THE "PLANTITO/PLANTITA" HOME GARDENING DURING THE PANDEMIC

Archie Balingit Sunga* and Jowie Lumanog Advincula**

The COVID-19 pandemic has affected every segment of life, including health, economy, education, and social ecologies. Quarantine measures have forced people to stay inside their homes, leading to the "new normal" of living and adaptation. One activity that has been among Filipinos during the onset of the lockdown until the present time is the increased engagement in gardening. Home gardening suddenly became a widespread activity in rural and urban areas. The use of the words "plantito" [male] and "plantita" [female] denote someone who enjoys taking care of plants. This qualitative study aims to explore and describe the rise of home gardening among Filipinos during the pandemic. A total of 104 participants answered an online survey containing open-ended questions. They described a "plantito/plantita" as a plant lover and nurturer and reported home gardening as a way of connecting with nature, a psychological experience, and an interest. The benefits include stress relief and improved mood. Further studies on home gardening and mental health and possible opportunities to incorporate this activity in communities are warranted.

Keywords: gardening, plant, COVID-19, pandemic, mental health

1. Introduction

The COVID-19 was declared as a Public Health Emergency of International Concern by the Director-General of the World Health Organization last January 30, 2020 (World Health Organization [WHO], 2020), which was later characterized as a pandemic last March 11, 2020, due to rising number of cases and deaths (WHO, 2020). COVID-19 is a disease caused by a new coronavirus called SARS-CoV-2 that can spread from person to person (WHO, 2020; Centers for Disease Control and Prevention [CDC], 2020). Several countries have imposed prevention guidelines such as travel restrictions, the physical distancing of at least two meters, mandatory wearing of face masks when outside the home, and community lockdowns to control its spread. These guidelines and restrictions have affected the day-to-day functioning of different communities around the globe.

The Philippines is one of the countries heavily affected by the COVID-19 pandemic and was under a "state of calamity" on March 16, 2020. The government has implemented enhanced community quarantine (ECQ) and general community quarantine (GCQ) specifications to restrict the movement of individuals (Inter-Agency Task Force on Emerging Infectious Diseases, 2020).

^{*} Immaculate Conception School of Malolos, Philippines

^{**} School of the Holy Spirit of Quezon City, Philippines

These specifications have led to the new "normal" way of life, which calls for necessary adjustments in homes, workplaces, and education for Filipinos affected by the pandemic (Research Institute for Tropical Medicine, 2020).

The Philippines has been facing immense challenges in addressing the health and socio-economic needs of the people. It is one of the countries in Southeast Asia with an alarmingly high rate of depression. There was less concern about the consequences of the pandemic on mental health (Uy, 2020). The study on the psychological impact of the COVID-19 pandemic in the Philippines among 1879 respondents conducted by Tee et al. (2020) highlighted that 25% reported moderate to severe anxiety, and 10% experienced moderate to severe depression. Females aged 12-21 years old and mothers of children reported more emotional distress than their counterparts. In terms of coping, the study of Bawingan et al. (2020) demonstrated that Filipinos engaged in exercise, getting enough sleep, drinking sufficient water, eating a well-balanced diet, and taking vitamins. Mental health activities include talking out their fears with relatives, relaxation activities, and limiting to listening to news about the pandemic.

The new "normal" has urged individuals to look for new and creative coping strategies during the pandemic. Coping approaches have been recommended and practiced by Filipinos from different age groups and populations, such as students (Baloran, 2020), teachers (Talidong & Toquero, 2020), and older adults (Buenaventura et al., 2020). These have led to the adaptation and rise of different home-based activities, including home gardening (Montefrio, 2020).

Home gardening is a way of securing household food security and consumption, according to extensive studies of Galvin, 2015; Lal, 2020; Sanye-Mengual et al., 2018. However, Mugisa et al. (2016) offered a general definition that pertained to various ways of growing crops in backyards, balconies, vacant spaces, or any small garden. As stated in the literature, this type of gardening promotes food security, income generation, waste management, and a part of leisure and ornamentals.

Gardening positively affects an individual's source of income, livelihood, and employment opportunities (Galhena et al., 2013; Guuroh et al., 2012; Legesse et al., 2016), nutrition and health (Ferdous et al., 2016; Talukder et al., 2010), and life satisfaction and quality of life (Soga et al., 2017). In terms of well-being, reviewed literature and studies provided positive outcomes. The research of Ambrose et al. (2020) concluded that household gardening is strongly associated with increased emotional well-being and positive emotions such as happiness and meaningfulness. Moreover, a literature review by Schmutz et al. (2014) signified that involvement in gardening promotes good mental health, reduces stress, depression, and self-harming behavior as well as improving alertness, cognitive abilities, and social and community interactions.

In the Philippines, home gardening has been a livelihood, supplementary activity, and recreation in rural and urban areas. Home gardening has been initiated even before the pandemic to address problems in different areas such as economics, food security, health (Matejowsky, 2013), hunger, and malnutrition (National Anti-Poverty Commission & International Institute of Rural Reconstruction, 2016). During the pandemic, home gardening became a form of relief because it was associated with calling oneself productive- which refers to having high quantities of food crops grown and maximizing the use of their time in times of crisis (Montefrio, 2020). Social media users described gardening as a different form of productivity - which is being hardworking and persevering. Since then, Filipinos were encouraged by the government authorities to plant in their household to attain food security that will enable them to have healthy and nutritious food (Department of Agriculture, 2020).

There has been a rising popularity of home gardening in different social media platforms where individuals of different ages and status propagate, post, buy, and sell plants. A Filipino term called "plantito/plantita" was invented by the citizens, which derived from the word plant and Filipino word "tito" (uncle) or "tita" (aunt), combined to form the word. These words are new terminologies used in social media. Researchers have limited information about its etiology.

