerful variable that affects all the rest. The social support studies referred to demonstrated that culture moderated relationships between social support and several other variables, with resiling being potentially dependent on all of the variables studied. With the huge number of cultures that constitutes humanity, and the diversity of variables that affect resiling, much more still awaits to be learned.



## *Implications of Culture for Positive Thinking*

The role of culture in the development of positive psychology is obvious. To a large extent, it is a product of American culture, as well as any similar subculture where there is American influence, for example, through the cinema, popular publications, and music.

Basing his arguments on the constructs introduced above, Suh (2002) posited that in individualist cultures there is a wish to view the self in positive terms. He used this argument to explain why self-reports of subjective well-being are so high among North Americans. He wrote about psychological pressure in the culture, which motivates its members to “invest a considerable amount of effort to convince both the self and others that they are happy, self-confident, and in full control of their lives” (p. 74). By contrast, Suh (2007, p. 1326) argued that the “cultural ethos in East Asia reinforces and chronically rewards the primitive human need to belong”. Excessive relational concerns and sensitive reactions to the social context become the key to the self.

Soros (2007, p. xxiii) asserted that the United States has become a “feel-good” society, unwilling to face reality. Other authors have suggested that an emphasis on positivity has long been present in the United States’ culture. In an article on “the tyranny of the positive attitude in America”, Held (2002, p. 966) illustrated from historical writings how “Americans have always been famous for their optimism” and for “accentuation of the positive”. But she also illustrated how “the push for the positive attitude in turn-of-the-century America is on the rise” (p. 965), under pressure, not only from cultural sources, but also from the media and professional thinking. By way of illustration, she quoted commonly used positive aphorisms, popular music, iconography, and the “huge and growing inventory of self-help books” (p. 368).

In a disturbing book, Ehrenreich (2009) developed the theme of “how positive thinking is undermining America”, devoting chapters to topics such as business motivation, “God wants you to be rich”, positive psychology, and “How positive thinking destroyed the economy”. A vast amount of advice is given in all connections—from cancer, to top management, to religion—and concerns changing one’s attitude and revising one’s emotional responses. In her criticism of positive psychology, she warned against correlational studies that do not indicate causality, and criticized several key studies on, among other grounds, unsuccessful replication. “In the world of positive thinking, the challenges are all interior and easily overcome through an effort of the will” (p. 51). It reminds one of Rod Stewart’s (2009) “Smile/Though your heart is aching/.../Even though it’s breaking/.../Through your fear and sorrow ...” It also reminds of Rushdie’s (2010, pp. 37–38) fantasy comment about how “[p]eople wanted to feel good even when there wasn’t much to feel good about, and so the sadness factories had been shut down and turned into Obliviums, giant malls where everyone went to dance, shop, pretend and forget”. One of Ehrenreich’s (2009, p. 6) sharp condemnations was that “[t]here is a vast difference between positive thinking and existential courage”.

Superficial emphasis on happiness as an all-embracing purpose in life reflects tunnel vision. Dante's deeply moving statement, "In the journey of our life I found myself in a dark wood" (<http://www.tltgroup.org/resources/rdarkwood.html>), describes an experience that comes to most of us sooner or later. Encouragement by means of a yellow happy face, or "Don't worry, be happy!" would be farcical under such circumstances. Philosopher Grayling (2002), made two sardonic remarks about happiness: (1) that "the fact that a serial killer is made happy by killing people is no justification for doing it" (p. 71); and (2) "If life's goal really is happiness, then we can easily achieve it for all mankind by pouring a happiness-inducing chemical into the world's water supply" (p. 73). Elsewhere (2005, p. 6), he described it as an epiphenomenon, always a by-product of something else, and commented that "the surest way to be unhappy is to think that happiness can be directly sought".

Theologian De Grouchy (2006, pp. 40–41) commented that "[I]f life is not possible without death, without the pain of shedding blood and tears at both birth and death". He also commented on "dimensions of being human, some of them sobering, others encouraging and sometimes simply astonishing" (p. 39).

