HEALTH AND WELL-BEING

Highlights

- Health and well-being encompasses physical, cognitive, emotional, and social elements.
- Hedonic well-being is about pleasure and happiness, whereas eudaimonic well-being refers to reaching one’s potential and finding meaning in life.
- Hope and coping strategies are important aspects of well-being in light of threats posed by climate change.
- Environmental education can partner with organizations focused on well-being, including those that serve people impacted by poverty and discrimination and displaced by conflict and climate change.
- Environmental education can foster hope and meaning in life through nature-based, outdoor adventure, civic ecology, and environmental action programs.

Spending time in nature enhances health and well-being—we know this from hundreds if not thousands of studies. Nature-based activities impact health and well-being through enabling physical exercise, social interactions, recovery from stress, and opportunities to freely explore one’s surroundings. Nature-based physical and psychological challenges, hands-on stewardship, and being able to influence environmental policies also help us to find purpose or meaning in life, or eudaimonic well-being (Health Council of the Netherlands 2004;
Further, environmental education can instill hope and enable coping behaviors, which are critical in light of threats posed by climate change (Ojala 2012a, 2013, 2015; see table 15.1 for definitions of terms related to well-being). For a comprehensive review of health/well-being outcomes of activities in nature, we suggest the article “The Benefits of Nature Contact for Children” (Chawla 2015), Richard Louv’s (2008) popular book *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*, and the research reviews hosted on the Children & Nature Network and North American Association for Environmental Education websites (C&NN 2017; NAAEE 2018b).

**What Are Health and Well-Being?**

Much of the human search for a coherent and fulfilling existence is intimately dependent upon our relationship to nature.

(Kellert and Wilson 1993, 43)

The World Health Organization’s definition of health emphasizes not just the absence of disease, but also physical, mental, and social well-being, and provides a starting point for thinking about environmental education outcomes (Chawla 2015; WHO 2018). Outdoor environmental education programs provide opportunities for increasing physical fitness, whereas programs taking place in school and community gardens can address healthy eating habits (Dyg and Wistoft 2018). Cognitive well-being includes memory, critical thinking, and judgment, whereas psychological well-being encompasses emotions, life satisfaction, self-esteem, and optimism (Lucas et al. 1996; Wells 2000, 2014; Wells and Rollings 2012). Social well-being can include social connections, social capital, and sense of community (McMillan and Chavis 1986; Sullivan et al. 2004; Krasny, Kalbacker, et al. 2013; Chawla 2015).

Psychological well-being is particularly important in environmental education. It can be considered from the hedonic perspective of satisfying desires and maximizing pleasure or happiness. It also can be considered from a eudaimonic perspective, which focuses on meaning in life resulting from following deeply held values and realizing one’s fullest potential (Halama and Dedova 2007; Capaldi et al. 2014; McLellan and Steward 2015). The two perspectives are not necessarily at odds—for example, being outdoors brings great pleasure as well as meaning in life (Wolsko and Lindberg 2013; Chawla 2015).

The “capabilities approach” links eudaimonic well-being with health and social justice (Nussbaum 2011) and has been used to assess the benefits for
TABLE 15.1 Well-being definitions

<table>
<thead>
<tr>
<th>WELL-BEING COMPONENT</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-being</td>
<td>Eudaimonic Well-being defined as finding meaning in life as a result of following deeply held values and realizing one's fullest potential (McLellan and Steward 2015)</td>
</tr>
<tr>
<td></td>
<td>Hedonic Well-being defined as satisfying desires and maximizing pleasure or happiness (McLellan and Steward 2015)</td>
</tr>
<tr>
<td>Hope</td>
<td>Constructive Encompasses positive reappraisal (reframing worries about a problem to activate hope), faith in institutions and technology to address the problem, and faith in one's ability to improve problems (Ojala 2012a, 2015)</td>
</tr>
<tr>
<td></td>
<td>Unrealistic Based on the denial of the severity of the problem (Ojala 2012a, 2015)</td>
</tr>
<tr>
<td>Coping</td>
<td>Problem-focused Entails searching for information about how one can solve a problem</td>
</tr>
<tr>
<td></td>
<td>Emotion-focused Involves avoiding negative feelings, including by denying or not caring about a problem</td>
</tr>
<tr>
<td></td>
<td>Meaning-focused Evokes positive emotions that aid in facing a difficult situation, while confronting rather than avoiding negative emotions</td>
</tr>
</tbody>
</table>

children of spending time in nature (Chawla 2015). In addition to addressing more commonly cited aspects of well-being such as physical health and forming attachments with other people, the capabilities approach includes the ability to connect with and express concern for animals, plants, and other aspects of nature (Nussbaum 2011). According to philosopher Martha Nussbaum, “To promote capabilities is to promote areas of freedom, and this is not the same as making people function in a certain way” (25). This suggests a potential connection to environmental action programs that seek to build youths’ decision-making abilities (Stapp et al. 1996; Jensen and Schnack 1997; Volk and Cheak 2003; Wals et al. 2008; Schusler and Krasny 2010; Schusler 2014). The capabilities approach also bears similarities to social justice and other positive youth development approaches (Ginwright and Cammarota 2002; Catalano et al. 2004; see also chapter 14).