2. Theoretical framework

The value, belief, norm theory by Stern et al. (1999) described the influence of human values and beliefs on pro-environmental behavior such as recycling, gardening, etc. Value, defined as the guiding principle or explanation for any action, weighs a heavy role in setting our trans-situational goals. For this study, the researchers assume that a meaningful association is evident between the gardener, behavior, values, and beliefs. These existing relationships may contribute to mutual wellbeing, as will be explored.

As value-belief-norm theory is applied to explain the increase in pro-environmental environmental behavior, community psychology could focus on values. Consequently, Schwartz et al. (2012) presented the four components of values. These include altruistic values, biospheric values, egoistic values, and openness to change. Altruistic value is a collective value that motivates people to engage in pro-environmental behavior. A person is likely to engage in pro-environmental action or behavior when he sees others are getting optimal benefits from such activities. Also, biospheric values highlight the person's perspective of a sustainable environment and ecosystem. The third type, egoistic value, pertains to the person's regard for the society, its wealth, and authority. The fourth type, openness to change, refers to the person's self-direction and stimulation based on his thoughts that lead to action. Accordingly, value structure, including its components, serves as an explanation of our pro-environmental behavior.

The interplay of beliefs and norms also explained one's engagement in pro-environmental behavior. An example of a personal norm is having feelings of moral obligation to preserve the environment. Another example is the expectation that they are ethically obliged to engage in pro-environmental behavior and neglecting this obligation can lead to negative consequences. Pro-environmental behavior is likely to be manifested when a person holds the belief and norm essential to preserving the environment (Ghazali et al., 2019).

2.1 Aims of the study

The study aims to investigate the "plantito/plantita" home gardening among Filipinos during the pandemic. Specifically, it explored the following research questions:

- 1. What meaning do people who engage in home gardening ascribe to the term "plantito/plantita"?
- 2. How did the participants become interested in home gardening?
- 3. What motivates the participants to engage in home gardening during the pandemic?
- 4. What are the mental health benefits of home gardening during the pandemic?

3. Methodology

3.1 Research design

The study employed a qualitative descriptive method as a research design. According to Lambert and Lambert (2012), this research design summarizes the specific events experienced by individuals or a group of individuals. By employing this design, the researchers' task is to describe the collective experiences straightforwardly, based on their narratives.

In this study, home gardening during the pandemic and their experiences about the activity is the focus. It will explore the conditions and situations surrounding the "plantito/plantita" home gardening during the pandemic based on their perspective, discovery, motivations, and how it will influence their mental health as well as their community.

3.2 Sampling and participants

The researchers used purposive sampling in choosing the participants. It is a non-probability sampling where the researcher selects a participant based on specified qualifications (Etikan et al., 2016). The qualifications include being engaged in home gardening or continuously increasing the number of plants during the COVID-19 pandemic, with five or more home plants and 18 years old and above.

There were 104 participants in the study, where 70% belong to the 18-35 years old group while 30% belong to the 36-70 years old group. Many of the participants are young adults, with 9% of the total population are 27 years old. In terms of sex, 70% are female, and 30% were male. Most of the participants in this study were females or have identified themselves as "plantita." The average number of plants they owned is 38, with a minimum of 5, and the highest is 400 plants. Many of the participants were doing home gardening for three months. They have started collecting and taking care of plants during the pandemic.

3.3 Instrument

The study employed an online instrument tool that includes open-ended structured questions constructed by the researchers and content validated by psychologists and research experts. Content validity is the process where items in an instrument are judged based on their representativeness of the behavior (Cohen & Swerdlik, 2018). Three researchers and two psychologists reviewed the survey and the objectives of the study. The validators evaluated a total of ten questions and provided comments for improvement. A survey containing four open-ended questions served as the data gathering tool. These are the following:

- 1. In your perspective, describe a "plantito/plantita."
- 2. How did you discover your interest in home gardening?
- 3. What are your motivations for doing home gardening during the pandemic?
- 4. Based on your experiences, what are the mental health effects of doing home gardening during the pandemic?

The survey is composed of a consent form, demographic data, and open-ended questions. Demographics include age, sex, number of plants owned, and the length of home gardening.

3.4. Data collection procedure

The Ethics Review Board conducted a review of the study that involves low risk to human participants. After ethics approval is granted by a private, non-stock, non-profit organization in the Philippines, data collection took place from September 9 to September 18, 2020. The researchers recruited participants by posting an infographic display of the study and the participants' qualifications through social media platforms like *Facebook, Instagram, Twitter, and Google Mail*. Online surveys were administered to 104 participants instead of the face-to-face interview, considering the community restrictions.

There was an attached consent form before the actual data collection explaining the following: the goal of the study; that their participation is entirely voluntary; that efforts to protect their identity and keep the information confidential will be considered; that they can terminate their participation at any time of the study; that there will be no compensation for their participation; and the contact details of the researchers. Upon their agreement, the participants would put their digital signature (initials) in the form. In answering the survey, they were free to express themselves using Filipino, English language, or both.

3.5. Data analysis

The collected data were coded, arranged, and organized according to extracted themes to make sense of their subjective experiences. These were analyzed using the thematic analysis method adapted from Braun and Clarke (2006). According to them, thematic analysis is a "method for identifying, analyzing, and reporting patterns (themes) within data."

The researchers adapted a 6-phase guide in analyzing the responses. First, they read and familiarized themselves with the data set. In the second step, the researchers produced initial codes based on the inductive thematic analysis approach, where coding is based and closely related to the data itself (Braun & Clarke, 2006). Third, to create potential themes for the research questions, codes were sorted. Data were coded and extracted based on similarities of responses. Fourth, there was an in-depth analysis of the possible themes to refine and extract the major themes. In this process, the researchers adapted a semantic approach in identifying its level within the surface meanings (Braun & Clarke, 2006). Fifth, extracted themes were defined and named based on the patterns and quality of responses.

