Exploring a Growing Field: Canadian Horticultural Therapy Organizations

By

Katie Cross Chater

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Abstract

The field of Horticultural Therapy has grown in recent years and is now a part of many wide-ranging health and mental health services. Despite this, there is a lack of standardization of the field. Through a content analysis of HT program websites, the present study sought to illuminate some of the trends in the practice of Horticultural Therapy, specifically around practitioner education and services provided. The most common education type for practitioners was certificate-based. Services offered frequently focused on workshops, with special attention to diversity and inclusion.

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1. CHAPTER ONE: INTRODUCTION

There is a lack of knowledge about the field of horticulture therapy (HT) in Canada. This is partially because the field of horticultural therapy is still developing. For example, many HT programs are offered through botanical gardens and yet they are not classified as HT programs. Furthermore, many of the practitioners in such botanical garden service centers are not formally trained (Fleming. & Dutrizac, 2010). While HT has forty-year history of use in clinical settings in North America, there are few published studies of HT within mental health settings (Sempik, Aldrige & Becker, 2003; Verra, Angst, Beck, Lehmann & Brioschi, 2012).

The lack of information about HT limits the integration and consistency of horticultural therapy practises. More information about who is practising this type of therapy, how it is being conducted and in which facilities, would allow the field to develop consistent standards for practise. Only with comprehensive empirical explorations of the many variations of current HT practises, will it be clear how and for whom industry regulations must be developed. Regulations for HT may need to vary depending on the location and service type. For example, HT within health care may be regulated within a separate governing body than within therapeutic services. This first step in developing practise guidelines specific to HT can only be made once the nature of the field is properly understood. While many para-professionals have written articles on HT, few empirical studies have been conducted. Despite this, programs for HT are increasing. For this reason, a well-conducted description of current HT practises in Canada, such as the present study, is a first step in the process of understanding the field of HT.

Programs that utilize HT continue to grow. Some of the reasons for the development of HT include the benefits it provides for many groups, including re-establishing connections to nature, providing a tranquil setting for therapy and an alternative to traditional talk-therapy, reducing stress, offering sensory activities for children with high or low sensitivities and increasing motivation and enjoyment of therapy (Flick, 2012). The term 'nature-deficit disorder' was coined by Richard Louv, the author of *Last Child in the Woods* (2008). It refers to the movement of children and youth away from play in and appreciation of nature. While not an official diagnosis, this term is used to describe the cost to humans and particularly children, with decreased connections to nature. Proximity to nature benefits child development, including increases in cognitive abilities, specifically executive functioning. Research has also found that direct contact with nature, such as HT, improves children's attention and focus, creativity, problem- solving and ability to self-regulate (Burdette & Whitaker, 2005; Wells, 2003).

As our cities expand and people become more disconnected with nature, the benefit of therapeutic interventions that involve direct, hands-on work with nature and natural elements will only grow. HT offers a unique opportunity to marry the therapeutic benefits of direct engagement with the natural world and the advantages of more traditional talk therapy therapeutic interventions. Despite this, a survey done in 1968 of 500 psychiatric hospitals in the United States discovered that while there were many HT programs running and a significant interest in such programming, the number of trained horticultural therapists was not meeting the demand. A survey given to members of the Tennessee Hospital Association and the

Tennessee Association of Homes and Services for the Aging found that HT was primarily used with older adults but that only few of the hospitals and facilities surveyed utilized this form of therapy (Lewis, 1996). Gathering more information on the programs that do exist in Canada will help bring attention to this important field, by demonstrating the benefits and therefore need for more horticultural therapy programs and practitioners (Lewis, 1996).

The present study sought to illuminate commonalities in the way HT is practised throughout Canadian centers in which HT is the primary focus. This exploratory research attempted to shed light on the trends between the centers providing HT and contribute to the knowledge base that exists about this area.

2. CHAPTER TWO: LITERATURE REVIEW

2.1 Horticultural Therapy

Horticultural Therapy is an approach to psychotherapy that involves the act of working with traditional gardening activities to benefit clients in cognitive, emotional, social and physical ways. The Canadian Horticultural Therapy Association (2007) defined horticultural therapy as, "the purposeful use of plants and plant-related activities to promote health and wellness for an individual or group" (p. 1). The organization further described HT as "goal oriented [and] with defined outcomes and assessment procedures" (p1). Therapeutic horticulture has also been defined by the Growth Point organization (1999) as, "a process that uses plant-related activities through which participants strive to improve their well-being through active or passive involvement' (p. 4). The application of HT can include hands-on activities such as planting and caring for single or multiple plant species. It also refers to cognitive tasks involving gardening such as planning, and designing gardens and researching plants. Much of HT tasks include maintaining a garden through weeding, watering and feeding plants. The therapy occurs both in the action of gardening and in the social and artistic aspects of the activity. It also occurs in the conversations about gardening drawn by a professional horticultural therapist. Through the integration of HT with therapy, metaphors, personal connections and new ideas can be stimulated. Not only is horticultural therapy used by psychologists, counsellors ad psychotherapists, it is used by occupational therapists, nurses, teachers and others in the health care field (Basker, 2009).

2.1.1 History of Horticulture Therapy

HT was first formally developed by Benjamin Rush in the Colonial era and has become an important addition to many more formal types of talk-therapy (Smith, 2014). The development of Horticultural Therapy (HT) as a profession really gained momentum in the 1970s, when the duties and tasks of the HT practitioner were explored in depth. At this time, the preeminent curriculum for HT education was created and the American Horticultural Therapy Association was formed. Despite the fact that HT has existed as a profession for many years, several components of the process of HT as a profession have not yet been developed. For example, neither job analysis and validation studies on the profession of HT have transpired. Without research into the field and practice, it is difficult to determine a baseline of HT practitioner knowledge and competencies to practice (Larson, Greenseid & Meyer, 2010). In addition to maintaining the reputation of this growing field, this information supports the crucial task of ensuring clients are well-serviced and protected when seeking therapeutic supports.

2.1.2 Gardens

HT has roots in the representation and meaning of horticulture practices that have long been significant to society. Despite the recent growth in HT, nature has provided informal therapeutic benefits to humans for thousands of years. For example, in ancient Egypt, court physicians prescribed garden walks for mentally disturbed members of royalty. Humans react positively to natural elements that connote safety, shelter, food, medicine and tools, a process that is defined as *Biophilia* (Fried & Wichrowski, 2008).

The significance of gardens is greater than that of a recreational pastime. The garden has many meanings, including cultural, lifestyle, identity, relationship and gender. One example of this cultural and historical significance is the Cleveland Cultural Gardens. This site boasts a mile-long connective set of 29 gardens. Established over 80 years ago, the series of gardens was developed to promote a message of peace. Garden representations have historically carried varied messages, from those of pastoralism and pluralism, to oppositions to war (Berbrier, 2012).

Today, gardens remain places of relaxation, recreation, gathering and home-maintenance. Settings of horticulture possess a magic that is not otherwise found in daily life. Part of this magic is the haptic perception, or the sense of touch and awareness of our bodies in space. This involves caring for self and others and is often connected to relational experiences. Furthermore, gardens often invoke memories of the past. For many, being in the garden can invoke layers of contextual memories,

> "memories of gardens relate not only to what is remembered, but the senses greatly influence how the past can be revisited; the garden mediates memories of childhood, escape and innocence, as well as recollections of family members and key events" (Bhatti, Church, Claremont & Stenner, 2009).

