Eco-Existential Positive Psychology

Experiences in Nature, Existential Anxieties, and Well-Being

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Contents

Eco-Existential Positive Psychology: Experiences in Nature, Existential Anxieties, and Well-Being

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Numerous scholars have explored the notion that our relationship with nature is essential to our well-being, and some have suggested that we have an evolved inclination to affiliate with nature. A substantial body of research supports these hypotheses, and demonstrates both the restorative and additive capacity of affiliating with nature. This article posits that experiences with the natural environment play a fundamentally important role in addressing the 6 existential anxieties of identity, happiness, isolation, meaning in life, freedom, and death—a perspective that we call Eco-Existential Positive Psychology. Moreover, we propose that affiliating with nature affords us the opportunity to be fully flourishing human beings. This article provides supporting evidence for Eco-Existential Positive Psychology via an interdisciplinary literature review.

In 1960, psychiatrist Harold Searles theorized that the nonhuman environment "constitutes one of the most basically important ingredients of human psychological existence" (p. 6) that, if ignored, is done so "at peril to [our] psychological well-being" (p. 6). Numerous scholars have subsequently explored and expanded upon this notion of the essential importance of our relationship with nature. Fromm (1968) asserted that each of us has a "heart and body which need to be tied emotionally to ... nature" (p. 68). Shepard (1982), Ulrich (1983) and E. O. Wilson (1984) each proposed that we have an evolved inclination to affiliate with nature (what Wilson called *biophilia*). A substantial body of research supports the biophilia hypothesis, and demonstrates both the restorative and additive capacity of our biophilic responses (see literature reviews by Howell & Passmore, 2013; Joye, 2007).

In this article, we propose that cultivating our innate biophilic tendencies through experiences with natural environments plays a fundamentally important role in addressing the four existential anxieties as outlined by Yalom (1980)—meaning in life, isolation, freedom, and death—in addition to addressing the two positive existential anxieties proposed by Wong (2009)—identity and happiness.

Wong's (2009) amalgamation of Existential Psychology and Positive Psychology—what he titled *Existential Positive Psychology*—is concerned with ''the study of ultimate concerns through integrating both positive and negative aspects of the human condition to create a better

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future for self and others'' (p. 362). Existential Positive Psychology merges Existential Psychology's focus on the *darker* realities of human existence such as meaninglessness, alienation, and death and its phenomenological analysis, with Positive Psychology's *brighter* focus on human strengths and well-being and its emphasis on scientific methodologies. It proposes an expanded vision of Positive Psychology, one that recognizes that addressing all six types of existential anxieties is necessary for human flourishing.

Specifically, Wong's (2009) Existential Positive Psychology stresses the importance of an authentic self-identity. Three types of *mature* happiness are endorsed: (a) authentic happiness, that arises from being an authentic person, (b) eudaimonic happiness, which ''comes from doing virtuous deeds'' (p. 364), and (c) chaironic happiness, connected with our spiritual nature. A major focus of Existential Positive Psychology concerns the quest for meaning and purpose. The human need for relationships and community is another important aspect of Existential Positive Psychology, as is the need to address freedom anxiety whilst not neglecting the quest for responsibility. Last, Existential Positive Psychology squarely faces the issue of death, and suggests that ''how we react to death will impact how we live .. . and this link represents the last frontier of Positive Psychology. ... we can use our capacity for meaning, spirituality and narrative construction to transform death anxiety'' (pp. 367–368).

Given psychology's increasing interest in the multifaceted relationship between humans and the greater natural environment (e.g., Kidner, 2007; Milton, 2010; Reser, 2007), this article utilizes Wong's (2009) Existential Positive Psychology as a framework from which to address existential anxieties from an ''eco'' perspective.

Eco-existential Positive Psychology and the Larger-Than-Human World

Although this article's focus is on the benefits that nature provides to individual well-being and the management of existential anxieties, it is important to recognize the symbiotic, bi-directional relationship between human well-being and the well-being of the larger natural world. As a planetary keystone species, our actions have a profound effect on the ecological system of the Earth, a system that we are not interlopers to, but rather, inherent participants within (O'Neill & Kahn, 2000). Thus, it is vital (for our own well-being and that of the Earth) that we move away from an anthropocentric, ego-centric view wherein nature provides for our health and well-being "free of charge," a narcissistic view that "only allows the natural world to be a superficial surface [for] mirroring [our] own ego-centered desires" (Adams, 2010a, p. 41). Rather, we must move toward an eco-centered view, wherein our relationship to the (rest of the) natural world is seen as a mutually beneficial, cyclical relationship of flourishing.

Indeed, empirical evidence supports the existence of such a mutually enhancing relationship between individual human well-being and the larger natural world's well-being. As illustrated in this article, exposure to nature and an increased sense of nature connectedness increases human well-being in a variety of ways. Concurrently, as evidenced by several studies (e.g., Hartig, Kaiser,

& Bowler, 2001; Hartig, Kaiser, & Strumse, 2007; Hine, Peacock, & Pretty, 2007; Hoot & Friedman, 2011; Schultz &. Zelezny, 1998), exposure to nature (through private or volunteer activities) and a heightened sense of connectedness to nature enhance the natural world's well-being via an increase of environmentally responsible behaviors by humans.

