



## Review Article

# Community Gardening, Volunteerism and Personal Happiness: “Digging In” to Green Space Environments for Improved Health

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### Abstract

The current study examined the relationship between combined “green space” activities, community service engagement and volunteerism with traits that are commonly associated with personal happiness and fulfillment: Optimism, extraversion, personal control and self-esteem. A Pearson correlation coefficient determined a highly significant correlation among volunteers (n=25) participating in various community service work activities with reports of feeling better as a person (i.e., personal happiness) and increased environmental awareness ( $r=0.566$ ,  $p<0.01$ ). Additionally, a highly significant correlation ( $r=0.649$ ,  $p<0.01$ ) was identified among participant volunteers reporting increased perceptions of “connectedness” to one’s community and contributing to a better society. Results of the study and suggestions for future research are offered.

“Happiness is not a goal... but a by-product of a life well lived”- Eleanor Roosevelt.

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What exactly is happiness? Efforts to quantitatively identify and measure this elusive psychological construct have remained a very popular topic among social scientists despite the inherent ambiguity and complexity of how human affect and emotions (i.e., joy and happiness) are displayed in personal and social relationships. Perhaps a better way to address happiness is first in describing what it is not. Despite what many individuals believe, happiness is not directly linked to excessive wealth and conspicuous consumption. Individual levels of personal happiness are more directly related within the psychosocial context of our relationships in working with other people and how we may improve the quality of life for others. Individuals who are characterized as “higher social class” (i.e., higher income brackets) report a greater sense of individual life satisfaction (i.e., self-oriented) and health, whereas individuals from “lower class brackets” (i.e., lower income brackets) report a greater sense of obligation (i.e., other oriented), sense of compassion and love to other persons [1].

Paradoxically, reports of personal happiness and compassion are highest when we focus less on the needs of ourselves and respond more to the needs of other individuals within our community, or what Diener and Ng [2] refer to as “social psychological prosperity”. Recent research has addressed some consistent characteristics among people who rank in the highest percentiles among tests measuring happiness, including stronger tendencies towards extroversion, agreeableness and subjective (i.e., positive) states of well-being [3]. More recently, however, an important universal component (i.e., social capital) has been associated with reports of personal happiness and subjective states of well-being. Social capital has been described as a capacity of developing networks within communities that involves key components in the creation and maintenance of human relationships, including trust, communication, reciprocity and cooperation<sup>1</sup>.

### Building Social Capital through Community Gardens

One of the most important contributions addressing the relevance of social capital and how social capital may hold positive influences in the development of community growth and empowerment was Putnam’s [4] landmark publication *Bowling Alone*. Here Putnam identifies the relevance and value of creating (and sustaining) key relationships in society not only with those whose values and belief systems we happen to share (i.e., bonding social capital), but perhaps more importantly, the need to identify and build relationships with those individuals who we do not share similar values and belief systems (i.e., bridging social capital). According to Putnam, as communities become increasingly more ethnically diverse and inclusive, the need to recognize the relevance and value of social capital has become necessary if we wish to maintain strong social connections, reduce violence based on misperceptions and negative stereotypes, and form the bonds that make communities more tolerant, resilient and vibrant.

Community gardening programs and neighborhoods that provide increased access to green space activities are unique in that they help contribute to the development of social capital in providing residents with greater opportunities to communicate directly with each

1. [https://en.wikipedia.org/wiki/Social\\_capital](https://en.wikipedia.org/wiki/Social_capital)

other and to participate in transformative programs that effect positive change and growth, such as increased health and nutrition [5]. More recently, empirical research has identified the viability and importance in maintaining and developing social capital among underserved communities and providing adequate educational resources, such as urban schools [6], mental health resources [7], and even natural disaster recovery efforts (i.e., landslides, hurricanes and floods) [8].

In their recent empirical research addressing how psychologists may better understand the development of positive states of well-being and happiness, David Meyers and Ed Diener [9] explored several factors that have been correlated with happiness, such as faith or religious belief systems, income (i.e., wealth vs. poverty) and gender. More specifically, Meyers and Diener [9] identify four traits that have been associated with personal reports of happiness and improved psychological states of well-being (see figure 1 below):

- **Optimism:** Optimism refers to the mental capacity to view things in one's life from a positive perspective. This might include the ability to view potentially positive outcomes despite difficult events in one's life.
- **Extroversion:** An extroverted personality may include qualities such as feeling comfortable around other people and exchanging or sharing ideas with different groups of individuals.
- **Personal control:** A strong sense of control of events within one's life (i.e., internal locus of control) refers to a belief that after initial failure, people can generally change the course of events in their lives if they wish.
- **Self-esteem:** Self-esteem has been described generally as a sense of how we feel about ourselves and the willingness to take on new challenges in our lives.