4. Findings

There are five themes acquired for the first question, three for research question number 2, four for research question number 3, and two for research question number 4. Table 1 presents a summary of the distribution.

Table 1. Frequency distribution of responses among participants

Research Question	Extracted Theme	Frequency
What meaning do people who engage in home gardening ascribe to the term "plantito/plantita"?	Lover of Plants	17
	Connection with Nature	9
	Nurturer	30
	Psychological Experience	21
	Interest	20
How did the participants become interested in home gardening?	Influence of Significant Others	48
	Social Media	28
	Pandemic	26
What motivates the participants to engage in home gardening during the pandemic?	Relief from Stress, Anxiety, and Boredom	71
	Plant as a Sign of Hope	11
	Aesthetics and Urban Sustainability	14
	Alternate Source of Food	3
What are the mental health benefits of	Stress Relief and Improved Mood	89
home gardening during the pandemic?	Sense of Purpose and Accomplishment	14

The table presents the distribution of the collective responses of the participants where the researchers extracted the themes. There are blank or unrelated answers obtained from the participants. The final analysis did not include the non-related answers from the participants, which explain the missing responses. Nevertheless, the extracted themes are discussed in the following sections:

4.1 Description of Plantito/Plantita

Lover of plants

A "plantito/plantita" is someone who loves, likes, appreciates, and is fond of different kinds of plants. Participants considered themselves as a plant lover shown with their responses such as:

"It is a term used to describe a person who likes plants and lovingly care for her/his plants."

"One who is fond of gardens and loves to care for different varieties and species of plants."

Being a plant lover is not new in the literature. A plant lover can be associated with the philosophical term phytophilia or the love of plants (Marder & Vieira, 2013). According to the literature, being a phytophile is a different experience and can rejuvenate the thinking of someone. On another note, according to the study of Archambault (2016), it is different from other interpersonal relationships where the love of plants is far more authentic. These supported the experiences of the participants about being a "plantito/plantita" where it is associated with the love of plants and gardening.

Connection with nature

Participants described the "plantito/plantita" as their way of connecting and interacting with nature. Promoting their love and care for the environment and the mother nature itself is one of the

[&]quot;Someone who loves collecting and taking care of plants. Someone who loves arranging its different kinds."

characteristics of a "plantito/plantita." It resembles them as a part of the environment and its system:

"On my perspective, a person who loves nature - who loves and values trees, flowers, insects and all. Being a plantito and plantita is being one with them, it's a mutual connection with the nature."

"Someone with a green thumb and the one who advocates and encourages to be part of greeneration."

"A person who loves to grow and tends plants as a way of connecting and taking care of mother nature."

Being connected with nature can be traced to different concepts. In the literature, the "biophilia hypothesis" is a concept that attempts to explain the human desire to relate to the natural environment (Kellert & Wilson, 1993, as cited in Uhlmann et al., 2018). According to the literature, humans have an innate need to connect with nature and all other life forms for survival. Also, being emotionally connected with nature is predicted to benefit human wellbeing and predict pro-environmental behaviors (Uhlmann et al., 2018).

Nurturer

The participants described themselves similarly to a parent who nurtures, cares, and responsible for the growth and nourishment of their plants. They treated their plants as part of their family, like a child who needs care and support from a parent:

"A plantito/plantita is similar to our real life generous and caring uncle and aunt, we are just putting it into plants. We treat like it is our child that needs much love and care in order for the plants to grow healthily."

"A person who is indulged about taking care of plants and a person who takes a good responsibility when it comes to taking care of plants."

"A gardener who treats plants as children, one who research on care and propagation of each plant, one who delights to see them bloom and enjoyed by bees, butterflies etc., one who continuous to experiment and understand the needs of her plants."

Veder (2007), in the literature review, presented that treating the plant as a child is an outlet of love and serves as substitutes for human babies. Moreover, it assumes that the plant's physical appearance is a direct emotional response, and just like children, they needed attention, parental care, and love. Cheng (2019) also emphasized plant parenthood, where gardeners provide satisfaction by caring for their needs, watching them grow, and even mourning its loss. Treating their plant as their child can be a responsibility and a benefit based on the literature presented and their experiences. They are accountable for its life while gaining different benefits associated with seeing the plant grow and nourished.

Psychological Experience

Participants connected being "plantito/plantita" as something experiential, associated with psychological benefits such as positivity, good well-being, and happiness:

- "A person who is passionate or finds joy and relief in taking care of plants, and finds it therapeutic."
- "Someone who loves taking care of a plant because it makes them happy, calm, and gives them satisfaction."
- "A person who finds pleasure on taking good care of plants, who find plants as a treasure not a luxury, who find genuine happiness on plants."

Based on the study of Capaldi et al. (2014), there was a positive relationship between nature connectedness and happiness. This result supported the psychological experiences of the participants. Moreover, the literature review of Keniger et al. (2013) indicated nature-loving people experienced increased psychological well-being. The results signified that interaction with nature provides psychological benefits such as improved mood and behavior.

Interest

It is a recreational activity, which the participants stated that they are not just into the aesthetics, but also paying attention to the elements and learning the different knowledge associated with the plants and gardening:

- "Someone who has passion for gardening, plants, horticulture and are making it as a hobby/collection."
- "Someone who has the passion for growing and taking care of plants. Someone who knows how to cultivate plants and eager to learn more to propagate them."
- "Someone who really cares and loves the plants or any kind of green. A hoarder, collector, and knowledgeable on how to raise and breed plants."