## Systems Thinking

My epigraph—from a 100-year-old source—provides a proper closing thought too. A similar idea was expressed by Umberto Eco (1989, pp. 463–464), writing about "a whirling network of kinships, where everything pointed to everything else, everything explained everything else". As a philosophy of science approach, *systems thinking* needs no rationalization, except to ward off impoverishing reductionism. The great South African, Jan Smuts (1987/1926) opened the door to subsequent systems thinking when he coined the term and introduced the philosophy of *holism*. His guiding principle was to view everything as part of a greater whole which emerges when smaller parts cmmingle, interact, and coalesce (without being destroyed or lost in the process) into a new intimate union: a *holos* (p. 98). But that larger whole, in turn, repeats the process into the emergence of a still larger system—it is simultaneously a whole and a part, and every new *holos* is a subsystem of a still greater supra-system. However, the features of each system constitute an environment which influences the interaction of all single components; thus, emergence produces unanticipated consequences.

I have tried to illustrate the enrichment of the fortigenesis construct when it is put into the context of interrelated, associated, and supporting constructs, though limited. With fortigenesis participating among so many aspects of functioning, there is, of course, immense individual variation in its presentation.

There is a certain sequence in my presentation, but it is illusory. I present instead an "analysis", which derives from a Greek root meaning "to set free", and which is precisely the opposite of what systems thinking does. Within the totality, one could virtually start the description at any point, or in any sequence, and still provide a realistic presentation. That is why I initially spoke of having "non-sequence". There is no fixed causal or temporal sequence to the totality of facets, even among the few I have included.

Additionally, the limited way in which each facet was presented for present purposes makes it clear that each of these topics is a multifaceted subsystem and demands further elaboration. What is missing, too, are descriptions of the elusive and specific ways in which the facets interact and influence each other throughout the totality. Lastly, it should be equally clear that fortigenesis, as a system, is a part of larger systems (e.g., personality) and that it again interacts in far-extending ways with those larger systems.

In quoting Biswas-Diener (2011), I did not include his third plea; I want to generalize it here to fortigenesis. He argued for a greater integration of various levels of research information with typical individual psychological approaches; evolutionary theory, neuroscience, animal models, and social psychological studies. Cicchetti and Blender (2006) made a similar plea for a multiple-levels-of-analysis perspective. Fortigenesis, in particular, has tended to be rather narrowly focused on individuals. I attempted to include more than “pure” psychology. But as psychologists, our training, theorizing, research, and interventions should sweep in far greater enrichment from other areas of scientific endeavor, in order to bring about true emergence.

Two lines from Robert Frost (Lathem, 1969) could provide closure at this point: “Won’t almost any theory bear revision?” (p. 279). But then, with more hope, he says “We have ideas yet that we haven’t tried” (p. 268).

## References

- Adams, G., & Plaut, V. C. (2003). The cultural grounding of personal relationship: Friendship in North American and West African worlds. *Personal Relationships*, 10, 333–347.
- Anderson, S. L., Adams, G., & Plaut, V. C. (2008). The cultural grounding of personal relationships: The importance of attractiveness in everyday life. *Journal of Personality and Social Psychology*, 95, 352–368.
- Anthony, E. J., & Cohler, B. J. (1987). *The invulnerable child*. New York: Guildford.
- Antonovsky, A. (1972). Breakdown: A needed fourth step in the conceptual armamentarium of modern medicine. *Social Science & Medicine*, 6, 537–544.
- Antonovsky, A. (1979). *Health, stress, and coping: New perspectives on mental and physical well-being*. San Francisco: Jossey-Bass.
- Antonovsky, A. (1987). *Unraveling the mystery of health: How people manage stress and stay well*. San Francisco: Jossey-Bass.
- Antonovsky, A. (1991). The structural sources of salutogenic strengths. In C. L. Cooper & R. Payne (Eds.), *Personality and stress: Individual differences in the stress process* (pp. 67–104). Chichester, UK: Wiley.
- Antonovsky, A. (1994). The sense of coherence: An historical and future perspective. In H. L. McCubbin, E. A. Thompson, A. I. Thompson, & J. E. Fromer (Eds.), *Sense of coherence and resiliency: Stress, coping, and health* (pp. 3–20). Madison, WI: University of Wisconsin System.
- Antonovsky, A., Moaz, B., Dowty, N., & Wijsenbeek, H. (1971). Twenty-five years later: A limited study of the sequelae of the concentration camp experience. *Social Psychiatry*, 6, 186–193.
- Antonovsky, A., & Sagy, S. (1990). Confronting developmental tasks in the retirement transition. *Gerontology*, 30, 362–368.
- Antonovsky, A., Sagy, S., Adler, I., & Vissel, R. (1990). Attitudes toward retirement in an Israeli cohort. *International Journal of Aging & Human Development*, 31, 57–77.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191–215.