Gardens represent a unique hybrid space where the world exists in both natural and human-altered ways (Bhatti & Church 2004). The garden moves in multiple types of time, evidenced in daily and seasonally shifting cycles. As Foucault (1986) noted,

horticultural spaces showcase the instances where nature and humans come together. They are at the same time a mix of the ecological, social and physical.

Gardens can hold significant cultural power in providing a community space for idea exchange, ceremonies and gathering (Berbrier, 2012). During the Second World War, gardens became an integral part of life for Japanese-Americans forced to live in prisoner camps. Gardens were essential to maintaining positive mental well being, as they served to improve some of the challenges faced by prisoners of the camp. For the interned Japanese, gardening was an assertion of cultural identity. The gardens serviced as healing spaces in which the violence of war and struggles of life as a prisoner could be forgotten. They were inline with aspects of Japanese culture, including beauty (Tamura, 2004).

There were different types of gardens that were tended by the prisoners. In addition to the food-producing garden, the prisoners also built victory gardens. Women were the primary tenders of the victory gardens, while men would grow more ornamental gardens. This mimicked the traditional gender roles of gardening. Gardens provided an opportunity for prisoners to contribute to the health of their family, providing fresh, nutritious food (Tamura, 2004).

The gardens represented more than a practical and restorative value. They were a means but which prisoners could assert agency and control within the prison camps. In a situation where many were denied their political status and social power by Americans, the gardens were one form of resistance against forced confinement, political oppression and violence. As Tamura (2004) noted, “within the incarceration camps, acts of resistance ranged from open revolt and deadly riots to

daily acts of covert disrespect and repudiation of regulations". One example of the surreptitious Japanese resistance was the way in which prisoners often created garden spaces on land owned and forcibly managed by the War Relocation Authority. The Japanese accomplished this despite regulations against land used for non-WRA purposes. Through these small but consistent acts of appropriation, the Japanese prisoners proclaim their own proprietorship over the land (Tamura, 2004).

The gardens created by Japanese prisoners of war camps in America were also early examples of green spaces used for HT and as resistance to violence. Both adults and children engaged in the garden, finding a way to make the best of a challenging situation. As a historian who has written extensively on the subject noted, "the landscaping projects began with the children creating landscape plans and then digging, moving rocks, planting rye grass seed, and then maintaining the areas for the duration of their incarceration. These school landscape projects illustrated the necessity of ameliorating the camp landscapes for both children's and adults' physical and mental health". The gardens provided restorative benefits of nature and offset many of the struggles of war. Many prisoners, when moved to more permanent camps, were so attached to the gardens that they brought plants and trees with them (Tamura, 2004).

2.1.3 Gardens and Community

Gardens also represent small ways to address the major environmental and social issue of food insecurity. Community gardens often represent political and contested space. They are the transfer of land from private to public. (McIlvaine-

Newsad & Porter, 2013). In January of 2015, the Supreme Court sided with Canadian Pacific Railway Ltd. over a disputed stretch of railway, not in operation for over 13 years. The section of railway, known as the Arbutus corridor, was zoned residentially and was estimated to be worth over $400 million. To the local community however, the space provided a sanctuary of community garden space within a city environment (Bailey & Jang, 2015). Community gardens are an integral part of improving the health of communities and range from gardening-specific abilities to behavioural and systemic change (Twiss, Dickinson, Duma, Kleinman, Paulsen & Rilveria, 2003).

The California Health Cities community garden project saw an increase in physical activity and consumption of fruits and vegetables as well as policy changes that allowed for changes in the way land and water were allocated for community gardening projects (Twiss, Dickinson, Duma, Kleinman, Paulsen & Rilveria, 2003).

2.1.4 Benefits of Gardens

The benefits of being in gardens are linked to the responses to spending time in nature. The benefits of nature have been well researched and described. Exposure to nature cultivates psychological well-being, decreases stress, and improves physical condition (Ulrich & Parsons, 1992). One way of accounting for this is the biophilia hypothesis first coined by Wilson (1984). This described the presence of a biologically based, inherited human need to connect with life and life-like processes. Other hypotheses look at the ways in which nature may fit into key aspects of positive health determinants. This includes evolutionary and attention-based hypotheses, such as the salutogenic approach, which explores aspects of nature that

are necessary for maintaining health (Annerstedt, Ostergren, Bjork, Grahn, Skarback & Wahrborg, 2012).

Simply being a horticulture environment, regardless of one's participation in HT activities, has therapeutic benefits. Many studies have noted the positive health outcomes of therapeutic gardens, including physical and psychological benefits, as well as the improvements in general well-being and stress levels (Ulrich & Addoms, 1981; Ulrich, 1984; 1999). As Ulrich (1999) noted, "green spaces, gardens, and gardening, including related activities and programs, have the potential to fill a critical role in healing, socialization, and leisure needs, especially in long-term rehabilitation". Gardens provide a natural setting that decreases stress and offers many opportunities for unique therapeutic interventions through activities, recreation and programs (Majuri, 2009). An example of such interventions include the planning and designing of a personal garden. This exercise can build confidence and develop creativity while providing the calming benefits of nature. Conversations between therapist and client around change, growth and death are mirrored in the garden. In this way, the opportunities to mobilizing a sense of client agency and autonomy within HT are plentiful.

One theory to account for the benefits of HT is that being in garden spaces supports directed attention and fascination. This is thought to occur when a person is forced to concentrate and direct full attention on a task. While directed attention takes energy and can be tiring, HT is thought to offer moments of fascination that counter the need for directed attention. These moments require no energy at all, because they occur spontaneously and make attention easy (Sahin, Matuszczyk,

Ahlborg JR. & Grahn, 2012). With more traditional approaches to therapy, attention is focused on conversations rather than tactile activity. The therapy occurs in the 'being' and 'exploring', rather than the 'doing'. HT offers ongoing and accessible opportunities for mindfulness of task.

In addition to the therapeutic aspects of HT, the technical aspects of therapy in a garden are equally important (Majuri, 2009). HT allows practitioners to observe and monitor clients engaged in gardening. These observations can be invaluable to the overarching treatment goals within a therapeutic, hospital or rehabilitative setting. Most HT practitioners can easily keep notes of progress and sessions, including attendance and participation (Chambers, 2009). Additionally, HT is easily incorporated with other therapeutic modalities. Because it features an outdoor focus, HT aligns well with nature-based and adventure therapies. HT can also be integrated with play-therapy for children, as it offers another space for tactical exploration and creative play. The use of HT is valued for its rich source of metaphors about the process of change and healing (Lorber, 2011). HT highlights the beauty yet impermanent structure of nature. The opportunity to witness the growth and successions in the garden provides opportunities for parallel processes to occur. The experience of being in the garden had a profound bearing on both understanding of self and of the meaning of life (Sahin, Matuszczyk, Ahlborg JR. & Grahn, 2012). This richness in metaphor is a perfect fit for practitioners with a narrative and expressive approaches to therapy.

2.1.5 Garden Design

The benefits to patients of both healing gardens and accessing nature when in hospital have been well researched (Sherman, Varni, Ulrich, & Malcarne, 2005; Whitehouse, Varni, Seid, Cooper Marcus, Ensberg, Jacob, & Mehlenbeck, 2001; Ulrich & Parsons, 1992). However, there are often administrative pressures to ensure HT is financially viable and maintains a strong return for investment. This can include challenges in obtaining the space and administrative support to get the project off the ground. The funding and development of the garden is another major practical consideration. In the case of the NCCU healing garden, securing donors to fulfill the project was the most challenging aspect of the creation of this hospital garden (Carman, Hines, Koepke & Samuel, 2011). Furthermore, staff and administration must consider the ongoing garden maintenance. While HT activities will address some of the garden maintenance duties, a significant amount of time and energy will be required to keep the garden ready for HT (Taft, 2008).