Increased time spent indoors using technology—on average Canadians spend almost 90% of their time indoors (Environment Canada, 2007)—necessarily means that we are also losing our connection with the natural world (Glendinning, 1994). If this disturbing trend of humankind's increased distancing from direct experiences in nature continues, the well-being of the planet's ecosystem will continue to degrade. It may also be supposed that existential angst among people will thereby continue to increase. For underlying all the facets of existential anxiety discussed herein is the most primordial existential anxiety of all—an anxiety not regarding "who am I as an isolated, individual human seeking happiness, meaning, and freedom?", but rather, an existential anxiety regarding "who am I am as a *human* in a larger natural world?" (see Adams, 2006). We turn now to an examination of how experiences in nature play a fundamental role

in addressing the six existential anxieties. In keeping with both Proshansky's (1981) and Wong's (2009) endorsement of the importance and value in drawing upon wisdom and research from a variety of knowledge paradigms, this article provides support for an Eco-Existential Positive Psychology perspective via an interdisciplinary review of literary writings, theory, and research.

Additionally, as per Waterman's (2013) suggestion for attempts at integrating humanistic and positive psychology, this article cites both qualitative and quantitative research.

Eco-existential Positive Psychology and the Individual Human

Identity

Man in his historical infancy .. . remains rooted in nature .. . in relating himself to [elements of nature], the individual finds his sense of identity and belonging. (Fromm, 1956, pp. 48–49)

Authenticity is an integral focus of existential and humanistic literature. Buber wrote of the importance of the natural world in the relational *I-Thou* experience, an experience that enhances the authenticity of the self (or *I*) and the well-being of the other or *Thou* (Buber, 1923=1958). Moustakas (1985) regarded ''an authentic relationship to [one's] self, to other human beings, to nature, and the universe'' as necessary to being fully human (p. 5). Eco-Existential Positive Psychology specifically incorporates the natural nonhuman environment into the search for self-identity. An expanded sense of self-identity that incorporates the natural world could help to reconcile people with the essence of who they are as human beings and with their unique place in the larger scheme of things, thus, resulting in a sense of authenticity. Experiences of authenticity have recently been linked with transcending the self in a direction toward harmony or interconnectedness between the self and the natural environment (Dambrun & Ricard, 2011). A number of writers have expounded upon the essential role that the natural nonhuman world plays in forming our self-concept. For example, Shepard (1996) outlined how we have a long history of comparing ourselves to other animal species to define who we uniquely are as humans. Kalof (2003) also argued that ''human identity is developed through relationships with nonhuman others .. . whether the discourse is framed by similarity, difference, or blurred boundaries'' (p. 161). In his review of psychological research concerning children and animals, Foulkes (1999) outlined how this comparison and identification with animals occurs early in childhood. In the stories of preschool children, characters are predominantly animals, with the child identifying with the animal to the extent that the animal becomes the child at some point in the story. Animals are often present in young children's dreams, wherein the animals have human concerns and are often the objects of identification. In fact, 61% of the dream content of children between the ages of 3 and 5 is composed of animals, despite children having vastly more interactions with humans (Foulkes, 1982). As a child's sense of self develops, the predominance of animal compared to human characters decreases, particularly between the ages of 7 to 9. Animal dreaming does, however, remain evident at later ages.

As adults, our language is peppered with references to the nonhuman animal world in regards to selfand otheridentities and action: for example, ''he's a busy beaver;'' ''she's a wise old owl.'' This adult identification with animals goes beyond mere verbal

comparisons. In his review of sociological ideologies and research concerning animals' role in key processes that shape self and society, Myers (2003) specifically argued that the idea of *self* takes root within a context of a mixed species community. He provides several examples of how individuals' selves can be deeply shaped by relationships with other species. For instance, in a study concerning how self-identity can be jointly anchored in human society and in a nonhuman animate relationship, Myers and Russel (2003) conducted in-depth interviews with individuals regarding their encounters=relationships with wild Black bears. Their qualitative analysis revealed that individuals who had early, repeated, or vivid experiences with wild bears, had an expanded circle of identity that included the natural world and other animals.

In addition to animals, other elements of the natural world also help to shape our individual, and collective, identity. For example, Sommer (2003) reviewed how trees figure prominently in many theoretical perspectives of identity: many cultural myths describe how people were created from trees or transformed into trees; depth psychology utilizes trees in personality tests (such as the house-tree-person drawing test) to investigate identity issues; phenomenological approaches rely on tree metaphors of roots, trunks, and canopy.