In this article we hope to identify how different types of volunteer work and the development of "green space" outdoor activities, such as community gardens, flower or sensory gardens and fruit tree orchards may contribute to increased positive subjective states of well-being and personal happiness. More specifically, we hope to examine how volunteerism involving green space locations such as community gardening programs may help promote both "community connectedness" and social capital and how these qualities may interact, influence and contribute to the development of the four domains of happiness as described by Myer and Diener [9].

## The Advantages of Sustainable Green Space Programs and Community Gardens

Community gardening, urban forestry and "green space" sustainable programs are becoming increasingly popular activities among both urban and rural populations as effective mechanisms that help improve both the physical and psychological health of residents [10]. Current research has identified green space environments as instrumental in providing numerous positive mental health outcomes, including greater resilience to stress and stress-related illnesses [11], reduced depression and sadness [12]. More recently, research has identified numerous health benefits to individuals who have consistent access and exposure to green space environments thereby providing a more efficient process to engage with and "connect" to natural

environments. Access to natural environments has been associated with improved cardiac health (i.e., lowered blood pressure) and increased physical activity developing and maintaining garden programs [13].

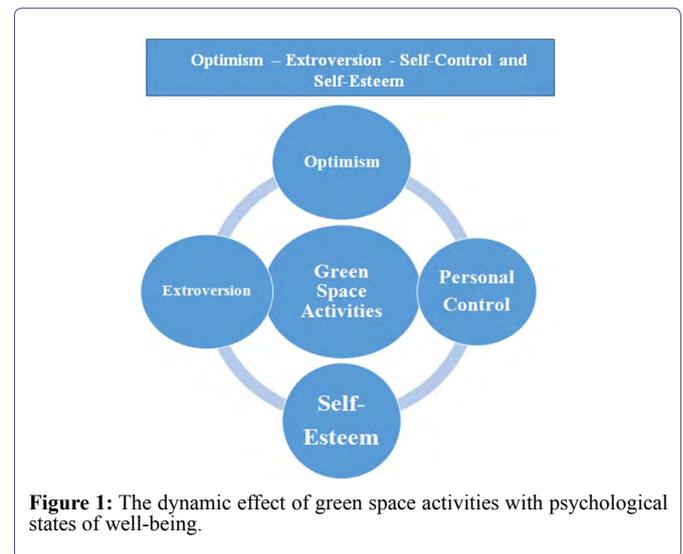


Figure 1: The dynamic effect of green space activities with psychological states of well-being.

While numerous empirical studies have identified green space and natural environments as important contributors to improved physical and mental health (see for example, [10,14,15]), currently little data exists addressing how participation in green space and environmental activities may actually foster and contribute to a stronger sense of connectedness to the community within the context of fostering general positive emotions such as compassion and happiness. The current study examines more closely the relationship between participation in green space activities, volunteerism, perceptions of "community connectedness" and improved psychological states of well-being.

Perhaps one of the most important benefits of community gardening is its inherently inclusive and collaborative nature. It is an activity that can be shared and experienced by virtually all groups of people, from different socioeconomic backgrounds, cultures, and ages. Community gardens can also help bring together individuals from different cultural backgrounds in promoting different types of healthy foods and sharing those foods within their community. The assimilative practices of community gardens have also been noted to be highly instrumental with refugee or immigrant populations (i.e., Bhutanese) in their adjustment to their new homeland in the upper Midwest [16]. In this particular study, recent refugee immigrants who had participated in a variety of community gardens in the upper Midwest region (i.e., twin cities area, Minnesota) had fewer reports of depression and increased self-esteem given the opportunities to work with their family members and community residents in the maintenance and development of their garden areas. Several of the respondents in this study also noted that the reason why community gardening had helped them in their adjustment to the United States was "gardening here makes us feel like we are living in our own country" (Pg no. 1157). Another added component to the positive effects of community gardening was the structure and democratic process in which the community gardens are established.

The process of sharing not only the foods grown in the community garden, but the shared responsibility of maintaining the growth process of the vegetables (i.e., weeding and irrigation) and care for the gardening equipment (shovels, spades and hoes) helped foster a greater sense of "social connectedness" among the refugees and community residents of the twin cities area.