Their responses to gardening as an interest might be related to the recreational aspect of the activity. Eidimtiene et al. (2016) stated that the cultivation of plants is a process of recreation. Individuals have actual educational purposes while learning something new to them.

4.2 Discovery of interest in home gardening

Influence of significant others

Interpersonal relationships played a large role in the interest of participants in home gardening. They got interested in home gardening because of the influence of family members, friends, and colleagues. Exposure to parents' gardening activity and encouragement from colleagues and friends helped them to do home gardening:

- "Me and my partner started vegetable gardening during the quarantine, then later we were also into being a plantito/plantita with the influence of our colleagues."
- "I was heavily influenced by my mother who I considered as a person with a very green thumb."
- "Since I was a child, I really love gardening, because my parent also love planting My Mama loves ornamental while my Papa loves fruits and vegetables plants. So, because of them I developed an interest in gardening, I grew up taking good care of my parent's plants and last year, when I had that capability to buy my own plants and to grow my own babies, I took it so until now I'm in charge in our little garden."

According to Eng et al. (2019), family members served as one factor and inspiration in home gardening to promote healthy relationships. Moreover, sharing plants with friends and colleagues encourages reciprocity, the social norm of sharing, and increases social capital and connections. The influence of significant others such as family and friends can transform gardening into a collective behavior among neighborhoods and communities.

Social Media

Posts from social media influenced the participants to try and discover their interest in home gardening. Based on their responses, the trend of being a "plantito/plantita" from social media posts about the plants and home gardening motivated them to start this activity:

- "I saw some of my social media friends being a plantito/plantita, when they gave me some of their plants, I noticed that I am interested in doing home gardening."
- "When I saw it on social media, I observed that several of my friends are plantito and plantita, so I followed the trend in being a plantito/plantita."
- "I saw several social media posts of new plants and some encouraging tips on how to take care of them. I was hooked since then."

Montefrio (2020) stated that gardening was a term that was popularly searched from February to May 2020 in the Philippines. There was also a rise of gardening interest groups in social media. Seeking advice and showing off the home gardens were some of the popular posts. The virtual exposure of the participants to the plants through social media has a high impact on their home gardening activity. Remarkably, there has been an increase of social media groups among Northern provinces in the Philippines, including *Bulacan*, *Laguna*, and *Pampanga*. These groups continually grow their members and have been observed respectfully exchanging their interests and stories about gardening.

Pandemic

The COVID-19 pandemic served as an opportunity for the participants to try home gardening, considering the community quarantine restrictions. They spend their time on this activity because going outside is prohibited:

- "I've always wanted to but I just didn't have time until the imposed quarantine due to the pandemic."
- "After a few months of quarantine, I caved in to gardening as well since I also saw how others are also taking interest in it during this pandemic."
- "I read about how plants indoors can clean the air, which I find a necessity in this time of Pandemic."

During the pandemic, home gardening has been in the news and social media. According to Sofo and Sofo (2020), converting spaces in houses into gardens has helped them keep their bodies and minds active during the pandemic. Due to restrictions, gardening is a healthy strategy to stay physically active and creative. According to Lal (2020), home gardening during the pandemic can benefit humans in food, nutritional security, and health. Having been confined to their homes for months, participants have found a creative way of getting their needs they commonly get from the

community through home gardening. This activity has provided not only physical but also psychological needs.

4.3 Motivation to engage in home gardening

Relief from stress, anxiety, and boredom

The pandemic and the isolation measures brought about different psychological consequences such as stress, anxiety, and boredom. Participants found gardening as a socially productive behavior and as a source of relief from their emotional distress:

- "Gardening eases my anxiety and makes me hopeful for tomorrow."
- "I found gardening as a way to relieve my stress and get rid of bad news about the pandemic."
- "I did home gardening out of boredom and eventually I found out that it relieves my stress."
- "The fact that you witness your plants grow and bloom makes me feel more motivated to continue gardening."

The responses can be associated with the study conducted among refugees from a crisis by Millican et al. (2019). The results indicated that gardening was an effective way of channeling their emotional distress and even considered a positive displacement. Several participants cited the link of a healthy garden to their physical and mental health. Gardening during a crisis immensely helped them restore emotional balance. Also, both men and women reiterated that this form of behavior brought relief from their stressors. The results also supported an earlier study among older adults conducted by Scott et al. (2015). The study demonstrated that home gardening was more than a casual leisure pursuit but an activity for their physical and psychological well-being.

Plants as a sign of hope

The pandemic and isolation measures have placed many Filipinos in difficult and overwhelming situations. Seeing the plants grow and bloom communicates a sign of hope and a sense of fulfillment to those who have just started home gardening and those continuing this activity. Participants perceived seeing a new leaf or flower as a sign of life:

- "Seeing them grow makes me excited and hopeful, and also for the benefits since plants are known to have good positive effects."
- "Life. You get to see life every day, may it be a new leaf, or a flower."
- "Seeing the greens and helping them grow served as my motivation in continuing."

The study conducted by Shiue (2016) in the United Kingdom explained gardening as therapeutic, especially for vulnerable populations since 2000. The data retrieved from a Scottish Health Survey in 2012-2013 signified that gardening was strongly associated with having an optimistic view of life and feeling reasonably happy. The adult participants perceived gardening as building work, thus made them feel excited, encouraged, and hopeful of tomorrow. These results can be associated with their interpretation of growing plants and flowers as a sign of hope and new life. Moreover, the study among younger populations conducted by Renwick et al. (2019) supported the participants' responses. The study demonstrated that gardening served as a metaphor for life. They were able to recognize growth through nurturing plants in a garden bed. Observing

the natural cycle of growth and budding of the plant becomes a metaphor for possibilities and continuation.