Once the foundational aspects of developing an HT garden are managed, there can also be difficulties with ensuring the garden is designed in a way that maximizes the therapeutic benefits. The inclusion of therapeutic gardens in hospital settings is a worthwhile long-term investment if designed properly. When a healing garden is utilized to its fullest, there are quantifiable benefits to staff, patients and visitors such stress-reduction and increased wellbeing. Hospitals will often see a reduction in overall expenditures. Cost savings that are typically attached to the development of HT programs include reducing patient stays and pain medication requests, both of which decrease overall healthcare costs (Sherman, Varni, Ulrich &

Malcarne, 2005). Because of the significant investment of time and resources required to create HT spaces, it is important to incorporate best design practices.

The process of designing a HT garden can be complex and determining the usability of the garden can depend on several factors. Attention to design aspects of healing gardens helps to ensure the garden resource is utilized. In order to encourage patient enjoyment of a healing garden, specific design elements need to be in place. Some of these include accessibility and visibility of the garden, adequate seating and shading from the elements with an attention to comfort and separate staff and patient areas. Other studies have found that simple design elements can have bearing on the garden's appeal. The transition from indoor to outdoor space, for example, can impact a garden's usability. Features such as a variety of spacing with accessible paths and visual interest with unique flora and fauna draw patients to healing gardens (Sherman, Varni, Ulrich & Malcarne, 2005; Shukor, Stigsdotter, & Nilsson, 2012).

The design and development of the state-of-the-art Neuro Critical Care Unit at Emory University Hospital in Atlanta, Georgia, took the collaboration of a team of stakeholders. The design of healing garden was evidence-based and built on research tailored to positive patient outcomes and staff well-being. Each aspect of the garden was developed around a specific stress-causing element of being in a hospital. The garden layout and structure encouraged opportunities for socialization and choice and sought to provide access to exercise, positive distractions and nature (Carman, Hines, Koepke & Samuel, 2011).

2.3 Current Profession

Certification for counselors was first developed in the 1950s in the United States. Professional Registration in both the United States and Canada is currently voluntary. Although many organizations require Professional Registration for specific counsellor positions, this is not the norm (Keats & Laitsch, 2010). These standards put the public at risk in many circumstances, as it is left up to the public to decipher the barrage of titles and educational backgrounds of those in private practices. They must often trust that public service agencies hire practitioners with adequate training to address their needs.

One way to examine the level of professionalism within the field of counselling, and HT specifically, is to look at the level of engagement in professional tasks. Some of these aspects of professional engagement include ongoing training, professional development and awareness of current professional research. Although an important aspect of providing quality, ethical service, professional registration is not common within the HT field. As one report on the demographic and professional characteristics of HT practitioners by Larson, Greenseid and Hockeberry (2010) found, "currently, in spite of the American Horticultural Therapy Association (AHTA) accredited HT certificate programs (AHTA, 2009), empirically valid measures for training in professional competencies and the application into practice remain scarce. Professional preparation in HT is a recent development ".

The level of education standards for HT practitioners is not consistent, despite professional recommendations. In a survey conducted in 2010, 85% of AHTA members responded that they had at least a bachelor degree. Despite the

professional designation of HT, almost 6% had only a GED. Around half of respondents had a certificate in HT and were registered horticultural therapists. Somewhat disturbingly, 16% of respondents reported having received no training in HT. Despite their lack of training, almost half of those were practicing HT and one third were self-identifying by the professional title of Horticultural Therapist (Larson, Greenseid & Meyer, 2010). This is concerning because HT is often offered as a clinical therapy for people who have experienced difficult, and at times traumatic, life events. Like other therapies, there is a strong potential to do harm without appropriate education and training to contain and address these experiences. There is also the risk of poor treatment without knowledge of ethical aspects of counselling such as informed consent, confidentiality, multiple relationships and gifts. Furthermore, unlike other therapies, there is a physical component to HT that poses an added risk to clients. Spending time in gardens and engaging in a variety of physical activities could lead to physical injury, exposure to elements, infection or allergic reaction in addition to other health and safety risks not present in traditional therapy modalities. For this reason, specific training on HT is an important element of practitioner and client safety. Such training must include navigation of risk from the perspective of HT methods. Consequently, neither generalist counsellor training programs, nor informal job site training would be sufficient to address these HT-specific educational considerations.

The implications of the lack of regulation and standardization practices within the field of HT are concerning. The inconsistent standards for HT practitioner training and regulation have important consequences for protection of both

therapist and clients. The lack of regulation, understanding and transparency within the field of HT has the potential to compromise both public interest and the field itself (Larson et al, 2010). There is a need for both basic and specific HT training. Factors such as site-preparation offer unique challenges not common to other modes of therapy. For example, programs run for patients with cancer or other seriously debilitating diseases must take into consideration issues such as infection prevention for those with immune-system compromisation, increased sensitivity to elements like sun and wind, and health and safety risk such as tripping hazards. These specific risks will vary with the clientele and setting in which the HT takes place. While basic HT training should be standard for all HT practitioners, site-specific training for specific indications may also be necessary (Taft, 2008).

Unlike common documentation types for therapists, HT practitioners may have unique needs and considerations when recording session information. First, the type of information gathered by horticultural therapists may constitute more medical and rehabilitative information than a counselling therapist would collect. Functioning, progress, mobility, emotional state, physical ability are just a few of the aspects of a client's status that may be monitored. Within a hospital or long-term care facility, the notes would be shared among the health care team. This creates interesting challenges between maintaining both comprehensive care and confidentiality. Furthermore, the practice of HT may look quite different within a hospital compared to a private practice (Chambers, 2009).

2.4 Horticultural Therapy in Canada

The formal practise of HT in Canada remains a relatively new and unstructured speciality. For those seeking information on the process of practising HT in Canada, the Canadian Horticultural Therapy Association (CHTA) directs people to the Association for Graduate Career Advisory Services (AGCAS) based in the United Kingdom. The fact that the CHTA does not have their own guidelines for this is indicative of the lack of organization across the field. The CHTA (2015) recommends those practitioners interested in HT contact the AGCAS because as "much of the information in this document is pertinent to the experience of those who work in HT in Canada" (p1]). While the HT field in Canada is currently developing, there are clear gaps in the information available on the process of becoming a Horticultural Therapist.

2.5 Service Types

Therapeutic Horticulture can be beneficial in an array of settings and for a range of indications including people in hospitals, long-term care settings, with mental health concerns, for children and youth, those with dementia disorders and in corrections. The benefits of HT are not limited to a particular age or concern as HT can benefit a variety of individuals. This includes applications for people with disabilities, for students, older adults and in many health care settings (Fried & Wichrowski, 2008; Chambers, Johansson, &Walcavage, 1996 Smith &McCallion, 1997; Smith, 2014). Some health care settings that utilize HT are long term care, hospitals and mental health facilities. Despite the growth in HT services within community agencies and care-facilities, it remains seldom utilized within private

practice settings. The majority of HT practitioners work in long-term care, hospital or rehabilitation centers (Larson, Greenseid & Meyer, 2010).