### Exposure to Green Space Environments, Optimism and Psychological States of Well-Being

Natural or green space environments, such as community gardens, forests and fruit tree orchards have been noted by a number of researchers to have strong appeal to the public because of their universal appeal to our senses. In many ways, vegetable and sensory gardens are viewed as sanctuary spaces because of the serenity and solitude that they provide (Figure 2). The vibrant colors produced by plants and the attractive aromas produced by a variety of fragrant flowers draws individuals to the outdoor gardens and provides psychological soothing benefits to those individuals suffering from anxiety and depression [17]. Green space environments have also been identified as therapeutic in that they provide numerous opportunities for individuals who may be suffering from stress and anxiety to engage in more frequent outdoor physical activity and gain more exposure to positive forms of social interaction with peers and local residents [18]. Community gardens provide an ideal forum for individuals to work and interact cohesively in the development and maintenance of what Madeleine Guerlain and Catherine Campbell [19] refer to as "health-enabling social spaces" (Pg no: 222). In this study several volunteers were interviewed who had participated in several community gardens located in East London. The researchers determined that the gardens provided individuals with opportunities to escape stressful environments that were typically associated with urban dwelling and provide opportunities to better "connect" with other residents of their own community. Additionally, the community gardens provided a convenient location for the participants to work collectively with each other and identify various skills that helped build important interpersonal qualities such as social capital, collective self-efficacy and perceptions of positive change to the community.



Figure 2: Inver Hills - Metropolitan State Community Garden, 2018.

Teaching individuals how to grow healthy foods within communities that have been traditionally characterized as "food deserts" can help foster important intrapersonal traits, such as autonomy and

self-worth. Additionally, individuals who participate in the development of green sustainable programs that emphasize healthier eating programs can also provide a more positive future among historically underserved groups [19]. Community gardening also provided a sense of economic empowerment in that individuals were providing healthy foods for their families which also contributed to a stronger sense of achievement and self-worth. By participating in the development and maintenance of the community gardening program in London, the participants indicated that no matter how stressful or complex the "outside world" may become, the shared green space environments provided a more natural way to relieve financial stress while interacting and socializing with individuals who shared common interests.

More recent research has also identified that proximity to urban dwellings where traffic and pollution exist in more concentrated amounts can pose as physical health hazards. Additionally, proximity to congested urban dwellings may not only pose physical health hazards but also present mental health problems as well, such as depression and anxiety [20]. Conversely, living near or have access to green space environments has been identified as instrumental in not only reducing mental stress and anxiety [21], but also help improve levels of physical health through reduced obesity and overall BMI levels [22].

### Community Gardening Programs, Social Capital and Extroversion

Recent research has identified that neighborhoods and community centers, such as parks and recreational areas may serve as ideal physical locations that facilitate how individuals interact with each other and foster supportive relationships within the community itself. Community gardens can also facilitate a greater sense of communication and socialization given the close proximity that people share with one another in the maintenance and development of the garden plots. Recent research has also identified outgoing or extraverted personality types as a strong indicator of happiness and success [23]. Extraverted personality types refer to those individuals who possess strong socialization skills and are capable of facilitating friendships and communication with diverse groups of individuals. Community gardens have also recently been identified as key environments that facilitate socialization among residents and can also help bridge neighborhoods that result in increased social capital and improved physical health (i.e., reduced BMI) through increased physical activity [22] where individuals interact and exchange information are vital networks in determining how residents engage with and communicate with each other.

Community gardens serve as central neighborhood locations for individuals to not only produce healthier foods where they may be scarce (commonly referred to as food deserts), but in many neighborhoods they serve as important physical (i.e., real time) locations for people to share critical information with each other, promote trust among residents and ultimately build relationships that enhance social capital within neighborhoods [5]. The community gardens can serve both as bonding agents to help bring historically diametrically opposed groups together through sharing resources in the maintenance of the gardens and also serve as "bridges" to extended communities where individuals may have limited contact with other residents in geographically more distant regions and neighborhoods. Neighborhoods that provide opportunities for residents to communicate and discuss central issues to help improve and beautify their local environments through artwork, flower and vegetable gardens and

developing community art spaces were identified as highly instrumental in helping people to build trust with previously unknown neighbors, promote stronger sense of self-efficacy, and generally facilitate a greater sense of community pride [24].

## Methods

### Participants

Twenty-five undergraduate students (21 females and 4 males) volunteered to participate in the current study and complete the Community Service work Questionnaire [25] (Appendix) that reviewed their experiences in participating in different types of volunteer projects and community service related activities (i.e., community gardening and environmentally sustainable programs).