Aesthetics and urban sustainability

Participants found home gardening as beautifying their surroundings and made them feel more relaxed and cozier. A green environment enhanced their houses to be physically appealing. Majority of the participants from urban cities perceived home gardening as a way of protecting the environment:

- "I engage in gardening to make my surroundings and every corner of the house homey and green."
- "I like my home to be physically appealing and I want for it to be cozy and relaxing. I knew that home gardening would be the only way."
- "Gardening is a way of beautifying and greening the home."

The study about the role of urban agriculture conducted by Zasada et al. (2020) presented home gardening as an emerging strategy among those living in close environments. The rapidly growing cities and metropolitan regions have started home gardening during the lockdown period and positively contributed to environmental and socio-cultural aspects. The results of their study can be associated with the responses of the participants about home gardening. Accordingly, home gardening is more than just a collective behavior but a powerful key in urban biodiversity conservation and aesthetic green urban spaces. While there is evidence on the importance of gardening in urban sustainability, a recent local study conducted by Montefrio (2020) about the concept of a "productive" home gardener in a time of pandemic lockdown in the Philippines argued that overemphasizing this behavior as the solution to this crisis may not maximize its potential. The study further explained that home gardeners should move beyond and focus on growing communities committed to inclusivity.

Alternate source of food

Participants deemed home gardening as an alternate source of food and a way of lessening their food expenses. They can acquire some of their ingredients and decrease the need to go out as a precautionary measure against the COVID-19:

- "I thought that maybe if I will plant edible plants and plants that are essential for our body it can lessen our expenses and also, less exposure since we don't have to go outside to get what we need we will go to our garden instead."
- "I am looking forward to harvest my own lemon at home."
- "Since most of my plants are edible, I usually look forward to harvesting from my plants. Growing some of my food is more convenient since I can have fresh fruits/vegetables without going to the market."

The study among Oman gardeners conducted by Al-Mahayi et al. (2020) signified home gardening as an alternate food source. One of their motives for doing home gardening was to look for a source of food. An earlier study conducted by Gray et al. (2014) cited that home gardening is a vital strategy in confronting a host of urban problems, including food insecurity. Although

barriers such as lack of space, time, and interest exist, the study proved that home gardening carries the potential to transform the agri-food system and broaden social change.

4.4 Mental health benefits

Stress relief and improved mood

The majority of the participants reported enhanced emotional well-being from doing home gardening. They found gardening as a natural stress reliever from stress and anxiety caused by the pandemic. Many of them experienced positive changes in their mood. The participants also treated home gardening as a way of diverting their negative thoughts and emotions:

"Home gardening makes me feel relaxed from the anxiety the pandemic brought. Gardening somehow made me calm."

"Gardening made me calm and get away from anxiety."

"It's my stress reliever, I feel calm just by arranging them and watering them as well. Even though they said it's a heavy work of maintaining them, it's my way of clearing my thoughts throughout the day."

The study on the mental health lessons and gardening conducted by Chalquist (2019) stated gardening could lift one's mood, release anxiety and stress, and enhance recovery from injury and trauma. The results strongly supported the participants' perceived benefit of gardening in their mental health as the majority found this behavior as a natural stress reliever and an effective relaxation technique. Moreover, a recent study conducted during the lockdown in New York City by McBain (2020) emphasized that people are starting to realize that mental health has a connection to our natural world. The pandemic was a reminder that humankind coexists with nature. People strive to have stress or an anxiety-free environment; thus, one way of achieving this is through home gardening.

Sense of purpose and accomplishment

The COVID-19 pandemic and the different quarantine restrictions have produced many uncertainties. Many of the participants reported that home gardening has helped them restore their sense of purpose. Also, the process of nurturing plants and seeing them grow in number was considered an accomplishment. The participants found home gardening as an antidote to the lack of control during the pandemic:

"Planting small plants at home gives me a sense of control, a sense and feeling that was taken away by the physical restrictions brought about by the pandemic."

"Gardening gives me a sense of purpose and renews my faith in my capabilities in the midst of pandemic."

"Since I have time to spare, I decided to buy plants. It is rewarding when I see them being alive."

For the participants, home gardening was a way of restoring their sense of purpose and accomplishment during this crisis. The study of Potter (2010) supported this result and explained that increased interaction with nature promotes learning, enhances self-awareness, and encourages relationships with others. A similar study conducted by Hartwig and Mason (2016) signified some

mental health benefits of home gardening. Gardening has helped the participants improve their self-identities and find meaning. They even described their garden as a healing space for depression and anxiety. Hence, the two studies suggested that home gardening can help people navigate difficult life circumstances, including the pandemic.

5. General discussion

The qualitative descriptive study explored and described the experiences of Filipinos in doing home gardening during the pandemic. The findings suggest that a plantito/plantita denotes someone who builds and maintains an authentic and loving relationship with the plants. Marde & Viera (2013) considered a plant lover as "phytophilia." The study of Archambault (2016) explained this type of relationship as more authentic than interpersonal connections. This relationship is a way of connecting with nature, as participants described it as part of the "greeneration". Connecting with nature is an innate need necessary for psychological well-being, as suggested by Uhlmann et al., 2018. A gardener is a nurturer and takes care of the plants like his or her own child. Attention and love are significant for the growth and blossoming of plants. Being a plantito/plantita is both an interest and psychological experience that is educational and purposeful.

