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Author

Stokols, Daniel

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THE ECOLOGY OF HUMAN STRENGTHS

DANIEL STOKOLS

The field of positive psychology offers an exciting and provocative counterpoint to a psychology of deficits and debilitation (Csikszentmihalyi, 1990; Kahneman, Diener, & Schwarz, 1999; Seligman & Csikszentmihalyi, 2000; Sheldon & King, 2001). As the field has evolved to date, however, it reflects certain limitations that warrant further consideration. This chapter examines these conceptual concerns from the perspectives of environmental and ecological psychology in light of key constructs and findings from prior studies of environment and behavior (e.g., Barker, 1968; Craik, 1973; Proshansky, Ittelson, & Rivlin, 1976; Stokols, 1995). I will address three specific concerns: (a) the incomplete conceptualization of environmental contexts as they influence well-being, (b) the disproportionate emphasis on positive emotional states and underemphasis on the temporal links between individuals' positive and negative experiences, and (c) the incomplete assessment of the threshold levels at which exposure to environmental constraints either enhances or undermines the development of psychological strengths. These theoretical concerns present opportunities for developing an ecologically grounded analysis of human strengths. Finally, I suggest future research efforts to chart the ecology of human

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strengths as a basis for expanding the conceptual and empirical scope of positive psychology.

In this chapter, the term *subjective well-being* refers broadly to a set of interrelated affective phenomena including specific, pleasurable emotional states (e.g., happiness, contentment, satisfaction, love) as well as more generalized positive affect (Diener, 2000; Fredrickson, 2001; Lyubomirsky, 2001). Subjective criteria of well-being and physiological indices of health (or wellness) are closely interrelated and can influence each other (e.g., Antonovsky, 1987; Cohen & Williamson, 1991; World Health Organization, 1984). Moreover, certain personal resources and psychological strengths, such as high socioeconomic status, wisdom, and resilience, can facilitate individuals' efforts to achieve higher levels of subjective and physiological well-being (e.g., Adler et al., 1994; Baltes & Staudinger, 2000; Masten, 2001). The terms *emotional* and *subjective well-being* are used interchangeably to differentiate these affective phenomena from physiological or somatic criteria of well-being.

ENVIRONMENTAL INFLUENCES ON WELL-BEING

Positive psychology, while highlighting personal strengths and resilience, has given less attention to identifying environmental conditions that either constrain individuals from realizing their full potential or, alternatively, enhance their capacity to achieve positive life goals and an enduring sense of well-being. Although many researchers in the field acknowledge the effects of contextual factors on emotional states and human strengths (e.g., Buss, 2000; Diener & Suh, 2002; Simonton, 2000; Staudinger & Baltes, 1996), positive psychology still lacks a systematic conceptualization of the ways in which environmental conditions influence the cultivation and expression of certain human strengths. Ecological perspectives on lifespan development and health promotion, articulated earlier (e.g., Bronfenbrenner, 1979; Friedman & Wachs, 1999; Moos, 1979; Stokols, 1992b) have yet to be incorporated into analyses of human strengths such as optimism, hope, and self-determination (e.g., Peterson, 2000; Schwartz, 2000).

Ecological research on human-environment relations reflects certain conceptual principles that can serve as guidelines for identifying environmental antecedents of well-being. First, ecological theories posit that human environments comprise both physical and social features. In some instances, the physical and social dimensions of environments are closely interrelated and jointly influence behavior and well-being (e.g., Altman, 1975; Barker, 1968; Firey, 1945). Second, environmental conditions can be grouped according to whether they have a positive impact on well-being by enhancing the congruence or fit between a person's goals, activities, and

surroundings or, alternatively, have a negative effect on well-being by reducing levels of person-environment fit (Michelson, 1970; Wicker, 1972).