### Results

A Pearson Correlation Coefficient test determined significant correlations between several of the variables that examined the relationship between community service volunteer work and feeling better as a person, increased community connectedness, making a "better" society, and increased awareness of environmental sustainability issues (Table 1). A highly significant correlation was determined among the variables "Increased environmental awareness" with "volunteering makes me feel better as a person" ( $r=0.566$ ,  $p<0.01$ ) and reports of "increased connectedness to one's community with "volunteering as contributing to a better society" ( $r=0.649$ ,  $p<0.01$ ).

## Discussion

The results of the current study suggest several important implications regarding the relationship between different types of volunteer activity, reports of personal happiness and fulfillment, and increased connectedness to one's community. Perhaps most importantly, in an era where more individuals report feeling "disenfranchised" from their own community for a variety of reasons, volunteerism and community service engagement programs provide an important mechanism for individuals to not only share the benefits of increased social capital, but also help facilitate a greater sense of belonging, transformation and connectedness to their community [26]. The results of

the study also support Muzaffer Sherif's classic research that emphasized the benefits of super ordinate goals in reducing bias, conflict and negative stereotypes while also promoting group interdependency and cohesiveness [27]. The current study also examined how specific types of community service activities, such as participating in green space programs (i.e., community gardens and urban forestry) can provide a unique opportunity to better understand important therapeutic principles pertaining to biophilia, environmental sustainability practices and appreciation of natural elements (Figure 3). Green space environments such as community gardening programs are also unique in that they provide opportunities for persons from different backgrounds to work collectively in natural areas that help reduce stress, anxiety and promote environmental resilience and self-worth [28]. One participant reported her overall experiences in volunteering at her child's school: "I felt more connected to school when I went there to volunteer serving as a T.A. (Teacher Assistant)... I felt like I knew the teachers better... more as a mentor". Several of the participants also commented regarding how they appreciated the result of their volunteer work with increasing their sense of belonging to their own community: "I like the sense of belonging I feel when I am able to work with other people... I like helping out others". Participation in community service programs such as community gardens also provide individuals with unique opportunities to meet new people and share and exchange ideas from individuals from different cultures.

I like doing community service work projects because I feel more connected to the organization I am working with and the community in general. I like meeting new people, particularly different types of people that I wouldn't normally encounter in my day-to-day life. I also appreciate that community service often involves learning or practicing a new skill, which can be engaging and satisfying. I enjoy volunteering in green space environments primarily because it just feels nice to be in nature. I spend the majority of my days on a computer, so it feels freeing and fulfilling to spend time in green spaces, I also enjoy working with my hands for similar reasons; the tangible aspects of physical work can be very satisfying. Lastly, I feel passionately about the environment and I like being able to support green or environmentally-focused projects.

Correlations <sup>2</sup>		CSW as Important Activities	Volunteering Makes me Feel Better	Contributing to a Better Society	Increased Connectedness To Community	Increased Environmental Awareness
CSW as Important Activities	Pearson Correlation	1	0.757**	0.639**	0.431*	0.522**
	Sig. (2-tailed)		0	0.001	0.031	0.007
	N	25	25	25	25	25
Volunteering Makes me Feel Better as a Person	Pearson Correlation	0.757**	1	0.675**	0.519**	0.566**
	Sig. (2-tailed)	0		0	0.008	0.003
	N	25	25	25	25	25
Volunteering as Contributing to a Better Society	Pearson Correlation	0.639**	0.675**	1	0.649**	0.443*
	Sig. (2-tailed)	0.001	0		0	0.027
	N	25	25	25	25	25
Increased Connectedness to Community	Pearson Correlation	0.431*	0.519**	0.649**	1	0.431*
	Sig. (2-tailed)	0.031	0.008	0		0.032
	N	25	25	25	25	25
Increased Environmental Awareness	Pearson Correlation	0.522**	0.566**	0.443*	0.431*	1
	Sig. (2-tailed)	0.007	0.003	0.027	0.032	
	N	25	25	25	25	25

**Table 1:** Pearson correlation coefficients addressing domains of community service work and environmental green space experiences, connectedness to community and perceptions of contributions to society.

2. Pearson correlation coefficients addressing domains of community service work and environmental green space experiences, connectedness to community and perceptions of contributions to society.

Several of the participants also indicated that they enjoyed working outdoors in the garden and especially appreciated the physical qualities of the environment, such as digging in the earth and working with plants. For those student volunteers who participated in outdoor environmental service work activities, several comments indicated a unique preference to work outdoors and the benefits of working in a serene and natural environment.