One of the study's main findings was the role of significant others in home gardening. The influence of others was a factor for them to begin with and continuously engage in gardening. Various social media posts were another factor in discovering and maintaining their interests in taking care of plants. Montefrio (2020) highlighted that gardening was commonly searched online in the Philippines from February to May. These direct and indirect exposures of Filipinos to home gardening have influenced the sudden rise of gardeners in the Philippines. There are support groups on Facebook and Twitter for plant lovers. Online selling and buying of plants became more convenient using social media platforms. Timing also has significantly contributed to the rise of home gardening among Filipinos. The pandemic and its accompanying restrictions are also factors behind this activity, as most Filipinos stay home.

Filipinos were looking for recreational activities to reduce boredom and cope with the stress of the pandemic. It has served as their primary motivation in doing and growing their garden. Gardening was considered a socially productive behavior and a source of relief from the emotional distress. The study of Millican et al. (2019) suggested gardening as an effective way of channeling negative emotions. Gardening more than just a casual leisure pursuit but an activity that has therapeutic effects on their physical and psychological well-being.

The pandemic has irretrievable damages and losses in many aspects of our lives. For the participants, a plant was a sign of hope. The study of Renwick et al. (2019) supported this result, which stated that gardening was a metaphor for life. Amidst the pandemic, our lives will once again grow, evolve, and bloom like a plant. Further, home gardening was one way of beautifying the Filipino homes during the pandemic, and actively seeing their gardens grow made their homes cozier. Also, many participants perceived the importance of gardening in protecting the environment and getting clean air. Being confined inside their homes for almost three months, participants saw the potential of home gardening to provide food and ingredients to their household. Gray et al. (2014) mentioned that home gardening could improve the agricultural system and broaden social change. However, Montefrio (2020) warned that Filipino gardeners should move beyond this trend and actively strive as a community committed to inclusivity. The

trend in home gardening can suffer a downfall when it gets overly emphasized. Hence, its ecological potentials and benefits may not last. Community psychologists and the government could better support the promotion of gardening in urban and local spaces. Psychologists can work on the integration of the theories on values to increase engagement in pro-environmental behavior.

Filipino home gardeners reported relief from stress and improved mood from doing home gardening. Consequently, the study of Chalquist (2019) described that gardening could lift one's mood and enhance recovery from trauma. Lastly, seeing their plants thrive and increase in number has provided a sense of purpose and accomplishment during these critical times.

6. Conclusions and recommendations

The "plantito/plantita" home gardening explained different factors of Filipino participants that affect their daily functioning, especially during the pandemic. First, "plantito/plantita" is a plant-lover and nurturer. He or she has a connection with nature and considers this activity as a psychological experience and an interest. Secondly, participants discovered their interest in home gardening through the influence of their significant others, social media, and the pandemic itself. Third, they are motivated to engage in "plantito/plantita" gardening as their way of relieving stress, anxiety, and boredom, see their plants as a sign of hope, for aesthetics and urban sustainability purpose, and as an alternate source of food. Lastly, the mental health benefits of "plantito/plantita" gardening include relief from stress and improved mood and a sense of purpose and accomplishment.

The researchers recommended extensive studies about home gardening, mental health, and environmental-health-related distress, and personal interviews to allow in-depth facilitation of the methodology and observation. Random sampling is encouraged to recruit more prospective participants as the current study was limited to individuals with an internet connection and has social media presence.

Essentially, home gardening is socially productive behavior. It has a positive impact not only on the environment but on the well-being of the Filipinos. The unexpected trend of gardening may not last if people will not treat this activity as inclusive to communities, despite its many benefits. More Filipinos can benefit from this trend if households would be encouraged to sustain this movement. Support from social media, the community psychologists, and the government to its smallest unit like the barangays can raise awareness and opportunities about the positive impact of home gardening to the community, especially during the pandemic.

References

Al-Mahayi, A., Al-Ismaily, S., Gibreel, T., Kacimov, A., & Al-Maktoumi, A. (2019). Home gardening in Muscat Oman: Gardener's practices, perceptions, and motivations. *Urban Forestry & Urban Greening*, 38(9). https://doi.org/10.1016/j.ufug.2019.01.011

Ambrose, G., Das, K., Fan, Y., & Ramaswami, A. (2020). Is gardening associated with greater happiness of urban residents? A multiactivity, dynamic assessment in the Twin-Cities region, USA. Landscape and Urban Planning, 198. https://doi.org/10.1016/j.landurbplan.2020.103776