2.5.1 Hospitals and Long-term Care

Hospital stays are stressful when there is a lack of autonomy or social support (Carman, Hines, Koepke & Samuel, 2011). HT offers opportunities for creative control and opportunities to socialize with others. Within hospitals, HT is often featured as a healing garden. Healing gardens are defined as outdoor spaces designated to promote wellness within a healthcare setting (Whitehouse, Varni, Seid, Cooper, Ensberg, Jacob & Mehlenbeck, 2001). They provide an opportunity for patients, friends and families to access informal and ongoing HT. Access to healing gardens has been found to benefit patient of all ages, and to be important for children staying in hospitals. Some of the benefits of healing gardens for child patients include improved mental state and reprieve from the clinical atmosphere of the hospital (Sherman, Varni, Ulrich, & Malcarne, 2005; Whitehouse, Varni, Seid, Cooper Marcus, Ensberg, Jacob, & Mehlenbeck, 2001; Pasha, 2013).

As life expectancy increases, there is a subsequent growth in people living in nursing homes. Life in residential care facilities can reduce accessibility to activities, which support positive health outcomes like physical and social activity. HT provides recreational and therapeutic gardening programs that are accessible and beneficial to residents of such centers (Yee Tse, 2010). Furthermore, HT offers opportunities for gardening that can help those living in residential care facilities increase balance, strength, motor skills and flexibility (Brown et al. 2004).

In the Glacier Hills Retirement Community Wellness Garden Program, HT programming was integrated with history lessons and walking groups. The gardens provided residents with feelings of renewed vigor, health and energy. Others believed that the gardens had sped up recovery time and imbued them a sense of freedom. The residents also described feeling of spirituality when in the garden. One participant commented, “I feel renewed and rejuvenated when I'm out there. I feel a spiritual connection with God and I feel like I am worth something” (Slavens, 2008). Staff at the center also observed that the response was increased and aggressiveness decreased after the garden was put in place.

Within a psychiatric nursing setting, HT activities have shown to benefit both the patients in the facility as well as give nursing students an avenue to develop rapport with the patients. In one such program, the structured plant or gardening activities for clients in this psychiatric hospital were guided by nursing students. The program resulted in several advantages that traditional therapies would likely not have achieved. Firstly, patients who had otherwise not been able to focus on therapeutic tasks demonstrated interest and commitment to the HT activities. The nursing students reported that the patients spoke of concerns and needs in a more open way while engaged in HT. The students were able to adapt the HT activates to the varying levels of needs, allowing for more inclusive group therapy environment (Smith, 2014).

Scheibel (1993) found that gardening and caring for plants influenced the rate at which hospital patients adjusted to their environment. For patients of a rehabilitation clinic with chronic musculoskeletal pain, the addition of HT to the

pain-management program increased the participant's physical and mental health. Furthermore, exposure to HT has shown to improve patient's abilities to cope with their pain during their hospital stay (Verra, Angst, Beck, Lehmann, & Brioschi, 2012).

2.5.2 Dementia Disorders

HT has been considered well researched for use with people who have Alzheimer's disease and other early-onset dementias. Because HT stimulates cognitive processes, it can help reduce the symptoms of these diseases. In a study by D'Andrea, Batavai & Sasson (2008), patients in a special-care unit of a long-term facility were offered HT. The study found that HT contributed to the maintenance of memory and attention span for the patients who participated. Additionally, the patients in this study showed improved cognitive functioning and wellbeing.

As a unique mode of therapy, HT offers opportunities for people to engage creatively, interact socially, stimulate senses and express self. Engaging with nature in this way has been found to relax and pacify people with dementia. There was a 19% decline in violent behavior at Alzheimer's facilities when exposure to and use of gardens were provided as a care alternative. This was compared to a 68% growth in violent outbursts in facilities without gardens (Dannenmaier, 1995).

In addition to these psychological benefits, HT physically engages people with Alzheimer's so they can improve their fine and gross motor abilities. What are known by health care services as, activities of daily living, include the ability to take care of basic personal care such as feeding and bathing oneself. These aspects of daily life are essential parts of maintaining independence. For those living in

residential facilities, HT can help extend the ability to be independent and thus enhance life satisfaction. The skills and abilities connected to gardening transfer well to managing activities of daily living. For example, HT involves planning, cleaning and maintaining a garden area, all skills that are essential to daily life. This aspect of HT also gives participants activities that involve independence and showcase strengths. This can help address the sense of loss of self that often accompanies dementia disorders and subsequent changes in abilities and lifestyle (D'Andrea, Batavai & Sasson, 2008; Relf 2007a; McDaniel, & Chaves, 2007). Moreover, it can also help reduce loneliness, which is frequently experienced by those living in residential facilities due to relational losses (Yee Tse, 2010). In this way, HT is unlike talk or expressive therapies. It is both a psychotherapeutic and a rehabilitative activity (D'Andrea, Batavai & Sasson, 2008). HT is a holistic therapy and an intervention that moves the process of healing and coping into a multifaceted realm that incorporates mind, body and spirit.

2.5.3 Children

HT is an ideal therapeutic modality for children, both in and outside of the hospital environment. HT provides an opportunity for children to engage with the natural world and participate in therapy in a hands-on way (Majuri 2009). HT has been helpful as part of the psychosocial therapy program for children undergoing treatment for haematology and oncology disorders (Fried & Wichrowski, 2008). For children, youth or people who have difficulty with communication, HT offers a non-traditional mode of therapeutic expression. HT has been used in the treatment of children with Autism Spectrum Disorder (ASD) and has been found to reduce stress

connected to communication challenges (Flick, 2012). Unlike traditional talk therapy, HT does not require adherence to typical communication as self-expression can occur through the process of designing and working on the garden. Relationships can be built around connection to nature, not only to the therapist. Being in a garden setting and working with physical materials, can help facilitate the opening process (Majuri 2009). In addition to providing therapeutic opportunities, gardening programs within schools can help develop cultures of health and connection to the earth. In addition to traditional aspect of therapy like expression of feelings and understanding of self, such programs teach children about growing healthy food and connecting with nature (Chaufan, Yeh & Sigal, 2015).

2.5.4 Correctional Centers

HT is a unique therapeutic intervention that can connect therapy with social responsibility and environmental issues. Because HT involves practising and mastering a skill, it can help build self-confidence and awareness of strengths. This type of outdoor engagement has been found to be calming, stress relieving and a way to channel negative emotions such as anger (Donnelly, 2006; Kamp, 1997). Millet (2009) argued that, for patients with fatigue, chronic fatigue and burnout, the garden environment and gardening itself provided an optimal environment for therapeutic activities geared towards vocational goals. This belief stems from research in environmental and evolutionary psychology that details the physiological responses of exposure to nature. Additionally, because HT is often facilitated in a small group environment, people who may find an indoor and more

formal therapeutic setting uncomfortable, may enjoy the ease of interacting while engaged in HT exercises (Relf 2007a, 2007b).

In a restorative justice program for juvenile offenders, HT replaced incarceration time with restorative practices. Juvenile offenders engaged in a gardening project that included growing food to donate to shelters and community agencies. Several themes arose from the study. Many of the youth developed a positive self-concept from the HT experience, seeing themselves as responsible, hard workers (Twill, Purvis, & Norris, 2011). One youth explained the benefits he noticed,

> "I learned that I am more organized. I am a good teacher and a fast learner. I realized that I am important… people looked up to me [in the garden] and that makes me feel good. I now understand how hard a worker I am. I could not see that before [working in the garden], but now I see it".

The youth in this program experienced a new sense of self and awareness of their strengths. HT offered a chance to develop practical skills in addition to the traditional benefits of therapy. Other positive reactions to the juvenile HT program included a feeling of increased ability to regulate emotions and behaviour. As one youth put it, "Gardening also helps me with my anger. I was upset yesterday because one of my friends left. So, I went out and worked in the garden and I was happier." (Twill, Purvis, & Norris, 2011). In this sense, HT was a therapeutic modality that, like play or art therapy, offered physical release of energy. The skill development

associated with HT can provide a sense of accomplishment and ability as it involves an ongoing learning process.