Recognizing this innate and diverse tendency for identification with the natural world, Leary, Tipsord, and Tate (2008) proposed that an important category of self-construal is that of selfidentification with both the social (i.e., human) *and* natural (i.e., nonhuman) worlds. To test the extent to which people include other entities into their self-concept, Leary and colleagues developed the Allo-Inclusive Identity Scale, which measures the degree to which individuals incorporate other people and the nonhuman world into their sense of self. Empirical research has shown a positive, significant relationship between the degree to which an individual incorporates nature into their identity and various indices of well-being (Howell, Dopko, Passmore, & Buro, 2011; Zelenski & Nisbet, 2012; see also the Metapersonal Self Scale; DeCicco & Stroink, 2007). Moreover, in Zelenski and Nisbet's study, this relationship remained significant even when controlling for general connectedness (to family, friends, community), thus suggesting that including nature in one's self-identity contributes to well-being in a distinct manner (see also *Happiness* section the follows). The significance of the natural landscape to identity has been addressed by several writers and researchers. Taylor (2007) wrote of how attachment to landscape helps to fulfill our deepest need for a sense of identity. Corroborating this statement is research by Cobb (1977), Sebba (1991), and Chawla (2002), each of whom reported that many adults in their respective studies reported childhood experiences with natural outdoor settings as their most significant memories; moreover, these adults credited these experiences with being significant sources of aspects of their adult personality. Singer (1981) argued that morality reflects the expansion of one's circle of concern toward all humans and other sentient beings, and possibly toward living and nonliving natural objects such as mountains, plants, and streams.

Happiness

[As] psychologists we have heard but little about gardens, about foliage, about forests and farmland.

... Perhaps this resource for enhancing health, happiness, and wholeness has been neglected long enough. (Kaplan & Kaplan, 1989, p. 189)

Experiences in nature can result in a direct increase of various forms of happiness or well-being (e.g., eudaimonic and hedonic well-being, chaironic or spiritual well-being), in addition to increasing well-being via satisfaction of basic psychological needs (e.g., competence, relatedness, autonomy).

Eudaimonic well-being. Commensurate with the development of reliable and valid measures of nature connectedness, the last decade has seen an increase in both correlational and experimental research linking nature connectedness with well-being. Several correlational studies have assessed the association between individual differences in nature connectedness and aspects of well-being, and a growing body of research is demonstrating a reliable positive correlation between nature connectedness and aspects of eudaimonic well-being such as psychological and social well-being, personal growth, engagement, and meaning (Herzog & Strevey, 2008; Howell et al., 2011; Howell, Passmore, & Buro, 2013; Nisbet, Zelenski, & Murphy, 2011; Peterson, Ruch, Beerman, Park, & Seligman, 2007). Hinds and Sparks (2011) measured eudaimonia as a composite of serenity, a sense of awe, contemplation, empathy, *aliveness*, a sense of freedom, connectedness, and feeling refreshed. They reported a ''notable tendency for ... more more natural or wild environments ... to be associated with higher levels of eudaimonia'' (p. 462). Of particular interest is their additional finding that some natural environments (such as mountains, forests, and woodlands) elicited high levels of both eudaimonia *and* loneliness, isolation, and anxiety pertaining to apprehension. As we discuss further on, there are both positive and negative experiences in nature; however, Hinds and Sparks suggest that ''being lonely, isolated and anxious'' in natural environments appears to be experienced positively (p. 463).

Hedonic well-being. Although often maligned as being of lesser quality than, or even opposed to, eudaimonic well-being, Huta and Ryan (2010) put forth that these types of happiness ''occupy overlapping and distinct niches within a complete picture of well-being, and their combination may be associated with the greatest well-being'' (p. 735). In general, correlational studies have shown an inconsistent correlation between nature connectedness and hedonic well-being as measured by emotional well-being, life satisfaction, and positive affect (e.g., Diessner, Solom, Frost, Parsons, & Davidson, 2008; Howell et al., 2011; Mayer & Frantz, 2004). It is possible that nature connected-

ness relates to some aspects of hedonic functioning, such as vitality, more than others. Germane to this suggestion is Huta and Ryan's finding that vitality appears to be related equally to both eudaimonic and hedonic pursuits. In this vein, vitality has been demonstrated to increase after connecting with nature: In a series of studies, Ryan and colleagues (2010) found that, regardless of the influence of social, physical, and outdoor activity, behaviors involving nature predicted greater vitality. Nisbet and colleagues (2011) demonstrated how the cognitive aspect of relating to nature also has a vitalizing effect. In this study, students in courses pertaining to the environment reported higher levels of vitality than did students in other courses; this higher level of vitality was accounted for by environmental studies students maintaining a stronger sense of connectedness to nature (compared to other students) during a time period of stressful school exams and weather that was less amenable to outdoor activity.

Chaironic well-being. Validated measures of spiritual well-being and spirituality commonly include items relating to nature; examples include Gomez and Fisher's (2003) Spiritual Well-Being Questionnaire (e.g., items pertaining to ''developing connection with nature'' and ''developing oneness with nature''), Underwood and Teresi's (2002) Daily Spiritual Experience Scale (e.g., ''I am spiritually touched by the beauty of creation''), and Delaney's (2005) Spirituality Scale (e.g., ''I believe that nature should be respected'').