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A. (2010). Toward a psychology of human agency. *Perspectives on Psychological Science*, 1, 164–180.
- Biswas-Diener, R. (2011). Applied positive psychology: Progress and challenges. *European Health Psychologist*, 13(June), 24–26.
- Bogg, T., & Roberts, B.W. (2004). Conscientiousness and health-related behaviors: A meta-analysis of the leading behavioral contributors to mortality. *Psychological Bulletin*, 130, 887–919.
- Bolger, N., & Amarel, D. (2007). Effect of social support visibility on adjustment and stress: Experimental evidence. *Journal of Personality and Social Psychology*, 92, 458–475.
- Bolger, N., Zuckerman, A., & Kessler, R. C. (2000). Invisible support and adjustment to stress. *Journal of Personality and Social Psychology*, 79, 953–961.
- Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59, 20–28.
- Bonanno, G. A. (2005). Resilience in the face of potential trauma. *Current Directions in Psychological Science*, 14, 135–138.
- Bonanno, G. A., Galea, S., Bucciarelli, A., & Vlahof, D. (2006). Psychological resilience after disaster: New York City in the aftermath of the September 11th terrorist attack. *Psychological Science*, 17, 181–186.
- Bonanno, G. A., & Mancini, A. D. (2008). The human capacity to thrive in the face of potential trauma. *Pediatrics*, 121, 369–375.
- Bonanno, G. A., Moskowitz, J. T., Papa, A., & Folkman, S. (2005). Resilience to loss in bereaved spouses, bereaved parents, and bereaved gay men. *Journal of Personality and Social Psychology*, 88, 827–843.
- Bonanno, G. A., Rennicke, C., & Dekel, S. (2005). Self-enhancement among high-exposure survivors of the September 11th terrorist attack: Resilience or maladjustment? *Journal of Personality and Social Psychology*, 88, 984–998.
- Brown, S. L., Nesse, R. M., Vinokur, A. D., & Smith, D. M. (2003). Providing social support may be more beneficial than receiving it: Results from a prospective study of mortality. *Psychological Science*, 14, 320–327.
- Campbell, A. (2010). Oxytocin and human social behavior. *Personality and Social Psychology Review*, 14, 281–295.
- Caspi, A., Hariri, A. R., Holmes, A., Uher, R., & Moffitt, T. E. (2010). Genetic sensitivity to the environment: The case of the serotonin transporter gene and its implications for studying complex diseases and traits. *The American Journal of Psychiatry*, 167, 509–527.
- Caspi, A., McClay, J., Moffitt, T. E., Mill, J., Martin, J., Craig, I. W., et al. (2002). Role of genotype in the cycle of violence in maltreated children. *Science*, 297, 851–854.
- Caspi, A., & Moffitt, T. E. (2006). Gene-environment interactions in psychiatry: Joining forces with neuroscience. *Nature Reviews Neuroscience*, 7, 583–590.
- Caspi, A., Sugden, K., Moffitt, T. E., Taylor, A., Craig, I. W., Harrington, H., et al. (2003). Influence of life stress on depression: Moderation by a polymorphism in the 5-HTT gene. *Science*, 301, 386–389.
- Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods*, 4, 62–83.
- Chesney, M. A., Neilands, T. B., Chambers, D. B., Taylor, J. M., & Folkman, S. (2006). A validity and reliability study of the coping self-efficacy scale. *British Journal of Health Psychology*, 11, 421–437.
- Cheung, F. M., Leung, K., Zhang, J.-X., Sun, H.-F., Gan, Y.-Q., & Zie, D. (2001). Indigenous Chinese personality constructs: Is the five-factor model complete? *Journal of Cross Cultural Psychology*, 32, 407–433.
- Cicchetti, D., & Blender, J. A. (2006). A multiple-level-of-analysis perspective of resilience: Implications for the developing brain, neural plasticity, and preventive interventions. *Annals of the New York Academy of Sciences*, 1994, 248–258.
- Cicchetti, D., Rogosch, F. A., & Sturge-Apple, M. L. (2007). Interactions of child maltreatment and 5-HTT and monoamine oxidase A polymorphisms: Depressive symptomatology among