2.5.5 Veteran's Services

Horticultural therapy has a long history of application for treatment of veterans. In fact Helphand (2008) noted the historical role it played in both world wars, "Garden therapy was used to treat shell-shocked First World War soldiers, and horticultural therapy was first developed in US veterans' hospitals during the Second World War". Therapists have also had an important role in the development and maintenance of HT programs for Veteran's Affairs (VA) facilities. As Kirk, Karph and Carmen (2010) noted in their research on VA HT programs, "VA facilities across the country have begun to implement healing gardens. Therapists are frequently taking the lead in designing programs that use these green spaces to help veterans increase physical, cognitive, and psychosocial function" (Kirk et al, 2010). These facilities provide wide-ranging services from medical and surgical to rehabilitative.

Veteran's affairs facilities are faced with people who have a multitude of needs, including both physical and mental health concerns. HT facilities that are purposefully designed for these needs and can provide many of the healing and rehabilitative programs that veterans require. The physical aspects of HT are ideal for the rehabilitative aspects of veteran's recovery. Activities such as walking, grasping and strength building assist with the emotional and physical adaptions that are crucial to veteran's healing (Ulrich & Addoms, 1981).

One veteran's affairs HT program was The Veteran's Sanctuary, in Ithaca New York. The Veteran's Sanctuary was a non-profit veteran's garden that provided

a community garden and opportunities for writing and papermaking. The creator, Nathan Lewis, developed post-traumatic stress symptoms following his period of services. The garden integrated a food security goal with opportunities to build independence and resilience. The healing and nourishing aspect of the garden extended beyond the nutritional value of the food produced, to include addressing emotional and spiritual healing (Westlund, 2014). The engagement in the garden benefitted Lewis personally in many ways, including his sleep. He stated that "A lot of vets have trouble sleeping, and I have here and there, but if [I'm] outside with a shovel for eight to 10 hours, and especially doing it as a labour of love, I don't have trouble sleeping anymore" (Westlund, 2014).

A second example of veteran's affairs HT facility was The Miami VA Medical Center Therapeutic Horticulture Program, which featured several therapeutic gardens designed for unique purposes. One of the essential features of the gardens was the inclusion of many varied activities for patients to engage in. Some of the meaningful activities featured in the Miami VA Center garden included watching birds in the birdbath, listening to wind chimes or observing the water fountain. Additionally, there were raised garden beds for planting vegetables and opportunities to partake in landscaping duties such as sweeping or raking. Accessibility and presence of shade were important factors in the garden's design. Canopies were abundant and close to the building to provide slow transitions from indoor to outdoor light levels. The garden provided space to engage in recreational programs and games such as lawn bowling, Tai Chi and horseshoes. Through the

multitude of ways patients were able to engage, the garden addressed an array of psychosocial needs (Kirk, Karph, & Carman, 2010).

2.5.6 Mental Health Services

Some of the little research conducted has found that HT can be an effective treatment for mental health concerns such as anxiety and depression (Stepney & Davis, 2004). The lowered risk of mental health concerns has been linked to access to green space, particularly when it includes physical exercise within the green space (Annerstedt, Ostergren, Bjork, Grahn, Skarback & Wahrborg, 2012). HT has been found to initiate changes in mental health, when used as treatment with individuals who have clinical depression. Specifically, the patterns of rumination have been significantly reduced following the HT intervention (Gonzalez, Hartig, Patil, Martinsen, & Kirkevold, 2010). Part of HT's success for people with depression may be the aspect of group participation. In addition to interactions with plants and animals, participants of HT will often engage with each other in collaborative and cooperative ways. Group cohesiveness has been shown to increase the positive mental health outcomes from group HT sessions (Gonzales, Hartig, Patil, Martinsen, & Kirkevold 2011).

Gardening practices have also been connected to levels of depression for people with disabilities. Participants in a HT study who had gardened within the last year had the lowest depression symptoms (Wilson & Christensen 2011). HT has been indicated as a helpful adjunct to traditional approaches to working with Posttraumatic stress responses. It is thought to help establish a grounding influence, as well as offer a calming activity during exploration of trauma experiences. Despite

the long-term use of HT as a mental health treatment, there is not an abundance of research to support this use.

The Sunflowers Project was a gardening group set up for people with mental health issues. The garden was developed and run by both residence and staff. There were significant benefits to the residents that covered many aspects of psychosocial experiences. One resident commented on how the garden helped her find a way to enjoy the outdoors again, "I have never done much gardening myself before, and for me it was a new interest. Something different to enjoy. I love being out in the fresh air, because it had been such a long time since I had been able to do that" (Parker, 2004). Despite the fact that this resident had never engaged in gardening before, the HT program was accessible and beneficial to her. Other noted benefits of the garden included increased self-expression, creativity, stimulation, calming and a sense of achievement (Parker, 2004).

One participant in a Swedish therapeutic gardening program for people who were experiencing stress-related mental disorders commented, "I love this program, I think it's exceptionally good and there are moments during my time here when, all of a sudden, I've found that I'm in the present moment, when I've been in nature and so on" (Sahin, Matuszczyk, Ahlborg JR. & Grahn, 2012). Another theme that emerged from this study was the connection to symbolism and spirituality that many participants uncovered. As one participant reflected, "When I came here and one's outdoors, well everything takes its own time, here and now, and we can't change that. So you can say that that's what nature teaches us. For example, when we're standing here thinning out the seedlings and plants it's impossible to do several

things at the same time. And you have to be careful of the little plant that has to be replanted so that it has the strength to keep on growing" (Sahin, Matuszczyk, Ahlborg JR. & Grahn, 2012).

2.6 The Present Research

Research on HT programs has found that there is a lack of standardization across service-providers and clinicians. To gain further understanding on the state of HT programs in Canada, the present study analyzed available content regarding Canadian HT practitioner education levels and services provided by HT programs. The purpose of this study was to gain insight into the practise of horticulture therapy and explore potential trends and patterns within this field. Secondly, this study sought to uncover some of the services offered by Canadian horticultural therapy programs and practitioners.

2.6.1 Study Purpose

The purpose of this study was to examine the content of the Canadian Horticultural Therapy Programs as they existed at the time of the study. Given the growth of the field of HT and the noted lack of regulation of the field, this study aimed to explore the level of education and status of professional registration of the HT practitioners, and the services provided by each organization. This exploratory study sought to learn more about the types of therapy and HT services being offered, and levels of HT practitioner education or training.

3. CHAPTER THREE: METHODOLOGY

Data were secondarily searched and extricated from the websites of nine Canadian counselling programs or practitioners that offered HT services. Only nine websites that fit the criteria of providing HT services were found. The criteria were designated in order to differentiate between self-contained HT services and HT services offered through recreation centers or other secondary agencies. The information found on recreation center websites was too limited and disorganized to be included in this study. An Internet, web-based content analysis of webpages that offer horticulture therapy programs in Canada was conducted. This included the websites of therapeutic service centers and private practitioners that specialized in horticultural therapy as well as other modes of therapy. The criteria included those organization or practitioner websites whose main focus was HT. The main criteria for exclusion of websites was whether or not the organization was centered on HT services, rather than including HT as one types of programming among many others. Omitted were websites that featured HT as an editorial topic or as a featured programing opportunity. This included hospitals, senior's care centers and other health care providers that offered one-time HT programming. It also excluded those websites that featured educational opportunities in HT, in addition to other educational programs, such as colleges and university programs. However, the analysis did incorporate websites that offered other modes of therapy in addition to horticultural therapy. These websites were included because they are technically HT service providers regardless of whether that is the primary service offered. The website of the Canadian governing body for HT, the Canadian Horticultural Therapy

Association, was also included in the analysis. The date and time during which the content was accessed was recorded separately, but all data were gathered within a three-week period of time during the month of March, 2015.