Several studies provide empirical support for a close relationship between spirituality and nature connectedness. Leary and colleagues (2008) reported a significant, positive correlation between the level to which an individual incorporates nature into their self-identity and their level of spirituality. Diessner and colleagues' (2008) research on appreciating beauty evidenced significant associations between nature and spirituality. Saraglou, Buxant, and Tilquin (2008) assessed spirituality as a function of nature immersion. Students randomly assigned to watch a video clip of either childbirth or nature scored higher on a measure of spirituality than did those assigned to watch a video clip of either humour or one of neutral content. (See also Terhaar, 2009, for a literature review of empirical findings demonstrating that exposure to nature often triggers intense spiritual experiences.)

The intertwining of spirituality and nature appears to be true even for those individuals who stringently reject a spiritual belief system involving a deity. Caldwell-Harris, Wilson, LoTempo, and Beit-Hallahmi (2008) found that atheists agreed with statements that measured aspects of spirituality construed as *respect for nature* to the same extent as did Catholics and Buddhists. Furthermore, approximately one-third of the atheists endorsed the term *spirituality* in relation to an appreciation of nature, and nature was the most frequently cited source of wonderment. It may be that ''biophilia may be difficult to tease apart from what some people call a relationship with 'spirit' or 'God''' (Soule, 1993, p. 444).

Well-being through meeting basic psychological needs. It is also possible that the relationship between nature affiliation and well-being is mediated by the extent to which basic psychological needs are met through contact with nature (see also Clayton, 2003).

Kellert (1997) speculated that involvement with nature may satisfy needs similar to those of competence, relatedness, and autonomy; these are the very needs underscored in self-determination theory (e.g., Deci & Ryan, 2000).

Regarding competency needs, outdoor educational and therapy programs capitalize on the unlimited opportunities nature provides for individuals to demonstrate personal competencies through activities such as wilderness camping adventures (Newes & Bandoroff, 2004). Urban nature experiences also lend themselves to helping fulfill individual's competency needs through activities such as outdoor or container gardening (Hunter, 2006). Competency as a result of learning about the world in general is readily fostered by nature experiences. Interacting with nature also contributes indirectly to fulfilling our competency needs, in that the feelings of vitality nature inspires in us (see Nisbet et al., 2011; Ryan et al., 2010) spill over into other areas of our lives, prompting us to ''roll up our sleeves,'' tackle new projects, and therefore to experience expanded opportunities for accomplishment.

Relationships between the natural environment and needs of relatedness and autonomy are discussed further in this article in the *Isolation* and *Freedom* sections, respectively.

Meaning in Life

Nature may appear to us not primarily as a commodity but foremost as an inspiring source of meaningfulness. (Note, 2009, p. 279)

Meaning in life stems, in part, from an individual's identification with elements of stable patterns and permanency within a changing world (Baumeister, 1991), beliefs that life fits within a larger scheme (Wong, 2010), and an individual's ability for self-transcendence (Emmons, 2005; Frankl, 1959=1984; Steger, 2009; Wong, 1998). Theoretically, it has been suggested that these key elements of meaning in life can be found in nature.

Numerous literary references refer to the patterns that are discernible in nature that express deep order and of the comfort to be found in the order and permanence of nature (Camus, 1955; McKibben, 1989; Vernon, 2008). For example, although societal norms, architectural styles, and the latest fad in synthetically manufactured objects come and go, nature persists. Perennial plants and trees that seemingly die every winter, blossom anew each spring. The tides of the oceans ebb and flow today, as they have for millennia.

Numerous literary references can be found that refer to the connection between the natural world and meaning or purpose in life. Many of Admiral Bird's diary entries from his winter Antarctic expedition speak to the power that the natural environment had in awakening a sense of purpose in his life: ''Here were imponderable processes and forces of the cosmos, harmonious and soundless. ... The conviction came that ... there must be a purpose in the whole and that man was part of the whole and not an accidental off-shoot'' (Byrd, 1938=2003, p. 85).

Several writers and researchers have also referred to the perspective-making power of nature.

Kaplan and Kaplan's (1989) assertion that the deepest instances of nature involvement elicit ''reflection on one's life, on one's priorities and possibilities, on one's actions and one's goals'' (p. 197) was echoed by Kalnin (2008), who wrote that ''there are times when the beauty and tranquility of [natural] places allow us to see the world and our part in it from a completely different perspective'' (p. 15). Cohen, Gruber, and Keltner (2010) argued that awe experiences, which are often elicited by natural beauty, have the central feature of ''the demand to find new meaning'' (p. 128) and that ''[n]atural beauty ... gives people a sense of understanding and perspective'' (p. 128).

A sense of meaning can be created through the development of a coherent life narrative (McAdams, 1993), and by integrating personal events of an individual's life story ''into a larger, overarching meaning system'' (Steger, 2009, p. 682). Consistent

with this view, Berger and McLeod (2006) have advised that the use of nature analogies and embedding clients' experiences "in a larger story of natural life" (p. 91) can help clients bestow and extract meaning to guide them through change.