- adolescents from low-socioeconomic status backgrounds. *Development and Psychopathology*, 19, 1161–1180.
- Cooperrider, D. L., & Sekerka, L. E. (2003). Toward a theory of positive organizational change. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 225–240). San Francisco: Berrett-Koehler.
- De Grouchy, J. W. (2006). *Being human: Confessions of a christian humanist*. London: SCM Press.
- De Saint-Exupéry, A. (1995). *Wind, sand and stars*. London: Penguin.
- Duckworth, A. L., Steen, T. A., & Seligman, M. E. P. (2005). Positive psychology in clinical practice. *Annual Review of Clinical Psychology*, 1, 629–651.
- Eco, U. (1989). *Foucault's pendulum*. London: Picador.
- Ehrenreich, B. (2009). *Bright-sided: How positive thinking is undermining America*. New York: Picador.
- Elder, G. H. (1974). *Children of the great depression: Social change in life experience*. Chicago: University of Chicago Press.
- Elder, G. H. (2005). *The life course and human development*. Retrieved August 26, 2011, from [http://www.cpc.unc.edu/projects/lifecourse/elder\\_research](http://www.cpc.unc.edu/projects/lifecourse/elder_research)
- Eriksson, M. (2007). *Unravelling the mystery of salutogenesis: The evidence base of the salutogenic research as measured by Antonovsky's sense of coherence scale*. Helsinki, Finland: Folkhälsan Research Centre.
- Eriksson, M., & Lindström, B. (2005). Validity of Antonovsky's sense of coherence scale: A systematic review. *Journal of Epidemiology and Community Health*, 59, 460–466.
- Friedman, H. S., & Martin, L. R. (2011). *Surprising discoveries for long life from the landmark eight-decade study*. New York: Hudson Street Press.
- Grayling, A. C. (2002). *The meaning of things: Applying philosophy to life*. London: Phoenix.
- Groenewald, H. J. (1996). Intercultural communication: "Risking" a change of heart. In M. E. Steyn & K. B. Motshabi (Eds.), *Cultural synergy in South Africa: Weaving strands of Africa and Europe* (pp. 13–26). Randburg, South Africa: Knowledge Resources.
- Gully, S. M., Incalcaterra, K. A., Joshy, A., & Baubien, J. M. (2002). A meta-analysis of team-efficacy, potency, and performance: Interdependence and levels of analysis as moderators of observed relationships. *Journal of Applied Psychology*, 87, 819–832.
- Hamamura, T. (2011). Are cultures becoming individualistic? A cross-temporal comparison of individualism-collectivism in the United States and Japan. *Personality and Social Psychology Review*, 16, 3–24.
- Hariri, A. R., & Brown, S. M. (2006). Images in neuroscience: Serotonin. *The American Journal of Psychiatry*, 163, 12.
- Hart, K. B., & Sasso, T. (2011). Mapping the contours of contemporary positive psychology. *Canadian Psychology*, 52, 82–92.
- Held, B. S. (2002). The tyranny of the positive attitude in America: Observation and speculation. *Journal of Clinical Psychology*, 58, 965–991.
- Jellesma, F. C., Rieffe, C., Terwogt, M. N. M., & Westenberg, P. M. (2011). Children's sense of coherence and trait emotional intelligence: A longitudinal study exploring the development of somatic complaints. *Psychology and Health*, 26, 307–320.
- Kebza, V., & Šolcová, I. (2011). Main trends in resilience in children, adolescents, families, and trauma recovery. In M. J. Celinski & K. M. Gow (Eds.), *Wayfinding through life's challenges: Coping and survival* (pp. 13–30). New York: Nova Science.
- Kendler, K. S., Kuhn, J. W., Vittum, J., Prescott, C. A., & Riley, B. (2005). The interaction of stressful life events and serotonin transporter polymorphism in the prediction of episodes of major depression: A replication. *Archives of General Psychiatry*, 62, 529–535.
- Kern, M. L., & Friedman, H. S. (2011). Personality and differences in health and longevity. In T. Chamorro-Premuzic, S. von Stumm, & A. Furnham (Eds.), *The Wiley-Blackwell handbook of individual differences*. Oxford, UK: Blackwell.
- Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Research*, 43, 207–222.