Table 23.1 categorizes selected physical and social dimensions of environments that exert either a positive or negative influence on well-being. The table incorporates only a small subset of potentially relevant environmental variables, but it is useful for illustrating certain general principles of ecological analysis. Examples of benign environmental conditions include aesthetic qualities of places that evoke pleasurable experiences among occupants (e.g., Nasar, 1988) and the clarity or legibility of physical environments that enables visitors to navigate places effectively and avoid feelings of confusion and disorientation (e.g., Lynch, 1960). The interior features of homes, offices, and health care settings can have a positive effect on both subjective and physiological well-being to the extent that they are comfortably arranged and ergonomically designed (e.g., Reizenstein Carpmann, Grant, & Simmons, 1986; Stokols, 1998; Sundstrom & Sundstrom, 1986). Also, restorative environments (e.g., wilderness settings that are both beautiful and tranquil) enable individuals to engage in spontaneous or nondirected attention and to experience a sense of "getting away" from their usual activity routines (e.g., R. Kaplan & Kaplan, 1989). Across several studies, restorative environments have been shown to promote relaxation and alleviate stress (e.g., S. Kaplan, 1995; Korpela & Hartig, 1996; Ulrich, 1984).

The social attributes of environments can have positive effects on emotional well-being (Table 23.1). For instance, certain objects and places are associated with symbolic meanings of personal or group identity (e.g., Cooper, 1974; Firey, 1945; Rochberg-Halton & Csikszentmihalyi, 1981). These shared meanings convey the continuity of people's attachments to

TABLE 23.1
Physical and Social Features of Environments That Have a Positive or Negative Impact on Well-Being

Influence on Well-Being	Physical	Social
Positive	Aesthetic quality Environmental clarity and imageability Comfortable interior design of buildings Restorative qualities of natural settings	Shared social meanings of places Understaffing of behavior settings Social support Social capital
Negative	Noise Overcrowding Vehicle traffic in neighborhoods Natural and technological disasters	Social isolation Lack of privacy Conflict-prone organizations Environmental racism

particular places and reinforce their feelings of belonging to a community and of a sense of "place identity" (Proshansky, Fabian, & Kaminoff, 1983; Tuan, 1974). Another feature of social environments that encourages group members (of, e.g., athletic teams, church congregations, high school clubs, business organizations) to participate actively in leadership roles while acquiring self-confidence through their participation are the staffing levels of behavior settings (Barker, 1968). To the extent that social settings are understaffed (i.e., have a small number of applicants to fill the roles available in an organization), they are more welcoming and supportive of their members (e.g., Barker & Schoggen, 1973; Wicker, McGrath, & Armstrong, 1972). Similarly, other studies have demonstrated that the availability of friendship networks, social support, and high levels of social capital in a community (i.e., the extent to which people trust each other and participate in shared activities) are associated with higher levels of both emotional and physiological well-being (Berkman & Syme, 1979; Cohen, Underwood, & Gottlieb, 2000; Putnam, 2000).

The physical and social features of environments are often closely intertwined and can jointly affect individuals' well-being. Table 23.1 lists physical factors that not only have direct negative impacts on well-being (e.g., the emotional annoyance and discomfort prompted by high levels of noise and overcrowding), but also can provoke social problems (e.g., interpersonal conflict, inadequate levels of privacy, social isolation and loneliness) that exert their own negative influence on well-being (e.g., Altman, 1975; Evans & Lepore, 1993; Glass & Singer, 1972; Perlman & Peplau, 1998; Rook, 1984). High levels of vehicular traffic in residential neighborhoods not only evoke feelings of annoyance and anxiety (about pollution and safety hazards), but also curtail interpersonal contacts among neighbors, which in turn leads to greater social isolation and reduced social support (Appleyard, 1981). Also, the occurrence of natural and technological disasters (e.g., hurricanes, earthquakes, tornados, toxic spills) are physical events that cause extensive damage, injury, and stress, but because technological mishaps result from human error, they often provoke longer-term social problems—for example, greater tendencies among citizens toward blame, resentment, and distrust of government officials (Baum, Fleming, & Davidson, 1983).

The contextual factors listed in Table 23.1 suggest some additional aspects of environmental conditions that are often considered in ecological research. The first is the duration or chronicity of exposure to an environmental factor. For instance, individuals may be exposed to comfortable or restorative surroundings for brief or extended periods. The positive effects of those circumstances on well-being are likely to be greater to the extent that they are enduring rather than transitory. On the other hand, prolonged exposure to noisy and congested environments typically has a more nega-

tive impact on well-being than brief encounters with stressful situations (Evans, 1999).