Baumeister and Vohs (2002) put forth that "the essence of meaning is connection" (p. 608); various forms of connection—including a connection to nature—have been surmised to provide coherence and meaning in life. Heine, Proulx, and Vohs (2006) emphasized that meaning is found in connecting the self to the external world; consistent with this idea, Haybron (2011) suggested that nature experiences may yield meaning by their provision of "engagement with matters of independent worth" (p. 238). Note (2009) also made reference to the meaningfulness that can be derived from our sense of experiencing nature as an external reality with which we form an ethical, reciprocal relationship that involves transcending our immediate spatial reference. Several authors (Frankl, 1959=1984; Kellert, 2002; Reker; 1996; Verbeek & de Waal, 2002) have put forth that experiencing the natural world, or cultivating one's connection and relationship with nature, can be an important aspect of meaning in life. Buber (1923=1958), too, suggested that meaning can be found through a relationship with nature; specifically, Buber posited that meaningfulness is found through the relational spheres of "our life with nature, ... our life with men, ... [and] our life with spiritual beings" (p. 98). Importantly, Butler (2006) proposed that a connection with nature is related to our search for both meaning *and* happiness.

Empirical findings provide support for the association between nature affiliation and meaning in life. In studies examining sources of meaning, experiences in natural environments have emerged as a significant category for adults in mid-life (O'Connor & Chamberlain, 1996) and older adults (Reker & Woo, 2011), and Nisbet and colleagues (2011) showed that purpose in life was a significant correlate of nature affiliation.

Wong (2009) reported that two major sources of meaning are self-transcendence and religion. Empirical studies have linked these two constructs with nature. Keltner and Haidt (2003) include nature among the most common elicitors of awe, an emotion they describe as "central to the experience of religion" (p. 297); Shiota, Keltner, and Mossman (2007) reported that participants instructed to think of time spent in a natural setting reported feeling the presence of something greater than themselves.

Howell and colleagues (2013) explored the interrelationship between nature connectedness, well-being, and meaning in life. In two studies, Howell and colleagues tested the hypothesis that meaning in life would mediate the association between nature connectedness and well-being. Multiple self-report measures of nature connectedness, meaning in life, and well-being were utilized. Significant, positive correlations emerged between nature connectedness and meaning in life, between nature connectedness and well-being, and between meaning in life and well-being. Mediational analyses supported the hypothesis that meaning in life fully mediates the association between nature connectedness and well-being.

Isolation

[Our] sense of [nature] relatedness helps to assuage man's existential loneliness in the Universe. (Searles, 1960, p. 122)

Nelson (1993) suggested that isolation from the natural community has created for us a "profound and imperiling loneliness" (p. 221). Experiences with nature afford us a greater sense of relatedness and social connectedness. Clayton (2003) suggested that "relatedness comes from the opportunity to feel like a part of a functioning system" and that redefining oneself in a way that includes the natural environment can reduce the sense of isolation and separateness that many people feel (p. 50). Schwartz (1994) defined the value of universalism as involving both connection with all of humanity and with the natural world. Mayer, Frantz, Bruehlman-Senecal, and Dolliver (2009) suggested that "when practitioners think of how to create settings to help clients feel better, they may want to ... think of how people need to feel a sense of belonging to something larger than themselves and that this need may be fulfilled through a sense of belonging or connectedness to the natural world" (p. 635).

Lending empirical credence to these notions, Terhaar (2009) showed that when immersed in a natural environment, an "individual's sense of separateness of self dissolves" and individuals report feeling more connected (p. 312); and Shiota and colleagues (2007) reported that participants asked to think of a recent time when they were in a natural setting gave higher ratings to such statements as "I felt connected with the world around me," compared to participants asked to think of a recent time when they felt pride. In multiple studies utilizing multiple measures, social well-being has been show to correlate significantly with nature affiliation (Howell et al., 2011; Howell et al., 2013).

Experimental studies have shown that exposure to nature can increase generous behavior toward others, increased endorsement of intrinsic goals such as closeness and community, and a decreased endorsement of extrinsic goals such as personal fame and fortune. For example, Weinstein, Przybylski, and Ryan (2009) reported all three of these effects in a series of four experiments that exposed participants to nature via either photographs depicting nature scenes or a 5-min rest period in a plant laden laboratory (control conditions were photographs of built environments or a 5-min rest period in a plant-free laboratory). Several researchers (Kuo, 2003; Kuo, Sullivan, Coley, & Brunson, 1998; Sommer, 2003; Sullivan, Kuo, & Depooter, 2004) have reported that the amount of green space in neighborhoods is positively correlated with the strength of social ties reported among neighbors, the amount of concern neighbors expressed with helping and supporting each other, and with the amount of prosocial activity in

the neighborhood. Sommer (2003) presented a variety of evidence from several studies demonstrating how, in particular, volunteer tree planting programs in urban areas enhanced social connectedness among neighbors, in addition to enhancing the local natural environment. Further research along this line is provided by Hine and colleagues (2007), who reported that volunteers for a conservation group listed the benefits of their service as including not only positive feelings about helping the environment and enhanced understanding of conservation issues, but also ''social capital benefits'' such as meeting new people and being part of a ''coming together of people for a good cause'' (pp. 6–7).