Nussbaum’s (2011) first and last capabilities—being able to live a normal life and participate in the political process—are particularly salient when considering climate change. To further address climate change, environmental educators have begun to incorporate hope and coping strategies as components of well-being (Fritze et al. 2008; Ojala 2015). Hope encompasses goals, pathways for achieving those goals, and agency, or the capacity and motivation to use those pathways to reach desired goals (Snyder et al. 2018). Whereas people with low levels of hope “tend to catastrophize about the future, those with high
levels of hope are able to think effectively about the future, with the knowledge that they, at times, will need to face major life stressors” (Snyder et al. 2018, 16).

Similar to attitudes (chapter 7) and sense of place (chapter 9), hope includes a cognitive aspect—beliefs about the future—as well as an affective component—positive feelings. Positive, and negative, emotions flow from our perception of how well we are achieving our goals (Ojala 2012a; Snyder et al. 2018). Overcoming impediments to reaching our goals yields positive emotions, and in this way, hope is associated with well-being (Snyder et al. 2018). Similar to self-efficacy (Bandura 1977; see also chapter 10), hope is goal directed. However, hope focuses on the general belief that one will initiate action, whereas self-efficacy refers to the belief in one’s capacity to act in specific situations (Snyder et al. 2018).

**Why Are Health and Well-Being Important?**

At a time when the predictions from our most credible scientists are becoming increasingly grave, those involved in mental health promotion need to pay close attention to the relation between evidence, hope and action.

(Fritze et al. 2008, 9)

Parents, city governments, federal agencies, and universities have expressed intense interest in the role of nature in children’s and adults’ health. Some have gone so far as to start Nature Rx programs where people are prescribed time in nature to improve physical and emotional health (Rakow 2018). Environmental education can link with these efforts and serve as a reminder of nature’s role in giving pleasure and meaning to life, or hedonic and eudaimonic well-being.

- A focus on health outcomes links environmental education to multiple societal concerns, ranging from social isolation to obesity to attention deficit disorder (Chawla 2015; C&NN 2017).
- Including health and well-being outcomes provides an opportunity for environmental education to partner with other organizations, including those serving people impacted by poverty and discrimination and displaced by conflict and climate change.
- Emotional health encompasses hope, which is increasingly relevant to environmental education in light of grave predictions about climate change (Fritze et al. 2008; Ojala 2015).
- Health and well-being outcomes can lead to environmental behaviors and actions.
CHAPTER 15

How Do Health and Well-Being Lead to Environmental Behaviors?

It is only through the cultivation of this larger self that we are able to simultaneously experience great meaning and joy, as well as maintain a respectful and cooperative relationship with the natural world. In essence, the goals of conservationists and mental health professionals may become co-realized with this shift in identity and awareness. (Wolsko and Lindberg 2013, 81)

Mainstream thought has often pitted environmental behaviors against individual well-being, claiming that reducing consumption leads to lower quality of life. In fact, well-being can be an outcome of environmental behaviors and collective action. Well-being also fosters environmental behaviors and actions through two pathways: connectedness to nature leading to well-being and environmental behaviors, and hope enabling productive coping strategies and environmental behaviors (figure 15.1).

Connectedness to nature is associated with both hedonic (pleasure seeking) and eudaimonic (meaning seeking) psychological well-being. Connectedness to

**FIGURE 15.1** Well-being, including happiness, hope, and coping skills, enables youth to engage in environmental behaviors. Nature connectedness can lead to feelings of well-being, which is a desired outcome of environmental education.
nature is also associated with environmental behaviors (see chapter 8). In short, the same nature-based activities that enable connecting with nature also promote psychological well-being, including happiness, vitality, and life satisfaction (Wolters and Lindberg 2013; Capaldi et al. 2014). For example, we find pleasure and meaning in nature walks and in planting a community garden, both of which are means to connect with nature.