The search was conducted in a systematic, geographical method. HT programs within each Canadian province, starting with British Columbia and moving east were examined. Each search term included the search phrase, plus the addition of the province name, ie, 'Horticultural Therapy British Columbia'. The included information within each website, was that which detailed the services offered by the practitioner or program, as well their level of education. Some of the tabs included those named 'About Us', 'Home', 'Staff' and 'Services'. The analysis did not look at other webpage tabs such as 'Links', 'Resources', 'Information', 'Research' or 'Contact'.

The content scan was centered on information pertaining to services offered and practitioner education level. The scan included words that related to education levels, including 'diploma', 'certificate' etcetera. Also included in this category was the number of times the phrase 'professional registration' was mentioned. The scan for services included words that fit within a pre-established standard set of services typically offered by HT practitioners and programs, for example, 'workshops' and 'consulting'. In addition to the range of service-related content that was counted, so was the number of times that the analysed websites mentioned diversity within the three included types of webpage tabs. The diversity category include synonym words and phrases of diversity including, words like 'accessible' and inclusive'. The searches were all conducted using the 'Google' search platform. Because this is a

relatively small field, all of the web-based material available on horticultural therapy facilities in Canada was selected for inclusion. The material was analysed and classified according to the categories of education level and service type. A conceptual analysis method was used to analyze data. Once the topics for analysis were chosen, they were quantified and tallied to determine frequencies ("Content Analysis", 2011).

3.1 Limitations

The most significant limitation of this study is the nature of online image management. When content is presented online it is done so with a goal in mind and with attention to what include and what to leave out. Without a two-way conversation with HT practitioners it is impossible to know what information is being included and excluded from the websites, and for what purpose. While many practitioners do mention there education level and experience within their professional website, information that is not on the website cannot be considered nonexistent. Rather, we have to assume it is possible, unless stated otherwise.

The nature of the present research design allowed for an exploratory and descriptive study on the field of HT in Canada, an area that has been little explored. Because the content design included only written data, there were several limitations to the scope of the present study. Firstly, the present study design chose not to include participants, which prevented an analysis of programs without websites. There is a possibility that the content themes found in this study may not have existed across other Canadian HT programs. The present study also included only websites of HT programs and did not include webpages of HT programs offered

by hospitals, schools, resident care facilities or other agencies because the little information found on webpages was limited and disorganized. There was no clear information provided about practitioners, location or services offered on such webpages, as they were only brief advertisements for programs with program registration information. This may have removed from consideration a large subset of the HT practitioners who practice within service agencies as contractors. Practitioners who did not have a business website were also excluded by virtue of the study design. Lastly, because this study only examined nine websites of HT programs in Canada, it is difficult to establish whether the themes represent standards that exist across all programs.

Furthermore, the present study conducted a content analysis of specific, preselected words. This design feature limits the scope of examination and prevents unforeseen content from being included in the study. The results explore only the amount of times certain words were mentioned but not the context around this frequency. The terms were chosen because they connected to what were considered important areas of practice in this field: practitioner education, scope of services and clientele. These terms were believed to be loosely connected to these broad themes, considered central in current HT practise. The nature of a content analysis prevented this study from making causal inferences. Therefore, the results must be viewed only as a source of information about the magnitude of certain themes in the text and not be used to describe relationships.

4. CHAPTER FOUR: RESULTS AND DISCUSSION

Nine websites were included in this study. While there were many Canadian service providers that featured one-time HT programming, such as recreation centers, there were few HT-specific programs with websites. For this reason, the present study was able to include all of the HT programs with websites in Canada. Of the nine websites included, the majority (six) were based out of Ontario. The remaining three were based out of British Columbia.

4.1 Services

The second characteristic of the HT program websites that was explored in the present study was the type and number of services mentioned (see Table 1). The range of services stated on HT program websites included consulting, teaching and workshops. This study did not count the number of times the word therapy was mentioned. Content analyses of HT websites found that Workshops were the most frequently mentioned service offered on websites. This suggests that there is a focus on providing HT services in a group process format. This is in accordance with research that has found HT is an ideal therapeutic modality for group work (Gonzales et al, 2011). Secondly, this may be evidence that, aside from standard one-on-one therapeutic work, practice-based services were the primary goal of the HT programs.

The second most common service mentioned on the websites was teaching. The specifics of the education provided by HT practitioners and programs were not described by this study. However, it was most probable that any educational or teaching services provided by the HT programs would not exceed the certificate

level, as none were primary educational institutions. These results suggest that individuals with no specific or formal training in HT were teaching other professionals in the field. This may be problematic as generalist knowledge of counselling does not cover the wide ranging considerations that HT professionals must include in maintain a safe and effective practice.

Websites that mentioned professional registration were also more likely to mention consulting and teaching as services provided. This result implies that the HT programs that were providing educational and consultative services also included professional registration in their program dialogue.

The least often mentioned service on the HT websites was consulting. Consulting within a counselling context was defined by Reynolds, Gutkin, Elliott and Witt (1984) as treatment that may include, "an ecological plan, involving the environment, the perceptions of the client, and the effect of any change in the client's behavior on others as well as on the client". By this definition, consultation would be especially relevant to horticultural therapists as much of the therapy centers on the design and plan of the garden environment. While consulting is not currently a standard aspect of the generalist counsellor role, it was mentioned on over half of the websites studied. Consulting was referred to only once, however, on four out of the five websites on which it was mentioned. Consulting is a service provided by Canadian HT programs, however other services, such as workshops, which were mentioned more frequently, on more websites.

4.2 Education

All of the websites selected referred to one form of education at least once, with three websites mentioning education types more than once. In line with research from the AHTA that found HT training programs are often offered in certificate form ("Education for Horticultural Therapists", 2015), the present research found that certificates were the most common form of education type mentioned. Certificates were mentioned once, 33.3% of the time. Despite this, almost half of the websites did not mention certificates within the website's 'education' tabs. This suggests that just under half of the programs and practitioners included in the study did not have a certificate specific to HT or simply did not mention it if they did. Five of the websites mentioned an educational status higher than the certificate level (Diploma, Bachelor degree or Master's degree). However, the certificate level was mentioned with a higher frequency than any other educational level.

These results suggested that certificates were not only the more frequent level of education held by HT practitioners in Canada, but that more importance was placed on this type of education. For example, certificates were referred to multiple times on several websites. Those practitioners who had either a bachelor or master's degree often displayed it after their name, rather than detailing the degree. The certificates were also more directly connected to HT, whereas higher levels of education were more general. This may shed light on a trend in the field to obtain post-secondary education in an unrelated field prior to completing a certificate in HT and would make sense given the lack of educational options for those wishing to

practice HT in Canada. However, it is impossible to determine the cause of the present result with the current study design. Further research utilizing a direct survey design to explore this question is needed in order to uncover why the certificate approach is most common. Of the two people who did hold a Master's degree, one was connected to HT. The practitioner with the Master's degree in HT was from the Catkin Garden's website and described herself as one of two Master's level horticultural therapists in Canada. Although the University where Kent completed her degree is not stated on her website, as there are currently no options for those looking to undertake a Master's degree in HT in Canada, it is believed that it was obtained outside Canada. There was one practitioner who held a Bachelor degree in agriculture.

