

University of British Columbia

**Clinical Review:**  
**Positive Effects of Nature on Human Health**

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## **I. Examined Human Health Outcomes**

A multitude of researchers have examined the positive health humans have experienced from being exposed to nature. Pretty (2004) points out that these outcomes occur when humans are “viewing nature,” “being in the presence of nearby nature” and are in “active participation and involvement with nature” (p. 70). By seeing nature and being in nature, human stress levels are reduced, and children’s cognitive abilities and thinking capacities are positively affected (Pretty, 2004, p. 70). Studies by Whitehouse et al., involving the placement of a healing garden in a hospital, showed that 90% of the users who went to the garden reported to have felt positive effects, like being “more relaxed and less stressed”, “feeling refreshed and rejuvenated” and “feeling more positive and able to cope” (Whitehouse et al., 2001 [as cited in Pretty, 2004, p. 72]). In another study, where researchers observed the positive health outcomes of a community garden in Japan, the participants reported that their main motivations for participating in community gardens was to take a mental break, grow vegetables to eat, have contact with nature, and to enjoy social interaction (Soga et al., 2017). Correspondingly, a 2012 study that looks at the relationship between green spaces and immigrant families, discusses nature as a protective factor that minimizes the difficulties faced by immigrants like stress (Hordyk et al., 2015). Nature also helps people develop a higher self-esteem and confidence. An example that Pretty presents is the Elder Stubbs garden in Oxford (Pretty, 1998 [as cited in Pretty, 2004, p. 73]). The garden was cared for by 24 patients who have mental health difficulties and through this they developed “positive links with the local community” and showed “what people with mental problems can do” (Pretty, 2004, p. 73). As such, it is apparent that this connection helped the patients gain confidence and self-esteem.

## **II. The Effects of Nature Prescriptions**

As researchers have found that spending time in nature has led to positive health outcomes, others have focused on analyzing specific nature prescriptions that have led to these outcomes. Various researchers have discovered that prescribing physical activity in parks or the outdoors to children has prevented chronic disease, increased wellness, and reduced stress (Razani et al., 2018; Seltnerich, 2015; Zarr, 2017). James et al. (2017) echo this finding in their study by displaying how prescribing outdoors play to children reduces the risk of vitamin D deficiency and stress (p. 9). In addition to this, *stress reduction theory* posits that contact with nature lessens stress through the modification “of the parasympathetic nervous system” (Hordyk et al., 2015, p. 75). Hordyk et al. discovered evidence that supports this theory when they interviewed immigrants who explained how nature enabled them to get “distance from mental preoccupations” (Hordyk et al., 2015, p. 78). Nature prescriptions that have been found to reduce stress also include community gardening. For example, Sanchez and Liamputtong (2017) found that community gardening alleviated stress and other negative feelings, by inspiring feelings of belonging, achievement, and connection to other gardeners.

Community gardening is one particular nature prescription that has positive health effects. Sanchez and Liamputtong (2017) situate their research in the therapeutic landscape theory. This theory entails the notion that a therapeutic landscape is a “place that promotes wellness by facilitating relaxation and restoration and enhancing some combination of physical, mental and spiritual healing” (as cited in Sanchez & Liamputtong, p. 271). Their findings highlight that participation in community gardens lead to four beneficial health-related effects: physical, nutritional, psychological and social. Community gardening was found to be positive on an individual's health outcome because it helped to create social ties and broadened the range of nutritious foods that were readily accessible to gardeners. Sanchez and Liamputtong's

findings align with the findings of Hale et al.'s (2011) research, where interviewees spoke of community gardens as a place to learn from each other. This, in turn, generated social connections and fostered “a socio-ecologically embedded sense of connection to the process of growing food” (Hale et al, 2011, p. 1858). In addition, researchers point to community gardens as affecting the physical health of gardeners as it involves moderate exercise of raking, digging, lifting, and bending which helped gardeners strengthen and maintain their fitness levels (Sanchez and Liamputtong, 2017; Hale et al. 2011). Furthermore, community gardening affects the cognitive health of gardeners on an emotional level as nurturing a plant fosters a sense of duty to care for living things in them (Sanchez and Liamputtong, 2017; Hale et al. 2011). Finally, several studies (Hale et al., 2011; Thompson, 2018; Beyer et al., 2014) note the effects of community gardening on mental health, particularly, in reducing levels of anxiety. As Hale et al., (2011) found, gardens had positive impacts on the mental health of gardeners as they used the gardens to continue their passion of engaging with nature which they had developed in their childhood. In sum, research has shown how gardens have holistic qualities that can physically and socially connect gardeners to the natural environment in ways that encourage healthy lifestyles, both mentally and physically.

### **III. Mechanisms that Explain Outcomes**

Researchers have found that the mechanisms that lead to positive health outcomes is from gardening as it influences one's social well-being and health. Litt et al.'s (2015) findings showcase that gardening “provides opportunities to interact with nature, reduce stress, and improve one's overall sense of well-being”. Furthermore, a study explains that gardening is used as a promising strategy for health promotion as it motivates individuals to enjoy the aesthetic of the activity by being outside in nature, helping grow things, and encouraging individuals to get

their hands dirty (Litt et al., 2015). As a result, gardening “activates processes of learning, trust, and engagement, all of which support emotional and social processes” (Litt et al., 2015, p. 6). Additionally, this activity allows people to gain an appreciation of their neighbourhoods, which motivates individuals to get more involved in community life and create more community-based relationships (Litt et al., 2015). This has led to opportunities for individuals to learn from others while being in contact with nature (Litt et al., 2015). Aerts et al. (2018) supports Litt’s idea that short-term exposure to gardens and natural environments increases mental well-being as it “reduces stress and depressive symptoms, restores attention fatigue, increases self-reported positive emotions and improves self-esteem mood, and perceived mental and physical health” (p. 6). Hordyk et al.’s (2015) interviews with immigrants also support both Aerts et al. and Litt’s findings, as they state that immigrants were able to increase their sense of belonging by participating in community-based activities like neighbourhood conservation programs and gardening. On the other hand, long-term exposure to such natural environments “has been associated with respiratory, cardiovascular, and cancer mortality, and to improved respiratory and mental health” (Aerts et al., 2018, p. 6). This can be explained by the nutritional health outcomes and accessibility to healthy foods that community gardening provides. Sanchez and Liamputtong (2017) describe this effect in their study, explaining that “for most participants, the community garden provided them with the opportunity to broaden the range of fruits and vegetables that they consumed, as the garden grew many varieties not commonly available in supermarkets” (p. 274). Ultimately, the physical and social qualities of gardening can be seen as a “therapeutic experience” for people, as it stimulates a range of responses and actions that have a positive physical and mental impact.

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