- Keyes, C. L. M. (2005a). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology*, 73, 539–548.
- Keyes, C. L. M. (2005b). The subjective well-being of America's youth: Toward a comprehensive assessment. *Adolescent and Family Health*, 4(1), 3–11.
- Keyes, C. L. M. (2007). Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. *American Psychologist*, 62, 95–108.
- Keyes, C. L. M., & Grywacz, J. G. (2002). Complete health: Prevalence and predictors among U.S. adults in 1995. *American Journal of Health Promotion*, 17, 122–131.
- Keyes, C. L. M., Wissing, M. P., Potgieter, J. P., Temane, M., Kruger, A., & Van Rooy, S. (2008). Evaluation of the mental health continuum – Short form (MHC-SF) in Setswana-speaking South Africans. *Clinical Psychology & Psychotherapy*, 15, 181–192.
- Kim, H. S., Sherman, D. K., Ko, D., & Taylor, S. E. (2006). Pursuit of comfort and pursuit of harmony: Culture, relationships, and social support seeking. *Personality and Social Psychology Bulletin*, 32, 1595–1607.
- Kim-Cohen, J., Caspi, A., Taylor, A., Williams, B., Newcombe, R., Craig, I. W., et al. (2006). MAOA, maltreatment, and gene-environment interaction predicting children's mental health: New evidence and a meta-analysis. *Molecular Psychiatry*, 11, 903–913.
- Kim-Cohen, J., & Gold, A. L. (2009). Measured gene-environment interactions and mechanisms promoting resilient development. *Current Directions in Psychological Science*, 18, 138–142.
- Kobasa, S. C. (1982). The hardy personality: Toward a social psychology of stress and health. In G. S. Sanders & J. Suls (Eds.), *Social psychology of health and illness* (pp. 3–32). Hillsdale, NJ: Erlbaum.
- Krause, N. (1997). Anticipated support, received support, and economic stress among older adults. *Journal of Gerontology: Social Sciences*, 52B, P284–P293.
- Lathem, D. C. (1969). *The poetry of Robert Frost*. New York: Holt, Rinehart & Winston.
- Louw, D. J. (2005). *Ubuntu: An African assessment of the religious other*. Retrieved November 21, 2010, from <http://www.ngkerk.org.za/forumdocs/Ubuntu-filosofie.doc>
- Luthar, S. S., & Brown, P. J. (2007). Maximizing resilience through diverse levels of inquiry: Prevailing paradigms, possibilities, and priorities for the future. *Development and Psychopathology*, 19, 931–955.
- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131, 803–855.
- Maddi, S. R., Khoshaba, D. M., Harvey, R. H., Fazel, M., & Resurreccion, N. (2011). The personality construct of hardiness, V: Relationships with the construction of existential meaning in life. *Journal of Humanistic Psychology*, 51, 369–388.
- Marks, R., Allegrante, J. P., & Lorig, K. (2005). A review and synthesis of research evidence for self-efficacy-enhancing interventions for reducing chronic disability: Implications for health education practice (Part II). *Health Promotion Practice*, 6, 148–156.
- Markus, H. R., & Kitayama, S. (1991). Culture and self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224–253.
- Markus, H. R., & Kitayama, S. (1994). A collective fear of the collective: Implications for selves and theories of selves. *Personality and Social Psychology Bulletin*, 20, 568–579.
- Markus, H. R., & Kitayama, S. (2004). Models of agency: Sociocultural diversity in the construction of action. In V. Murphy-Berman & J. Berman (Eds.), *The 49th annual Nebraska symposium for motivation: Cross-cultural differences in perspectives on self* (pp. 1–57). Lincoln, NE: University of Nebraska Press.
- Markus, H. R., Uchida, Y., Omoregie, H., Townsend, S. S. M., & Kitayama, S. (2006). Going for gold: Models of agency in Japanese and American contexts. *Psychological Science*, 17, 103–112.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56, 227–238.
- Masten, A. S., Nuechterlein, K. H., & Wright, M. O.' D. (2011). Norman Garmezy (1918–2009). *American Psychologist*, 66, 140–141.
- McAuley, E., Mailey, E. L., Mullen, S. P., Szabo, A. N., Wójcicki, T. R., & Kramer, A. F. (2011). Growth trajectories of exercise self-efficacy in older adults: Influence of measures and initial status. *Health Psychology*, 30, 75–83.