Just as the duration of a person's exposure to an environmental condition can be abbreviated or prolonged, the impact of that condition on well-being can vary along a continuum ranging from minimal to extreme. The social structures of conflict-prone organizations, for example, provoke more frequent interpersonal hassles than those found in conflict-resistant settings (Stokols, 1992a). To the extent that an employee lacks alternative employment opportunities and must remain in a conflict-prone company for an extended period, the impact on his or her well-being is likely to be severe and manifested not only in negative mood states at work but also in chronic experiences of depression, anxiety, and fatigue. Similarly, the disproportionate exposure of low-income minority neighborhoods to environmental pollutants stemming from institutionalized environmental racism at community levels can have deleterious effects not only on individuals' emotional well-being but also on their physical health status and longevity (e.g., Bullard, 1990; Bullard & Johnson, 2000).

The example of environmental injustice highlights another core principle of ecological analysis: the assumption that environmental units of analysis vary in scale from micro-level stimuli, objects, and momentary situations to meso-level behavior settings (e.g., homes, workplaces, classrooms) and macro-scale environments such as neighborhoods and whole communities (e.g., Ittelson, 1973; Magnusson, 1981; Michelson, 1985). Thus, an individual's cumulative exposure to environmental circumstances that have a positive or negative impact on well-being depends on the quality of conditions that he or she encounters in proximal settings as well as at the macrosystem level (e.g., political, economic, and cultural factors; Bronfenbrenner, 1992; Diener & Suh, 2002).

The preceding discussion offers a rather brief summary of ecological influences on well-being, but it does call attention to certain physical and social features of people's everyday environments that have direct and sometimes substantial impacts on well-being. The development of a more complete conceptualization of contextual influences on subjective and physiological well-being, and on the cultivation and expression of psychological strengths, would be a useful direction for future theory development in the field of positive psychology.

TOWARD A MORE INTEGRATED CONCEPTUALIZATION OF POSITIVE AND NEGATIVE EMOTIONAL STATES

In an effort to clearly distinguish positive psychology from more traditional clinical research on psychological deficits and dysfunction, participants in this new field may give disproportionate emphasis to positive

affective states, while neglecting the inherent interdependencies between positive and negative emotions. By focusing predominantly on positive subjective states, researchers also may overlook the pivotal role of negative life experiences in facilitating the development of coping skills and psychological strengths (e.g., Antonovsky, 1987; Masten, 2001; Schaefer & Moos, 1992).

The opponent-process theory of motivation posits a cyclical pattern of positive and negative emotions, in which individuals' pleasurable subjective states eventually give way to more negative experiences and vice versa (Solomon, 1980). One explanation for these sequential shifts between positive and negative emotions is the statistical principle of regression toward the mean (Campbell, 1969), which suggests that extreme emotional states have a probabilistic tendency to shift over time toward milder levels. Another explanation for the temporal interdependence of positive and negative emotions is based on Thibaut and Kelley's (1959) concept of comparison level—a subjective standard that individuals use to evaluate the quality of their environments and social relationships. Negative emotional states provide a psychological "benchmark" for evaluating one's situation and deciding whether or not to enact behaviors that might bring about improved circumstances. Moreover, negative experiences enable individuals to better recognize, appreciate, and strive toward more favorable emotional states (Aldwin & Stokols, 1988). For some individuals the cyclical shifts between positive and negative emotional states can be both frequent and dramatic, as observed in studies linking manic-depressive personality styles to high levels of creative achievement (Pickering, 1974).

Thus, another potentially useful direction for research in the field of positive psychology is the development of more integrated theoretical accounts of the interdependencies between pleasant and unpleasant emotional states. Fredrickson's (2001) "broaden-and-build" theory of emotions addresses the ways in which positive emotions undo (or neutralize) negative emotional states and expand individuals' thought-action repertoires, but this theory does not consider the influence of negative emotions on a person's subsequent development of positive affect and psychological strengths. Those issues warrant greater attention in future studies.