Both Clinical Counsellors with Master's degrees and Registered Psychologists holding PhDs were engaged in providing Counselling and Psychotherapy in Canada currently. In addition, there are unregulated practitioners who hold neither. Furthermore, the present study found that professional registration was mentioned at least once on over half the websites. It was cited a maximum of four times by one website. This result was contrary to the current research on level of regulation in the field. There is a high rate of unregulated counsellors in the fields of counselling and psychotherapy within US and Canada and the numbers of unregistered counsellors surpass those who are registered (Keats & Laitsch, 2010). While professional registration was mentioned several times, this study could not detail the context within which it appeared. However, even the frequent mentioning of the term implies that it is a part of the HT current dialogue.

4.3 Diversity and Inclusion

Lastly, diversity and inclusion was one aspect of services that stood out as an important theme on all the websites. Of all the counted themes in both education and service type, diversity was mentioned the most in a single website (14 times). It was referred to on all but two websites, and had a higher frequency count than any other term counted in this study. This result points to a unique aspect of the HT field that focuses on accessible services for a broad range of ages and abilities. As mentioned in the introduction, HT as a hybrid therapy has benefits for physical, cognitive and emotional wellbeing. This result showcased the uniqueness of HT, as it suggested that the programs included in this study had placed an emphasis on the ideals of diversity and inclusion.

4.4 Conclusion

Given the lack of regulation of the field of counselling and psychotherapy in Canada, the present results were not surprising. Although the education levels mentioned most often on the HT websites (certificates) appeared to communicate a lower academic and professional standard in the field, there also appeared to be an importance placed on professional registration.

Websites that mentioned certificates referenced them many times as compared to all other types of education which were only referenced a maximum of two times. This might point to the fact that practitioners without Bachelor or Master's level education had multiple certificates. In fact, of the certificates that were mentioned, all but one was related to agriculture, horticulture or HT. It also may relate to the fact that HT education has not been standardized across Canada.

While there are a few diploma programs that specifically instruct on HT, there were no HT bachelor's or master's degree programs offered in Canada at the time of the study. Another possible reason for this could include the style in which practitioners displayed their education level. For example, HT being a practical and not academic aspect of practice, therapists may prefer to appeal to a broad base of clientele with simple explanation of services and education rather than including a long list of degrees to represent their academic history.

Consulting is a service provided by Canadian HT programs, it is less important than other services provided, such as workshops, which were mentioned more frequently, on more websites. This result implies that the HT programs that were providing educational and consultative services also included professional registration in their program dialogue. This would align with the results found in this study that noted the most common level of education held by HT practitioners was at the certificate level. This also provides important information on the role HT practitioners were taking as educators in the field. Given the lack of accredited HT diploma or degree programs nationally, it would fit that HT practitioners have provided one avenue for HT-specific education. This is a common occurrence in developing fields such as HT.

Horticultural Therapy has many positive implications for several aspects of health and wellbeing. The potential benefits include areas of mental health, dementia related diseases, children, in hospitals, for veterans and in correctional facilities. HT also has deep roots in societal and cultural connections to gardening. Gardening has long been a part of ritual and community building.

Despite the fact that HT has been part of the therapeutic landscape for over forty years, there remains a lack of standardization across the field (Larson et al, 2010). This is partially due to a void in the research about how HT is being implemented by various programs, practitioners and service agencies.

This study sought to illuminate some of the trends that existed among programs and practitioners with a focus on HT and to shed light on the commonalities between each. The goal of this research was to provide insight into the practice of horticulture therapy in Canada and examine trends, patterns and themes around practitioner education and services offered. This study, limited to written text, provided a jumping off point for future research. It is the my hope that this study will also point to the extensive need for further research on the practise of HT in order that it become a regulated profession in Canada. Continued study in this area could also explore the barriers specific to HT that stand in the way of regulation. Furthermore, research that explored the consequences and risks of unstandardized practise of HT, through more qualitative feedback, surveys or experimental research would be ideal. This dialogue would provide context around the choices made by practitioners on their websites and detail any discrepancies between the online content and reality.

While the field of counselling continues to grow and expand, HT is still a developing approach. It has great potential for providing alternative means of working with clients in vast array of settings. Through further structuring and developing of the field, HT can hopefully move towards becoming a regulated part of the counselling and therapy milieu in Canada.

References

Annerstedt, M., Ostergren, P., Bjork, J., Grahn, P., Skarback, E. & Wahrborg, P. (2012). Green qualities in the neighborhood and mental health – results from a longitudinal cohort study in Southern Sweden. *BMC Public Health, 12,* 1471-2458.

Bailey, Ian, and Brent Jang. "B.C. Supreme Court Sides with CP in Battle over Arbutus Corridor." The Globe and Mail. Phillip Crawley, 20 Jan. 2015. Web. 20 Sept. 2015.

Basker, L. (2009). Nature's pervading influence: A therapy of growth *International Journal of Disability, Development and Education, 56(1)*, 93–96.

Berbrier, M. (2012). The peace path of the Cleveland Cultural Gardens: Making place for cultures of peace. *Peace and Change, 37(3),* 412-444.

Bhatti, M. & Church, A. (2004). Home, the culture of nature and meaning of gardens in late modernity. *Housing Studies, 19(1),* 37-51.

Bhatti, M., Church, A., Claremont, A. & Stenner, P. (2009). 'I love being in the garden': Enchanting encounters in everyday life. *Social and Cultural Geography, 10(1),* 61-78.

Brown VM, Allen AC, Dwozan M, Mercer I & Warren K (2004). Indoor gardening and older adults: effects on socialization, activities of daily living and loneliness. *Journal of Gerontological Nursing 30,* 34–42.

Burdette, H. L., & Whitaker, R. L. (2005). *Resurrecting free play in young children: Looking beyond fitness and fatness to attention, affilia- tion and affect*. Chicago: American Medical Association.

Canadian Horticulture Therapy Association. (ND). About horticultural therapy and Therapeutic Horticulture. Retrieved from http://www.chta.ca/about_ht.htm.

Canadian Horticulture Therapy Association. (ND). Business and institutional members of the CHTA. Retrieved from http://www.chta.ca/links-business.htm.

Carman, J., Hines, K., Koepke, M. & Samuel, O. (2011). Development of the Neuro Critical Care Unit garden and Emory University Hospital. *Journal of Therapeutic Horticulture, 21 (1),* 31-42.

Chambers, N. (2009). A model for Horticultural Therapy documentation in a clinical setting. *Journal of Therapeutic Horticulture, 19, 54-65.*

Chaufan, C., Yeh, J. & Sigal, B. (2015). Advancing family health through the garden of eatin': On site food gardens in early childhood education. *American Journal of Public Health, 105(4),* 625-630.

Content Analysis. (2011). Instructional Assessment Resources. Retrieved from https://www.utexas.edu/academic/ctl/assessment/iar/research/plan/method/content.php.

D'Andrea, S. J., Batavai, M. & Sasson, N. (2008). Effect of Horticultural Therapy on preventing the decline of mental abilities of patients with Alzheimer's type dementia. *Journal of Therapeutic Horticultural, 18,* 8-19.

Dannenmaier, M. (1995). Healing gardens. *Landscape Architecture Magazine 85(1),* 56-79.

Donnelly, G. F. (2006). Therapeutic gardening. Holistic Nursing Practice, 20, 261.

Fried, G. G. & Wichrowski, M. J. (2008). Horticultural therapy: A psychosocial treatment option at the Stephen D. Hassenfeid Children's Center for Cancer and Blood Disorders*. Primary Psychiatry, 15(7),* 73-77.

Education for Horticultural Therapists. (2015). Retrieved from http://ahta.org/education.