- McNulty, J. K., & Fincham, F. D. (2012). Beyond positive psychology? Toward a contextual view of psychological processes and well-being. *American Psychologist*, 67, 101–110.
- Menninger, K., Mayman, M., & Pryser, P. (1963). *The vital balance: The life process in mental health and illness*. New York: Viking.
- Moritz, S. E., Feltz, D. L., Fahrback, K. R., & Mack, D. E. (2000). The relation of self-efficacy measures to sport performance: A meta-analytic review. *Research Quarterly for Exercise and Sport*, 71, 280–294.
- Muir, J. (1911). *John Muir*. Retrieved June 19, 2011, from the World Wide Web: [http://en.wikiquote.org/wiki/John\\_Muir](http://en.wikiquote.org/wiki/John_Muir)
- Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, 38, 30–38.
- Neria, Y., DiGrande, L., & Adams, B. G. (2011). Posttraumatic stress disorder following the September 11, 2001, terror attacks. *American Psychologist*, 66, 429–446.
- Nickel, D., & Spink, K. S. (2010). Attributions and self-regulatory efficacy for health-related physical activity. *Journal of Health Psychology*, 15, 53–63.
- Rand, K. L., & Snyder, C. R. (2003). A reply to Lazarus: The evocator emeritus. *Psychological Inquiry*, 14, 148–153.
- Robitschek, C., & Keyes, C. L. M. (2009). Keyes's model of mental health with personal growth initiative as a parsimonious predictor. *Journal of Counseling Psychology*, 56, 321–329.
- Rosenbaum, M. (Ed.). (1990). *Learned resourcefulness: On coping skills, self control and adaptive behavior*. New York: Springer.
- Rushdie, S. (2010). *Luka and the fire of life*. London: Jonathan Cape.
- Rutter, M. (2006). Implications of resilience concepts for scientific understanding. *Annals of the New York Academy of Sciences*, 1094, 1–12.
- Ryan, R. M., & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality*, 65, 529–565.
- Sagy, S., & Antonovsky, A. (2000). The development of the sense of coherence: A retrospective study of early life experiences in the family. *International Journal of Aging & Human Development*, 51, 155–166.
- Saleebey, D. (1992). *The strengths perspective in Social Work*. New York: Longman.
- Schaufeli, W. B., & Bakker, A. (2001). Werk en welbevinden: Naar een positieve benadering in de arbeids- en gezondheidspsychologie [Work and well-being: Towards a positive occupational and health psychology]. *Gedrag en Organisatie*, 14, 229–253.
- Scholz, U., Doña, B. G., Sud, S., & Schwartzer, R. (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. *European Journal of Psychological Assessment*, 18, 242–251.
- Schwarzer, R., & Luszczynska, A. (2008). *Health-specific self-efficacy scales*. Retrieved October 5, 2010, from the World Wide Web: <http://userpage.fu-berlin.de/~health/healself.pdf>
- Schwarzer, R., Mueller, J., & Greenglass, E. (1999). Assessment of perceived general self-efficacy on the internet: Data collection in cyberspace. *Anxiety, Stress and Coping*, 12, 145–161.
- Seligman, M. E. P. (2011). *Biography*. Retrieved January 3, 2011, from the World Wide Web: <http://www.authentic happiness.sas.upenn.edu/Default.aspx>
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55, 5–14.
- Seligman, M. E. P., & Fowler, R. D. (2011). Comprehensive soldier fitness and the future of psychology. *American Psychologist*, 66, 82–86.
- Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60, 410–421.
- Shirom, A. (2006). Explaining vigor: On the antecedents and consequences of vigor as a positive affect at work. In C. L. Cooper & D. Nelson (Eds.), *Organizational behavior: Accentuating the positive at work*. Thousand Oaks, CA: Sage.
- Smith, P. M., Breslin, E. C., & Beaton, D. E. (2003). Questioning the stability of sense of coherence. *Social Psychiatry and Psychiatric Epidemiology*, 38, 475–484.
- Smuts, J. C. (1987). *Holism and evolution*. Cape Town, South Africa: N & S Press. (Original work published 1926).