- Archambault, J. S. (2016). Taking love seriously in human-plant relations in Mozambique: Toward an anthropology of affective encounters. *Cultural Anthropology*, 31(2), 244-271. https://doi.org/10.14506/ca31.2.05
- Baloran, E. T. (2020). Knowledge, attitudes, anxiety, and coping strategies of students during COVID-19 pandemic. *Journal of Loss and Trauma*, 25(8), 635-642. https://doi.org/10.1080/15325024.2020.1769300
- Bawingan, P., Ancheta, K., Laranang, K., Alcantara, R., Quiocson, J., & Balain, A. (2020) Reactions, behavioral practices and coping mechanisms of Filipinos in Luzon, Philippines during the lockdown due to COVID-19. *Philippine E-Journal for Applied Research and Development*, 10, 14-28.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. http://dx.doi.org/10.1191/1478088706qp063oa
- Buenaventura, R. D., Ho, J. B., & Lapid, M. I. (2020). COVID-19 and mental health of older adults in the Philippines: A perspective from a developing country. *International Psychogeriatrics*, 1-5. https://doi.org/10.1017/S1041610220000757
- Capaldi, C. A., Dopko, R. L., & Zelenski, J. M. (2014). The relationship between nature connectedness and happiness: A meta-analysis. *Frontiers in Psychology*, 5. https://doi.org/10.3389/fpsyg.2014.00976
- Centers for Disease Control and Prevention. (2020). What you should know about COVID-19 to protect yourself and others. Retrieved January 30, 2021, from https://www.cdc.gov/coronavirus/2019-ncov/downloads/2019-ncov-factsheet.pdf
- Chalquist, C. (2019). Mental health lessons from the garden. Communities, 1(182), 59.
- Cheng, D. (2019). The new plant parent: Develop your green thumb and care for your house-plant family. Abrams Image.
- Cohen, R. J., & Swerdlik, M. E. (2018). *Psychological testing and assessment: An introduction to tests and measurement* (9th ed.). McGraw-Hill Education.
- Department of Agriculture. (2020). *DA's "plant, plant, plant program" to benefit all farmers, fishers, consumers nationwide*. https://www.da.gov.ph/das-plant-plant-program-to-benefit-all-farmers-fishers-consumers-nationwide/
- Eidimtiene, V. V., Auzeliene, I., & Daubaras, L. (2016). Urban gardening: Elements, social, cultural and recreational aspects. *MAZOWSZE Studia Regionalne*, 35-47. https://doi.org/10.21858/msr.18.03
- Eng, S., Khun, T., Jower, S., & Murro, M. J. (2019). Healthy lifestyle through home gardening: The art of sharing. *American Journal of Lifestyle Medicine*, 13(4), 347-350. https://doi.org/10.1177/1559827619842068
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4. https://doi.org/10.11648/j.ajtas.20160501.11
- Ferdous, Z., Datta, A., Anal, A. K., Anwar, M., & Khan, A. (2016). Development of home garden model for year round production and consumption for improving resource-poor household food security in Bangladesh. *NJAS Wageningen Journal of Life Sciences*, 78, 103-110. https://doi.org/10.1016/j.njas.2016.05.006
- Galhena, D. H., Freed, R., & Maredia, K. M. (2013). Home gardens: A promising approach to enhance household food security and wellbeing. *Agriculture and Food Security*, 2(8). https://doi.org/10.1186/2048-7010-2-8

- Galvin, K. C. (2015). *Home gardens: A key to a sustainable future* [Student Thesis]. Fordham University.
- Ghazali, E., Nguyen, B., Mutum, D., & Yap, S. (2019). Pro-environmental behaviors and value-belief-norm theory: Assessing unobserved heterogeneity of two ethnic groups. *Open Access Journal*, 11(12), 1-28. https://doi.org/10.3390/su11123237
- Gray, L., Guzman, P., Glowa, K., & Drevno, A. (2014). Can home gardens scale up into movements for social change? The role of home gardens in providing food security and community change in San Jose, California. *Local Environment*, 19(2), 187-203. https://doi.org/10.1080/13549839.2013.792048
- Guuroh, R. T., Uibrig, H., & Acheampong, E. (2012). Homegardens as a source of income for rural households a case study of Bieha District, Southern Burkina Faso. *Journal of Agricultural Science and Technology B*, 2, 798-813.
- Hartwig, K., & Mason, M. (2016). Community gardens for refugee and immigrant communities as a means of health promotion. *Journal of Community Health*, 41(6), 1153-1159. https://doi.org/10.1007/s10900-016-0195-5
- Inter-Agency Task Force on Emerging Infectious Diseases. (2020). *Omnibus guidelines on the implementation of community quarantine in the Philippines*. Department of Health, Republic of the Philippines. https://www.doh.gov.ph/sites/default/files/health-update/omnibus-guidelines-on-the-implementation-of-community-quarantine-in-the-philippines.pdf
- Kellert, S.R., & Wilson, E.O. (1993). The Biophilia Hypothesis. Island Press.
- Keniger, L. E., Gaston, K. J., Irvine, K. N., & Fuller, R. A. (2013). What are the benefits of interacting with nature? *International Journal of Environmental Research and Public Health*, 10, 913-935. https://doi.org/10.3390/ijerph10030913
- Lal, R. (2020). Home gardening and urban agriculture for advancing food and nutritional security in response to the COVID-19 pandemic. *Food Security*, *12*, 871-876. https://doi.org/10.1007/s12571-020-01058-3
- Lambert, V. A., & Lambert, C. E. (2012). Qualitative descriptive research: An acceptable design. *Pacific Rim International Journal of Nursing Research*, 16(4), 255-256. https://he02.tci-thaijo.org/index.php/PRIJNR/article/view/5805
- Legesse, A., Tesfay, G., & Abay, F. (2016). The Impact of urban home gardening on household socio-economy. *Arts and Design Studies*, *39*, 21-30.
- Marder, M., & Vieira, P. (2013). Writing phytophilia: Philosophers and poets as lovers of plants. *Frame* 26.2 *Ecocriticism*, 37-53. https://estudogeral.sib.uc.pt/bitstream/10316/43894/1/Writing%20Phytophilia_Philosophers% 20and%20Poets%20as%20Lovers%20of%20Plants.pdf
- Matejowsky, T. (2013). Backyard and community gardening in the urban Philippines: A case study from Urdaneta City, Pangasinan. *Locale: The Australasian-Pacific Journal of Regional Food Studies*, 3. https://localejournal.org/issues/n3/Locale%20n3%20-%2005%20-%20Matejowsky.pdf
- McBain, S. (2020). Nature's lesson in how to live. New Statesman, 149(55), 44-46.
- Millican, J., Perkins, C., & Adam, A. (2019). Gardening in displacement: The benefits of cultivating in crisis. *Journal of Refugee Studies*, 32(3), 351-371. https://doi.org/10.1093/jrs/fey033
- Montefrio, M. J. (2020). Interrogating the "productive" home gardener in a time of pandemic lockdown in the Philippines. *Food and Foodways*, 28(3), 216-225. https://doi.org/10.1080/07409710.2020.1790142