LEVELS OF EXPOSURE TO ENVIRONMENTAL CONSTRAINTS THAT ENHANCE OR UNDERMINE HUMAN STRENGTHS

In the short run, environmental variables such as the aesthetic qualities of a place can evoke highly positive subjective states. Similarly, excessive levels of noise and overcrowding can have an immediate and negative impact on individuals' emotions. Yet the influence of contextual factors on emotional well-being and health is considerably more complex

than these examples suggest. Earlier research indicates that when individuals encounter environments that are too predictable and too controllable, they experience those settings as boring and unchallenging (S. Kaplan, 1983). Ideally, people prefer environments that offer opportunities for exploration and for acquiring new information and skills (S. Kaplan, 1995), although these exploratory tendencies and preferences for novel surroundings may diminish during later stages of the life course (Lawton, 1999).

Psychological strengths such as the capacity to persevere under difficult circumstances may develop gradually as individuals cope with challenging situations. Prior studies further suggest that exposure to negative events may be a prerequisite for cultivating personal strengths such as self-confidence, creativity, sense of coherence, and capacity for hard work, which are essential for maintaining longer term emotional stability and well-being (e.g., Antonovsky, 1987; Eisenstadt, 1978; Maddi, 1974; Maddi, Kahn, & Maddi, 1998; Masten, 2001). On the other hand, confinement to degraded and impoverished environments for extended periods may overwhelm individuals' best efforts to rise above these constraints, thereby fostering dispositions toward helplessness and despair (e.g., Sarbin, 1970; Seligman, 1992). Similarly, the ever-widening gap between information-rich and information-poor segments of society may foster greater psychological deficits and a spiral of increasing poverty among individuals who find themselves on the wrong side of the "digital divide" (e.g., Castells, 1998; National Telecommunications and Information Administration, 2000; Stokols & Montero, 2001).

These considerations suggest that it is important for researchers to identify critical threshold levels at which individuals' cumulative exposures to environmental constraints begin to impede rather than facilitate the cultivation and expression of personal strengths. Further, it may be useful for researchers in the field of positive psychology to give greater attention to previously drawn distinctions between temporary motivational states and more enduring dispositional traits (e.g., Cattell, 1966; Mischel, 1969; Rotter, 1966; Spielberger, 1972). Whereas positive and negative emotional states can be expected to vacillate in a cyclical pattern from one situation to another, the more telling criterion of human strengths may be the cultivation of personal dispositions toward self-confidence, sense of coherence, self-determination, wisdom, optimism, faith, and hope and the avoidance of enduring tendencies toward helplessness, subservience, and despair.

In those instances where an individual's cumulative exposure to environmental risks and deficits is so overwhelming that resilience is impossible to achieve and dispositional helplessness ensues, it may be possible to develop new psychosocial and community interventions aimed at transforming these negative circumstances into more positive ones (Maddi et al., 1998; Schneider, 2001). At the same time, it is crucial that disadvantaged persons not be stigmatized or derogated for their inability to cultivate

resilience and optimism in the face of overwhelming odds (e.g., Becker, 1991; Lerner, 1980). Research in the field of positive psychology may yield new strategies for reversing the all-too-common tendencies toward stigmatizing and blaming the victims of misfortune.

CONCLUSION

This chapter has addressed certain conceptual issues that warrant greater attention in future research on human strengths. Drawing upon the constructs and findings of environmental and ecological psychology, three general topics for further investigation were proposed for development: (a) a more complete conceptualization of environmental contexts as they influence well-being; (b) a more integrated conceptualization of the interdependencies between positive and negative emotional states and experiences; and (c) a more fine-grained analysis of the threshold levels at which individuals' cumulative exposures to environmental constraints begin to impede, rather than facilitate, the cultivation and expression of psychological strengths. Future research on the ecology of human strengths is needed to broaden the conceptual and empirical scope of positive psychology.

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A Psychology of Human Strengths

*Fundamental Questions
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EDITED BY LISA G. ASPINWALL
AND URSULA M. STAUDINGER

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