- Sorkin, D., Rook, K. S., & Lu, J. L. (2002). Loneliness, lack of social support, lack of companionship, and the likelihood of having a heart condition in an elderly sample. *Annals of Behavioral Medicine*, 24, 290–298.
- Soros, G. (2007). *The age of fallibility: The consequences of the war on terror*. London: Phoenix.
- Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, 124, 240–261.
- Stewart, R. (2009). *Smile*. Retrieved July 12, 2009, from the World Wide Web: <http://www.azlyrics.com/lyrics/rodstewart/smile.html>.
- Stroebe, W., & Stroebe, M. (1996). The social psychology of social support. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 596–621). New York: Guilford.
- Strümpfer, D. J. W. (1995). The origins of health and strength: From “salutogenesis” to “fortigenesis”. *South African Journal of Psychology*, 25, 81–89.
- Strümpfer, D. J. W. (2004). A different way of viewing adult resilience. *International Review of the Armed Forces Medical Services*, 77, 247–250, 252–260.
- Strümpfer, D. J. W. (2006). The strengths perspective: Fortigenesis in adult life. *Social Indicators Research*, 77, 11–36.
- Strümpfer, D. J. W. (2007). What contributes to fortigenic appraisal of inordinate demands? Everything! *South African Journal of Psychology*, 37, 491–517.
- Suh, E. M. (2002). Self, the hyphen between culture and subjective well-being. In E. Diener & E. M. Suh (Eds.), *Culture and subjective well-being* (pp. 63–86). Cambridge, MA: MIT Press.
- Suh, E. M. (2007). Downsides of an overly context-sensitive self: Implications from the culture and subjective well-being research. *Journal of Personality*, 75, 1321–1343.
- Suomi, S. (2006). Risk, resilience, and Gene  $\times$  Environment interaction in rhesus monkeys. *Annals of the New York Academy of Sciences*, 1094, 52–62.
- Taylor, S. E., Sherman, D. K., Kim, H. S., Jarcho, J., Takagi, K., & Dunagan, M. S. (2004). Culture and social support: Who seeks it and why? *Journal of Personality and Social Psychology*, 87, 354–362.
- Taylor, S. E., Welch, W. T., Kim, H. S., & Sherman, D. K. (2007). Cultural differences in the impact of social support on psychological and biological stress responses. *Psychological Science*, 18, 831–837.
- Tharpar, A., Harold, G., Rice, F., Langley, K., & O'Donovan, M. (2006). The contribution of gene-environment interaction to psychopathology. *Development and Psychopathology*, 19, 989–1004.
- Uchida, Y., Kitayama, S., Mesquita, B., Reyes, J. A., & Morling, B. (2008). Is perceived emotional support beneficial? Well being and health in independent and interdependent cultures. *Personality and Social Psychology Bulletin*, 34, 741–754.
- Valchev, V. H., van de Vijver, F. J. R., Nel, J. A., Rothmann, S., Meiring, D., & de Bruin, G. P. (2011). Implicit personality conceptions of the Nguni cultural-linguistic groups of South Africa. *Cross-Cultural Research*, 45, 235–266.
- Walsh, F. (2002). Bouncing forward: Resilience in the aftermath of September 11. *Family Process*, 41, 34–36.
- Walsh, F. (2007). Traumatic loss and major disasters: Strengthening family and community resilience. *Family Process*, 46, 207–227.
- Warner, L. M., Schütz, B., Wurm, S., Ziegelmann, J. P., & Tesch-Römer, C. (2010). Giving and taking—Differential effects of providing, receiving and anticipating emotional support on quality of life in adults with multiple illnesses. *Journal of Health Psychology*, 15, 660–670.
- Werner, E. E., & Smith, R. S. (1982). *Vulnerable but invincible: A longitudinal study of resilient children and youth*. New York: McGraw-Hill.
- Williams, D. M. (2010). Outcome expectancy and self-efficacy: Theoretical implications of an unresolved contradiction. *Personality and Social Psychology Review*, 14, 417–425.
- Williams, S. A., Wissing, M. P., Rothman, S., & Temane, M. (2010). Self-efficacy, work, and psychological outcomes in a public service context. *Journal of Psychology in Africa*, 20, 43–52.

- Wissing, M. P. (1998, May). *Health psychology and psychological health: Explicating the (not so) obvious*. Paper presented at Second Dutch Conference on Psychology and Health, Kerkrade, The Netherlands.
- Wissing, M. P., & Temane, Q. M. (2008). The structure of psychological well-being in cultural context: Towards a hierarchical model of psychological health. *Journal of Psychology in Africa*, 18, 45–56.
- Wissing, M. P., & van Eeden, C. (1997, September). *Psychological well-being: A fortigenic conceptualization and empirical clarification*. Paper presented at Annual Congress of the Psychological Society of South Africa, Durban.
- Wissing, M. P., & van Eeden, C. (2002). Empirical clarification of the nature of psychological well-being. *South African Journal of Psychology*, 32, 32–44.
- Wong, P. J. P. (2011). Positive psychology 2.0: Towards a balanced interactive model of the good life. *Canadian Psychology*, 52, 69–81.



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