Fleming, L. F. & Dutrizac, G. J. (2010). Fertile Soil for the Practice of Horticultural Therapy. Journal of therapeutic horticulture, 20, 55-68.

Flick, K. M. (2012). The application of a horticultural therapy program for preschool children with Autism. *Journal of Therapeutic Horticulture, 22,* 39-48.

Gonzales, M. T., Hartig, T., Patil, G. G., Martinsen, E. W. & Kirkevold, M. (2011). A prospective study of group cohesiveness in therapeutic horticulture for clinical depression. *International Journal of Mental health Nursing, 20,* 119-129.

Gonzalez, M. T., Hartig, T., Patil, G. G., Martinsen, E. W. & Kirkevold, M. (2010) Therapeutic horticulture in clinical depression: a prospective study of active components. *Journal of Advanced Nursing 66(9),* 2002–2013.

GrowthPoint (1999). Your future starts here: Practitioners determine the way ahead. *GrowthPoint, 79,* 4–5.

Helphand, K. (2008). *Defiant Gardens: Making Gardens in Wartime*. San Antonio, Texas: Trinity University Press.

Keats, P. A. & Laitsch, D. (2010). Contemplating regulation of counselors in Canadian schools: Current issues and concerns. *Canadian Journal of Educational Administration and Policy, 108,* 1-33.

Kirk, A. P., Karph, A. & Carman, J. (2010). Therapeutic garden design and veterans affairs: Preparing for future needs. *Journal of Therapeutic Horticulture, 20,* 66-78.

Larson, J. M., Greenseid, L. & Meyer, M. H. (2010). A descriptive study of the training and practice of American horticultural therapy association members. *Journal of Therapeutic Horticulture,* 20, 9-34.

Lewis, C. (1996). *Green nature/human nature: The meaning of plants in our lives*. Urbana, IL: University of Illinois Press.

Lorber, H. Z. (2011). The use of horticulture in the treatment of Post-Traumatic Stress Disorder in a private practice setting. *Journal of Therapeutic Horticulture, 19,* 18-31.

Louv, R. (2008). *Last child in the woods: Saving our children from nature- deficit disorder*. Chapel Hill, NC: Algonquin Books.

Majuri, C., E. (2009). Upon reflection: A theoretical perspective for using Horticultural Therapy with children. *Journal of Horticultural Therapy, 21,* 65-70.

McIlvaine-Newsad, H. &Porter, R. (2013). How does your garden grow? Environmental justice aspects of community gardens. *Journal of Ecological Anthropology, 16(1),* 69-77.

Millet, P. (2009).Integrating horticulture into the vocational rehabilitation process of individuals with fatigue, chronic fatigue and burnout: A theoretical model. *Journal of Therapeutic Horticulture, 19,* 11-25.

Parker, S. (2004). Grassroots healing. *Mental Health Practice, 7(8),* 20-24.

Pasha, S. (2013). Barriers to garden visitation in children's hospitals. *Health Environments Research and Design Journal, 6(4),* 76-96.

Pfeffer, J. C., Deyton, D. E. & Fly, M. J. (2009). Survey of horticultural therapy programs in Tennessee. *Journal of Therapeutic Horticulture, 15,* 25-47.

Sahin, E., Matuszczyk, J. V., Ahlborg JR., G. & Grahn, P. (2012). How do participants in nature-based therapy experience and evaluate their rehabilitation? *Journal of Therapeutic Horticulture, 22,* 8-24.

Relf, D. (2007a). Horticulture: A therapeutic tool. *Journal of Rehabilitation, 1*, 27–29.

Relf, D. (2007b). Dynamics of horticultural therapy. *Rehabilitation Literature, 5–6,* 147–150.

Sherman, S., Varni, J. W., Ulrich, R. S., & Malcarne, V. (2005). Post-occupancy evaluation of healing gardens in a pediatric cancer center. *Landscape and Urban Planning, 73(2-3),* 167–183.

Shukor, S. F. A., Stigsdotter, U. & Nilsson, K. (2012). A review of design recommendations for outdoor areas at healthcare facilities. *Journal of Therapeutic Horticulture, 22(2),* 32-49.

Sempik J., Aldrige J. & Becker S. (2003) Social and Therapeutic Horticulture: Evidence and Messages from Research. Thrive and Centre for Child and Family Research, Loughborough University, Loughborough, UK.

Slavens, S. P. (2008). The psychosocial benefits of exposure to natural settings in long-term care: An evaluation of the Wellness Garden Program at Glacier Hills Retirement Community. *Journal of Therapeutic Horticulture, 18,* 32-45.

Smith, D. J. (2014). Horticultural therapy: The garden benefits everyone. *Proquest,* 1-14.

Stepney, P. & Davis, P. (2004). Mental health, social inclusion and the green agenda: An evaluation of a land based rehabilitation project designed to promote occupational access and inclusion of service users in North Somerset, UK. *Social Work in Health Care, 39 (3-4),* 375–397.

Taft, S. B. (2008). The use of therapeutic horticulture in cancer support. *Journal of Therapeutic Horticulture, 18,* 45-60.

Tamura, A. H. (2004). Gardens below the watchtower: Gardens and meaning in World War II Japanese American incarceration camps. *Journal of the California Garden and Landscape History Society, 11(4),* 1-14.

Twill, S. E., Purvis, T. & Norris, M. (2011). Weeds and seeds: Reflections from a gardening project for juvenile offenders. *Journal of Therapeutic Horticulture, 19,* 6-19.

Twiss, J., Dickinson, J., Duma, S., Kleinman, T., Paulsen H. & Rilveria, L. (2003). Community gardens, lessons learned from California healthy cities and communities. *American Journal of Public Health, 93(9),* 1435-1440.

Ulrich, R.S. & Addoms, D.L. (1981). Psychological and recreational benefits of a residential park. *Journal of Leisure Research 13*, 43-65.

Ulrich, R.S. (1984). View through a window may influence recovery from surgery. *Science 224,* 420-421.

Ulrich, R. (1999). *Healing gardens: Therapeutic benefits and design recommendations.* New York, NY: John Wiley & Sons, Inc.

Ulrich, R.S. & Parsons, R. (1992). Influences of passive experiences with plants on individual well-being and health. *The role of horticulture in human well-being and social development: A national symposium.* Portland, OR: Timber Press.

Verra, M. L., Angst, F., Beck, T., Lehmann, S. & Brioschi, R. (2012). Horticultural Therapy for patients with chronic musculoskeletal pain: Results of a pilots study. *Alternative Therapies, 18(2),* 44-52.

Wells, N. M. (2000). At home with nature: Effects of "greenness" on children's cognitive function. *Environment and Behavior*, *32*(6), 775–795.

Westlund, S. (2014). Making contact: A veteran-led green care movement could pull post-traumatic stress out of the trenches. *Alternatives Journal, 40(2),* 46-52.

Whitehouse, S., Varni, J. W., Seid, M., Cooper, M. C., Ensberg, M., Jacob, J., & Mehlenbeck, R. S. (2001). Evaluating a children's hospital garden environment utilization and consumer satisfaction. Journal of Environmental Psychology, 21, 301–314.

Wilson, E.O. (1984). *Biophilia: The human bond with other species*. Cambridge, MA: Harvard University Press.

Wilson, J. F. & Christensen, K. M. (2011). The relationship between gardening and depression among individuals with disabilities. *Journal of Therapeutic Horticulture, 19,* 28-43.

Yee Tse, M. M. (2010). Therapeutic effects of an indoor gardening programme for older people living in nursing homes. *Journal of Clinical Nursing, 19,* 949-958.