Even within built environments, brief exposure to natural elements has been shown to be conducive to improving social connections. For example, Ruso and Atzwanger (2003) conducted naturalistic observations of people in a shopping mall corridor where they had installed a water fountain. They reported that when the fountain was filled with water (compared to when the fountain was empty), people were more likely to interact with each other.

Our bonds with animals, particularly our pets, also help to reduce feelings of isolation and fulfill our social relatedness needs. Epley, Akalis, Waytz, and Cacioppo (2008) showed that, under conditions of social isolation, people anthropomorphize nonhuman animals as a means of buffering the threat of being alone. In an edited book by Podberscek, Paul, and Serpell (2000), numerous authors explored evidence of how animals can be highly significant social companions to people of all ages in a diverse array of cultures and countries (see also Smolkovic, Fajfar, & Mlinaric, 2012, for a literature summary). In a study of 339 adults, Wood, Giles-Corti, and Bulsara (2005) reported that significantly fewer pet owners reported feeling lonely compared to non-pet-owners. A variety of studies have reported that pet ownership is positively associated with social contact, and that pets often act as robust facilitators of social interaction. McNicholas and Collis (2000) demonstrated that the frequency of social interactions, especially interactions with strangers, significantly increased when people were accompanied by a dog when out walking. Wood and colleagues (2005) reported that 50% of dog owners reported that they got to know their neighbors because of their dog, and significantly more pet owners than non-pet-owners viewed others as sociable and helpful. Other studies have found that pets promoted social interactions within a long-stay psychiatric population (Hall & Malpus, 2000), service dogs significantly increased the amount of social interaction between people in wheelchairs and passersby (Eddy, Hart, & Boltz, 1988), and older adults with dementia who participated in a 3-week Animal-Assisted Therapy program displayed a significant increase in social interactions post-therapy (Richeson, 2003).

Freedom

The sound of the brook hitting the rock, The whisper of the wind in my ear, The sound of the bird who just woke up, And I know that my freedom is here. (Walker, 2008)

For a period of 2 years before 15-year-old Anne Frank was captured and put to death in a Nazi concentration camp, her diary-writings were filled with references to the beauty and freedom of a chestnut tree that she could glimpse through the window of her secret hiding place. In 2007, a successful global campaign was launched to save ''the Anne Frank tree'' after it was marked for felling by officials who feared it would fall over in a storm. Campaigners, many of whom were neighbors of where the tree was growing, argued that, as a symbol of freedom, the tree was worth making extraordinary efforts to preserve (''Work begins,'' 2008).

Nature—particularly wild nature—has long been associated with spontaneity, self-organizing processes, and freedom (for reviews see Norton, 1986; Ridder, 2005; Sessions, 1992). Drew (1999) describes how illustrations of the powerful symbolic significance of what Ridder has deemed ''nature-inspired-autonomy'' can be found in anti-utopian literature (i.e., Zamyatin's [1983] *We*, Huxley's [1931=1968] *Brave New World*, Orwell's [1949=1954] *1984*). These fictional, yet somewhat prescient, works depict future modern societies as repressive, technological, totalitarian regimes that stifle expressions of individual creativity and choice. Within these works, nature is portrayed as inspiring downtrodden citizens to seek out and express their individualism and personal freedom.

Nature-inspired autonomy also holds true as a powerful force in reality. Many people today struggle with the values and pressures imposed on them by society; although ''the complexity and interdependence of contemporary life often thwarts the realization of personal distinctiveness, the natural world continues to afford opportunities for people to achieve feelings of autonomy and individuality'' (Kellert, 1997, p. 130). The natural environment enhances perceived autonomy because ''there are fewer commands or requests from others that limit behavioral choices'' (Clayton, 2003, p. 50). Nature does not impose on us expectations of arbitrary social propriety; we are free simply to *be.*

Empirical research supports this position. Fredrickson and Anderson (1999) reported that for many of the women they interviewed ''what made their wilderness experience especially meaningful was the fact that there was virtually no reason to be anyone but themselves'' (p. 30). Furthermore, experimental studies have demonstrated that exposure to nature can bolster an individual's sense of freedom to be who they truly are and to act without pretense. Mayer and colleagues (2009) conducted a series of studies that compared reactions of participants exposed to nature (via a walk in a natural environment or viewing a videotape of the same nature walk) to reactions of participants exposed to urban settings (via a walk in an urban area or viewing a videotape of the same urban walk). Significantly reduced public self-awareness was reported by participants in the nature conditions (particularly in the actual as opposed to virtual nature conditions).

Mayer and colleagues speculated that, in essence, individuals exposed to nature felt an increased sense of freedom to report how they truly felt relative to individuals exposed to urban scenarios. Experimental evidence has also emerged that links exposure to nature with increased autonomy; that is, in studies conducted by Weinstein and

colleagues (2009), the more participants were immersed in nature contexts, the more autonomous they felt. Augmenting these findings is qualitative research from Hammitt (1982), who found that what wilderness users were seeking was, in part, "the freedom of choice in selecting with whom, when, and to what extent they must interact" (p. 482), choices not found in the complex social environments prevalent in modern urban cities.