Climate change can cause negative feelings including worry, sadness, anger, helplessness, and pessimism concerning the future (Stevenson and Peterson 2016). Constructive hope and productive coping strategies help people address the threat of climate change and associated negative emotions (Ojala 2013, 2015). Constructive hope encompasses three components and has implications for climate change education. First, positive reappraisal entails reframing worries about environmental problems into a means to activate hope. An example of positive reappraisal would be noting that despite the terrible consequences of climate change, there appears to be a growing awareness and willingness to act to reduce greenhouse gases. Second is faith in environmental organizations and technology to help address the problem. Third is faith in one’s own ability to influence environmental problems in a positive direction. Constructive hope offers an alternative to an unrealistic hope based on the denial of the severity of the problem (Ojala 2012a, 2015).

Coping is a means to respond to threats to the well-being of oneself, of others, of future generations, and of nature (Ojala 2013; Snyder et al. 2018). Three types of coping strategies are used to respond to climate change and other environmental problems.

Problem-focused coping entails searching for information about how one can solve a problem. When individual or societal actions make a difference to the problem at hand, problem-solving coping is associated with hope and well-being, as well as with environmental behaviors. However, in children and adolescents, problem-solving coping also was associated with sad and anxious feelings, perhaps because those children who want to solve environmental problems also worried about climate change (Ojala 2012b, 2013).

Emotion-focused coping involves avoiding negative feelings, including by denying or not caring about a problem. Such denial and egocentric thinking, while helping to reduce anxiety when an individual cannot control a situation, is also used in situations where exerting control is possible. For example, conservatives may deny climate change in order to reduce threats to their cultural identity, even though it is possible to take actions to adapt to and mitigate climate change. Although such denial strategies may reduce anxiety, emotion-focused coping is not associated with longer-term well-being and does not lead to environmental behaviors or collective action among children, adolescents, and young adults (Ojala 2012a, b, 2013, 2015).
A third strategy, meaning-focused coping, evokes positive emotions such as hope, while confronting rather than avoiding negative emotions. It entails an individual acknowledging the problem, finding meaning and even benefits in a difficult situation, revising goals, and where appropriate turning to spiritual beliefs. For example, a person could acknowledge that climate change is a threat but also recognize hopeful aspects, such as the fact that more and more cities are taking action to reduce greenhouse gases. This type of coping is particularly helpful in evoking positive emotions while confronting a problem that cannot immediately or perhaps can never be resolved, like a terminal illness (Ojala 2013); it is associated with positive emotions, optimism, life satisfaction, and environmental behaviors in children (Ojala 2012b) and adolescents (Ojala 2013). Meaning-focused coping and constructive hope are particularly important in dealing with climate change because it is a long-term problem that cannot be solved by an individual acting alone, and where a means to recognize but buffer negative emotions is needed (Ojala 2012b, 2015).

**Author Reflections**

I am guilty of using denial as a coping strategy. I often avoid reading the news about climate change, unless it is good news, like a new renewable energy policy or some other innovation. I also search for hope, but find it in unusual ways—by picking up litter, even down to cigarette butts, on sidewalks and grass. To me each piece of trash or cigarette butt I pick up on my walk to work is a symbol of hope—hope that others won’t litter, that they will treat our shared environment with respect. Thus my actions symbolically give me hope even as I recognize their seeming futility. But perhaps I am not alone—each little action sparks hope, and perhaps can be scaled up to larger collective actions (Krasny 2018).

**How Can Environmental Education Foster Health and Well-Being?**

*The memory of planting a tree, of taking a pro-sustainability action in the past, could provide a source of well-being when recalled in later years.*

(Waite et al. 2016, 57)

The research is clear—spending time in nature is good for our physical, cognitive, and psychological health and well-being. It can provide pleasure, or hedonic
well-being, and meaning in life, or eudaimonic well-being. Further, spending time in nature with caring and respectful others can enhance social well-being. Thus, when environmental education provides opportunities for audiences to spend time in nature, it contributes to well-being on multiple fronts. But how else can environmental education contribute to well-being beyond simply providing time in nature? In this section, we focus on environmental education strategies to engender meaning in life or eudaimonic well-being, and to build hope and productive coping.

**Meaning in Life**

The simplest environmental education strategy for promoting meaning in life is allowing participants to spend time in nature (Howell et al. 2013), with the added component of allocating time for self-reflection. Outdoor recreation programs, such as hiking and canoeing, allow participants to find pleasure in and connect with nature, thus contributing to both hedonic and eudaimonic well-being (Wolsko and Lindberg 2013). Adventure education programs focus on physical challenges (e.g., backpacking, rock climbing, whitewater kayaking), which can lead to a sense of accomplishment and self-esteem. These programs also often incorporate “solo” experiences where participants spend time alone in nature to encourage reflection. As part of these and other wilderness or outdoor experiences, participants gain a perspective on how meaningfulness in life, as well as joy and happiness, are not always linked to consumption and everyday material comforts, but rather to the freedom to move about, to reflect, and to experience a sense of connection with nature. Whereas team building to conquer physical challenges is part of many outdoor programs, a focus on the intrinsic values of outdoor living is also essential in order for outdoor experiences to convey meaning in life (Sandell and Öhman 2010; D’Amato and Krasny 2011). In short, outdoor experiences can contribute to well-being through opportunities to have fun, conquer significant physical and mental challenges (often in cooperation with others), reflect, and experience the intrinsic value of nature.