- Mugisa, I. O., Molly, A., Muyinda, M., Gafabusa, R., Kituuka, G., Kyampeire, B., Atim, J., Nampeera, M., Nafula. R., Sseruwu, G., Kabanyoro, R., & Akello, B.O. (2016). *A farmers' guide to home gardening: How to establish and manage home gardens*. NARO- Mukono Zonal Agricultural Research and Development Institute, Uganda.
- National Anti-Poverty Commission & International Institute of Rural Reconstruction. (2016). *Integrated community food production: A compendium of climate-resilient agriculture options*. https://www.napc.gov.ph/sites/default/files/documents/articles/Integrated%20Community%20 Food%20Production.pdf
- Potter, C. (2010). Creating a garden for the sense. Exceptional Parent, 40(10), 39-42.
- Renwick, K., Romes, K., & Lam, V. (2019). Youth connecting: Mental health and gardens. *International Journal of Education through Art*, 15(3). https://doi.org/10.1386/eta 00010 3
- Research Institute for Tropical Medicine. (2020). What is the new normal [Infographic]? Department of Health, Republic of the Philippines. http://ritm.gov.ph/new-normal-in-our-homes-in-the-workplace-and-in-schools/
- Sanye-Mengual, E., Gasperi, D., Michelon, N., Orsini, F., Ponchia, G., & Gianquinto, G. (2018). Eco-efficiency assessment and food security potential of home gardening: A case study in Padua, Italy. *Sustainability*, 10(7). https://doi.org/10.3390/su10072124
- Schmutz, U., Lennartsson, M., Williams, S., Devereaux, M., & Davies, G. (2014). *The benefits of gardening and food growing for health and wellbeing*. Garden Organic and Sustain.
- Schwartz, S. H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C., Ramos, A., Verkasalo, M., Lönnqvist, J.-E., Demirutku, K., Dirilen-Gumus, O., & Konty, M. (2012). Refining the theory of basic individual values. *Journal of Personality and Social Psychology*, 103(4), 663–688. https://doi.org/10.1037/a0029393
- Scott, T., Masser, B., & Pachana, N. (2015). Exploring the health and well-being benefits of gardening for older adults. *Ageing & Society*, 35(10). https://doi.org/10.1017/S0144686X14000865
- Shiue, I. (2016). Gardening is beneficial for adult mental health: Scottish health survey, 2012-2013. *Scandinavian Journal of Occupational Therapy*, 23(4). https://doi.org/10.3109/11038128.2015.1085596
- Sofo, A., & Sofo, A. (2020). Converting home spaces into food gardens at the time of Covid-19 quarantine: All the benefits of plants in this difficult and unprecedented period. *Human Ecology*, 48, 131–139. https://doi.org/10.1007/s10745-020-00147-3
- Soga, M., Gaston, K. J., & Yamaura, Y. (2017). Gardening is beneficial for health: A meta-analysis. *Preventive Medicine Reports*, *5*, 92-99. https://doi.org/10.1016/j.pmedr.2016.11.007
- Stern, P.C., Dietz, T., Abel, T., Guagnano, G., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. *Human Ecology Review*, 6(2), 81–97. https://cedar.wwu.edu/hcop_facpubs/1/
- Talidong, K. J., & Toquero, C. M. (2020). Philippine teachers' practices to deal with anxiety amid COVID-19. *Journal of Loss and Trauma*, 25(6-7), 573-579. https://doi.org/10.1080/15325024.2020.1759225
- Talukder, A., Haselow, N., Osei, A., Villate, E., Reario, D., Kroeun, H., SokHoing, L., Uddin, A., Dhungel, S., Quinn, V., & Keller, H. (2010). Homestead food production model contributes to improved household food security and nutrition status of young children and women in poor populations lessons learned from scaling-up programs in Asia (Bangladesh, Cambodia, Nepal and Philippines). *Field Actions Science Reports*, *1*.

- Tee, M., Tee, C., Anlacan, J., Aligam, K., Reyes, P.W., Kuruchittham, V., & Ho, R. (2020). Psychological impact of COVID-19 pandemic in the Philippines. *Journal of Affective Disorders*, 277, 379-391. https://doi: 10.1016/j.jad.2020.08.043
- Uhlmann, K., Lin, B. B., & Ross, H. (2018). Who cares? The importance of emotional connections with nature to ensure food security and wellbeing in cities. *Sustainability*, 10(6), 1844. https://doi.org/10.3390/su10061844
- Uy, A. (2020). COVID-19 impact on mental health of the Filipinos. *The ASEAN Post*. https://www.google.com/amp/s/theaseanpost.com/article/covid-19-impact-mental-health filipinos %3famp.
- Veder, R. (2007). Mother-love for plant-children: Sentimental pastoralism and nineteenth-century parlour gardening. *Australasian Journal of American Studies*, 26(2), 20-34.
- World Health Organization. (2020). *A joint statement on tourism and COVID-19 UNWTO and WHO call for responsibility and coordination*. https://www.who.int/news/item/27-02-2020-a-joint-statement-on-tourism-and-covid-19---unwto-and-who-call-for-responsibility-and-coordination#:~:text=On%2030%20January%202020%2C,set%20of%20Temporary%20Recommendations.
- World Health Organization. (2020). *Coronavirus disease* (*COVID-19*). https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/coronavirus-disease-covid-19
- World Health Organization. (2020). WHO Director-General's opening remarks at the media briefing on COVID-19 11 March 2020. https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020
- Zasada, I., Weltin. M., Zoll, F., & Benninger, S. (2020). Home gardening practice in Pune (India), the role of communities, urban environment and the contribution to urban sustainability. *Urban Ecosystems*, 23(2). https://doi.org/10.1007/s11252-019-00921-2