Yalom (1980) wrote that "In the existential sense, 'freedom' refers to the absence of external structure ... [where] the individual is entirely responsible for ... his or her own world, life, design, choices and actions" (p. 8). Wong (2009) stressed that Existential Positive Psychology "is concerned with how to strike a healthy balance between freedom and responsibility" (p. 367).We propose that natural environments appear to provide a foundational setting for this balance to occur. This is due, in part, to the fact that the link between behavior and its consequences are apparent in an immediate and fundamental way in a natural setting (Scherl, 1989). For example, if we are cold when outside, it is up to us to take steps to warm ourselves via starting a fire or donning extra layers of clothes. Dramatic illustrations of this can be found in nature adventure literature. A common theme in this literature is that these seekers of freedom, personal expression, and adventure do not entertain illusions of nature as a beneficent mother; rather these responders to the *call of the wild* understand that their journey will also entail peril, adversity, and great challenges (Krakauer, 1996; I. Wilson & Wilson, 1987).

Positive development oftentimes requires overcoming adversity; this may be paralleled in humans' positive and negative experiences of nature (as referred to earlier). The necessity of nature appreciation at times arises directly from the raw, elemental facets of nature that evoke intense feelings of awe at the power of nature (Cohen et al., 2010; Keltner & Haidt, 2003; Shiota et al., 2007). Keltner and Haidt proposed that experiences of awe are both "profoundly positive and terrifyingly negative" (p. 303). This can, for example, include nature-induced experiences of awe wherein one feels completely connected to, and at one with, the vastness of the universe; concurrently experiencing a sense of diminished self, recognizing the insignificance and smallness of one's individual self within this vastness. Among the well-known writings of Wordsworth and Thoreau extolling the sublime virtues of nature, one can also find stark passages vividly depicting this "terrible awe" that fill a person when confronting the "divine" power of nature (Cronon, 1995, p. 74–75).

The raw, elemental, and dynamic push-pull of joy-fear, tranquility-aliveness, isolationconnectedness, danger-freedom that nature experiences afford us is perhaps one reason that we are innately drawn to nature. Cronon (1995) provided several illustrations of this dualistic characteristic of nature. In one such example, Cronon described how, historically, the wilderness represented not only a place full of devils and spiritual temptation, but also the setting in which one was most likely to encounter God. Elsewhere, Cronon described how the unexplored American frontier represented "a last bastion of rugged individualism," autonomy and freedom, "where an individual could

escape the confining structures of civilized life;'' yet this frontier landscape simultaneously fostered the banding together of these rugged individuals ''with their neighbors to form communities'' (p. 77). The duality of nature as symbolizing both freedom and danger was also alluded to by Drew (1999) in reference to the anti-utopian literature described previously. Nature, in these works, inspires people not only to ''negate what subjugates ... them as individuals'' but also to ''claim the right to God, ... to real danger, [and] to freedom'' (p. 77).

Death

Thous know'st 'tis common, all that lives must die, Passing through nature to eternity. (Shakespeare,

Hamlet, Act 1, Scene 2)

From a Jungian perspective on ecopsychology, Pienaar (2011) argued that nature, serving as a symbolic representation of time, serves to increase our existential awareness of our own mortality, that we experience nature as a continuity of the self, and that the human psyche is coextensive with nature. ''As such, it is a general tendency, for example, to associate a tree with life and transformations'' (Pienaar, 2011, p. 26). Frankl (1959=1984) provides us with a poignant example of this in his description of the solace one woman in a Nazi concentration death-camp gained from the view of a single branch of a chestnut tree on which there were two blossoms: ''It sa[id] to [her], 'I am here—I am here—I am life, eternal life' '' (p. 78).

Ernest Becker (1973) proposed that individuals transmute and transcend the ''terror'' (p. 15) of death by maintaining a ''belief in immortality, the extension of one's being into eternity'' (p. 24). Connecting with nature embeds us more deeply into the existence of life beyond the course of our single lifetime (Berger, 1980). There is a ''universal truth inherent in the cycles of nature that can connect people to the larger cycle we are all part of'' (Berger & McLeod, 2006, p. 86–87). Although the natural rhythms of the Earth as it passes from day to night, and season to season, provide a daily reminder of our own mortality and the transitory nature of our own beings, we are also reminded of the ''cyclical relationships between life and death, nourishment and deprival'' and how ''such a relationship is in fact a necessary condition for the functioning of the Earth'' (Pienaar, 2011, p. 27). We accept that, not only is death inevitable, but that death is, in fact, ''necessary to maintain the greater life of the Earth itself,'' and by extension, ourselves (Pienaar, 2011, p. 27; see also Lifton, 1979).