Gardening, tree planting, and other stewardship opportunities similarly provide opportunities for finding meaning in life through connecting with nature and with others, as well as physical well-being outcomes as a result of eating healthy foods and getting exercise. Further, participants in school and community gardening and environmental stewardship programs find meaning through contributing to the environment and to their community (Krasny and Tidball 2015; Waite et al. 2016; Dyg and Wistoft 2018). Environmental stewards form memories that can be drawn on later in life and continue to foster psychological well-being (Waite et al. 2016).
Program participants also can contribute to their community and the environment, and thus find meaning, through programs where they engage in action to influence policy (Jensen and Schnack 1997; Volk and Cheak 2003; Schusler and Krasny 2010; Schusler 2014). By enabling youth to create a vision, discuss pathways to achieve their vision, and take action, environmental action programs can foster a sense of hope (Ojala 2015).

Hope and Coping

*Programs should be able to significantly increase hopefulness if they foster sense of efficacy through providing imagery of what others are doing at both personal and community level.*

(Li and Monroe 2017, 13)

To engender constructive hope, environmental educators should couple demonstrating respect for participants’ negative emotions regarding climate change and other forms of environmental decline with a positive, solution-oriented communication style (Ojala 2015). As environmental educators are increasingly faced with students’ and their own emotional reactions to environmental degradation (Fraser and Brandt 2013), their challenge is to evoke hope for the future through how they talk and act concerning climate change and other environmental issues. In short, educators act as role models for what students can achieve, in particular through invoking problem- and meaning-focused coping strategies (Ojala 2012b, 2013, 2015). While honoring and helping students process negative emotions, educators also can use negative emotions as teachable moments. Ignoring student emotions can lead to hope based on denial and thus unproductive coping strategies (Ojala 2015; Stevenson and Peterson 2016).

Once having recognized participants’ emotions, programs can engender hope through building self- and other forms of efficacy (see chapter 10), including through allowing students mastery experiences and learning about what others are doing as individuals and as groups (Li and Monroe 2017a).

Assessing Health and Well-Being

For cognitive and affective well-being, researchers have developed and tested numerous surveys. Here we focus on three scales developed for children—a survey to test cognitive, affective, and social well-being; a survey to measure climate change hope; and a survey to measure coping in relation to climate change (see appendix). Apps
that help you keep track of physical activity, food consumption, and even cortisol in your saliva as an indicator of stress can also be used as embedded assessments.

In a survey developed to measure well-being, children are asked to indicate their level of agreement with statements in four categories: interpersonal well-being (e.g., “I feel cared for”); life satisfaction (e.g., “I feel there is lots to look forward to”); perceived competence (e.g., “I feel I can deal with problems”); and negative emotion (e.g., “I feel worried”) (McLellan and Steward 2015).

A climate change hope scale for use with children encompasses two factors: willpower, or the belief one is able to reach a goal or overcome a problem, and “waypower,” or the ability to generate pathways to overcome a problem. Because climate change requires that individuals and society take action, this scale includes both individual and collective willpower and waypower. Likert scale questions for individual willpower and waypower include “I know that there are a number of things that I can do to contribute to global warming solutions” and “I am hopeful about global warming because I can think of many ways to resolve this problem.” For collective willpower and waypower, students are asked to indicate their level of agreement with statements such as, “I believe people will be able to fix global warming” and “Because people can change their behavior, we can influence global warming in a positive direction” (Li and Monroe 2017a).

Environmental educators may also want to assess participants’ climate change coping strategies, which vary in their relationship to well-being and environmental behaviors. In a survey designed for children, meaning-focused coping, which is associated with environmental behaviors and well-being, was assessed by asking participants their level of agreement with statements such as “I have faith in people engaged in environmental organizations to address climate.” For problem-focused coping, which is associated with environmental behaviors but also with negative emotions such as worry, statements include “I talk with my family and friends about what one can do to help.” Finally, emotion- or denial-based coping, which may reduce anxiety among children but is generally not associated with long-term well-being or environmental behaviors, is measured with statements that include “I think the problem is exaggerated” (Ojala 2012b).