It sounds counter-intuitive, but I love the feeling of dirt under my fingernails, and the way grime pours off of me in the shower after I spend the day outside caring for plants that I won't eat the produce from. There is just something about using your own hands to grow food that others will eat, knowing that a child who might have had potato chips for dinner won't have to settle for empty calories. Of all the community service I do, I find gardening to be the most enjoyable and the most rewarding. The connection to nature is unbeatable, and the work is so meaningful. Being able to directly influence what goes on a child's plate is amazing to me, and I hope that everyone gets to experience that feeling at some point in their lives.

### Limitations of the Study and Future Recommendations

While the psychological and physical benefits of green space activity and are encouraging, there are some important limitations of the study that should be addressed. The first limitation addresses the number of participants and sample size of the study itself. In the current study, a disproportionately larger sample of female participants (n=21) volunteered to participate in the study than males (n=4). In order to draw some more definitive (and representative) conclusion of empirical research addressing the relationship between volunteer activities and environmentally sustainable programs with increased psychological wellness and connectedness to community development, a larger and more representative population is recommended. A broader and more representative participant pool would also improve the external validity of the study. A second limitation of the study addresses the actual long-term benefits and viability of green space development and community gardening programs. While the psychological benefits of green space activity are clearly salient during the current process and initial phases of the program, the longitudinal benefits of green space and horticultural program development are important and have yet to be determined. One recommendation for future study may address that relationship between the actual physical properties of outdoor and green space horticultural programs and psychological wellness. What exactly are the characteristics of an outdoor gardening and green space program that contribute to both mental health and physical wellness? A second recommendation for future research addressing the relationship between green space and volunteer work with community connectedness is related to one of the previously mentioned limitations of the study. Do gender differences exist relative to how community service green space activities are experienced? Do gender differences exist in the perceptions of the importance and need for future work in green space and environmental sustainable program activities? More empirical and qualitative interviews would be recommended to address these very important questions.

### Conclusion

In conclusion, empirical research addressing the numerous benefits of volunteerism and green space activity is rapidly becoming a

very popular area of study within several disciplines. Eco-sensitive and green sustainable programs help provide community residents not only with greater access to healthier foods, but also provide an opportunity of engagement with other residents that can facilitate a stronger sense of responsibility and identity to the environment itself [29]. Common problems that have been associated with urban living and crowding, such as crime, pollution, excessive noise (i.e., traffic) and interethnic conflict can be addressed through appropriate urban planning and incorporating inexpensive green space natural environments such as parks, community gardens and urban forests [30]. Achieving a happier, cohesive and intrinsically rewarding life style begins with picking up a shovel and "digging in" with friends in the development of your own local community garden.

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## Appendix

### Community Service Questionnaire

Please answer the following questions where a score of:

- 1 = Absolutely Untrue
- 2 = Somewhat Untrue
- 3 = Undecided
- 4 = Somewhat True
- 5 = Absolutely True

1. I feel that participating in volunteer or community work is an important activity that all people should be involved in \_\_\_\_\_;
  2. When I participate in volunteer work and community service work, I feel better as a person \_\_\_\_\_;
  3. When I participate in volunteer and community service work, I feel as though I am contributing to make society better for all people \_\_\_\_\_;
  4. I feel more "connected" to my school and community when I participate in community service work \_\_\_\_\_;
  5. After participating in community service work I feel more like I "belong" to my campus and community \_\_\_\_\_
  6. When I participate in community service work, I feel as though I can accomplish more and learn more academically \_\_\_\_\_;
  7. When I participate in volunteer or community service work, I feel as though I am more capable of accomplishing other types of goals in my life \_\_\_\_\_;
  8. I feel as though my potential for school work and academics has improved significantly while I have been participating in community service activities \_\_\_\_\_;
  9. Since participating in this project, I feel as though I am more likely to participate in future community service activities \_\_\_\_\_;
  10. When I participate in volunteer or community service work, I like working outside in the environment and enjoy how the activity makes my body feel physically \_\_\_\_\_;
  11. I feel that I have a better understanding of members from different ethnic groups since I have been working in my community service activity \_\_\_\_\_;
  12. When working as a volunteer in the community, I feel that my sense of pride for the community and my school has also increased \_\_\_\_\_;
  13. I feel that community service work has helped me to better understand other people and to understand different cultures \_\_\_\_\_;
  14. I feel more comfortable in communicating and working with members from different ethnic groups since my community service activity \_\_\_\_\_;
  15. Since my community service work I feel like I am more aware of my environment \_\_\_\_\_.
- II) General or Overall Comments Regarding your Community Service Work Project – What did you like (or dislike) in particular? Any unique experiences that you would like to share?