Lifton (1979) believed that symbolic immortality was essential to psychological well-being as a mechanism toward reducing death anxieties. He outlined five possible modes of symbolic immortality: the biological, theological, creative, natural, and the special mode of experiential transcendence. The fourth and fifth modes relate directly to our affiliation with the natural environment and our experiences within it. The natural mode of symbolic immortality is derived from our perception that the natural environment around us is ''limitless in space and time'' and will remain long after we have passed on (p. 22).

Lifton's (1979) fifth mode of symbolic immortality—the special mode of experiential transcendence—is one in which a person experiences an ecstatic oneness with the universe, wherein the individual feels alive and connected, resulting in the temporary cessation of a sense of time and death. As discussed previously, nature connectedness and experiences in nature are linked to feelings of transcendence and *oneness with the universe*. Shneidman (1995) also proposed that an affiliation with nature can assuage death anxieties by creating a concept of the *postself* that will live on through the cosmos itself.

The struggle for existence, the flourishing of life even in harsh conditions, and the cycle of life—death—life-born-anew are salient features of the natural environment that provide us with symbols of transcendent immortality that we can identify with and find solace in. Elliot and Maier's (2012) color in context theory has recently argued that, for humans, the color green (characteristic of much of nature) is inherently associated with life, hope, and growth. Thus, nature affiliation and experiences in nature can act as a means of fostering death acceptance.

FUTURE RESEARCH DIRECTIONS

The end or death of nature (McKibben, 1989; Merchant, 1980) itself is of increasing concern in today's industrialized, commercialized world, where humankind's overarching goal seems to be that of control over the natural world. The destruction of many natural areas confronts humanity with another aspect of existential death anxiety that we, and the Earth, are ill-prepared for. Humankind's current relationship with the larger-than-human world is resulting in a degradation of the well-being of all concerned—human and nonhuman alike (Adams, 2010b; Fischer, 2005; Kidner, 2007; Mason, 2005). An emphasis of freedom of action over responsibility with regard to the natural environment has increased the danger that natural forces present for us (i.e., the increased frequency of high intensity storms caused by human-induced climate change). Thus, it is imperative that researchers continue to examine motivational forces and conditions that result in an increase in ecologically responsible behavior. Such research can help to address our primordial existential questions regarding who we, as humans, are in a larger-than-human world.

From an individual perspective, and from an Eco-Existential Positive Psychology perspective, further research regarding how (i.e., the mechanisms by which) affiliating with nature can address our existential anxieties of identity, happiness, meaning in life, isolation, freedom, and death is also required. For example, in light of findings demonstrating that increased state nature connectedness correlated with an increased level of private self-awareness (Mayer et al., 2009), and findings evidencing that true self-concept is an important contributor to meaning in life (Schlegel, Hicks, Arndt, & King, 2009; Schlegel, Hicks, King, & Arndt, 2011), a promising line of study would be to examine, within a single study, the effects of exposure to nature on individuals' perception of availability of true self-concept knowledge and their subsequent meaning in life judgments. Further studies conducted in partnership with volunteer agencies involved with active, outdoor, nature-based activities is warranted to examine a possi-

ble synergistic impact on varying types of personal well-being, given that involvement with nature was recently identified as one of a limited number of *life style* interventions (along with such interventions as exercise and volunteering) characterized as well-evidenced for improving mental well-being but perhaps under-utilized by practicing psychologists (Walsh, 2011). Further research is also required to examine how affiliating with nature can enhance well-being through meeting our basic psychological needs of competency, relatedness, and autonomy.

Another promising line of future work would involve examining whether an enhanced sense of meaning in life can be induced through the boosting of nature connectedness or nature involvement. Further research addressing the existential anxiety of isolation could include manipulating daily, brief exposure to nature within a built environment and examining resultant levels of inclusion of both the natural world and other people into self-concept, in addition to measuring resultant levels of social well-being, and prosocial behavior. Interesting directions for future research in the area of death anxieties would be to examine whether the induction of mortality salience increases state nature connectedness, and to explore the effectiveness of nature interventions for grieving individuals in processing their loss.

Conclusion

In light of the ideas and findings presented in this article, Eco-Existential Positive Psychology positions the cultivation of our biophilic tendency to affiliate with nature as innately suited to addressing the existential anxieties concerning identity, happiness, meaning in life, isolation, freedom, and death. Moreover, we believe that affiliating with nature affords us the opportunity to be fully *flourishing* human beings—which in turn will allow the larger-than-human natural world an opportunity to fully flourish, as individuals shift from an ego-centered view and lifestyle, to an eco-centered view and lifestyle.

We concur with Wong (2009) that ''it is only through embracing life in its totality ... that we can uplift humanity and improve the human condition'' (p. 368). We include the natural environment in this encompassing embrace. It is hoped that the perspective of Eco-Existential Positive Psychology will contribute to an expanded awareness of the potential role of nature connectedness and nature involvement in a life well (and sustainably) lived. We also hope that the ideas and findings presented in this article will encourage researchers to continue expanding studies in this important domain, and encourage therapists to consider nature involvement and nature connectedness when assessing clients and planning therapy strategies. Lastly, we hope to have inspired readers to connect with nature—for their sake, and for nature's sake.

Acknowledgements

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