

ECO-ART THERAPY AND YOUTH LONELINESS IN A DIGITAL AGE

RACHEL POCHAT SELBY

A Research Paper

in

The Department

of

Creative Arts Therapies

Presented in Partial Fulfillment of the Requirements

for the Degree of Master of Arts

Concordia University

Montreal, Quebec, Canada

APRIL 2021

© RACHEL POCHAT SELBY 2021

**CONCORDIA UNIVERSITY**

School of Graduate Studies

This research paper prepared

By: Rachel Pochat Selby

Entitled: Eco-Art Therapy and Youth Loneliness in a Digital Age

and submitted in partial fulfillment of the requirements for the degree of

**Master of Arts (Creative Arts Therapies; Art Therapy Option)**

complies with the regulations of the University and meets the accepted standards with respect to originality and quality as approved by the research advisor.

Research Advisor:

Reyhane Namdari, MA, RP(CRPO)

Department Chair:

Guyllaine Vaillancourt, Ph.D., MTA

April 1<sup>st</sup>, 2021

## **ABSTRACT**

### **ECO-ART THERAPY AND YOUTH LONELINESS IN A DIGITAL AGE**

**RACHEL POCHAT SELBY**

This philosophical inquiry explores the use of eco-art therapy to address loneliness in youth living in a world flooded with digital technology. The purpose of this research is to better understand the issue and explore how eco-art therapy can address it. The literature on eco-art therapy and youth loneliness in our day and age is analyzed, synthesized, and woven together with concepts that relate these two major themes. This is done to establish the argument that eco-art therapy could be a promising approach to working with youth who have grown up in a digital age and who are suffering from the adverse effects of loneliness. In an increasingly virtual world in which youth are more digitally literate than ever before, it is important to consider the potential benefits of nature in counteracting the adverse effects of loneliness within the context of rapidly evolving digital technologies.

Keywords: Art therapy, eco-art therapy, digital natives, technology, nature, loneliness

## ACKNOWLEDGEMENTS

I would like to start by thanking all my professors, supervisors, and classmates in the Creative Arts Therapies Department at Concordia University for their support and inspiration. Special thanks to Reyhane Namdari, my research advisor, who supported me throughout the process of writing my research paper, as well as my professors Bonnie Harnden, Janis Timm-Bottos and Satoshi Ikeda, who motivated my research topic.

A big thank you to Catherine Wells, my practicum supervisor from the Pointe-Saint-Charles Art School, for her support and encouragement throughout my studies.

Thank you to my friends and family, who have always supported me in pursuing my dreams and who have shown me the power of both art and nature.

I also want to acknowledge the beloved land that I grew up on, which is part of the traditional unceded territory of the Wabanaki people. I moved to the city to pursue my studies, so I would also like to acknowledge my privileged position in studying at Concordia University, which is located on unceded Indigenous lands in the traditional territory of the Kanien'kehá:ka people.

## Table of Contents

Chapter 1. Introduction.....	1
Chapter 2. Literature Review.....	1
Loneliness.....	2
Digital Natives and Loneliness .....	6
Art Therapy and loneliness.....	8
Eco-Art Therapy.....	10
Chapter 3. Research Questions.....	13
Chapter 4. Methodology.....	13
Theoretical Research.....	13
Philosophical Inquiry .....	14
The Rationale.....	14
Ethical Considerations .....	15
Data Collection .....	16
Chapter 5. Discussion.....	17
Filling Gaps in Literature... ..	18
The Argument.....	20
Implications and limitations.....	23
Recommendations for Future Research.....	23
Chapter 6. Conclusion.....	24
References.....	26

## **Chapter 1. Introduction**

In recent years, the issue of loneliness has attracted the attention of clinicians, researchers, policymakers, and the public (DiJulio, 2018). Novotney (2020) contends that there has been a general increase in loneliness, which is concerning due to the serious health risks associated with loneliness. According to Gentina and Chen (2019), youth loneliness is on the rise, and nowadays a vast majority of youth who have grown up with access to digital technology constantly feel lonely. There appears to be a link between the rapid evolution of technology and the recent rise in loneliness since the generation who grew up with technology rate the highest in loneliness (Twenge, 2017). Furthermore, it seems we have become increasingly disconnected from the natural world through our use of technology (Ives et al., 2018). Eco-art therapy could help us feel more connected to a greater whole (Atkins & Snyder, 2018). This connection could provide a sense of belonging, which could mitigate the adverse effects of loneliness (Speert, 2016). These topics are explored through philosophical inquiry presented via this research paper, which is structured as follows: a review of literature investigates loneliness, its prevalence in youth, its connection to digital technology, as well as eco-art therapy and its benefits. This review then weaves these concepts together to help fill the gap in the literature between them, which leads to the research questions. These sections are followed by a description of the methodology used and a discussion on the meaning of the data collected. A synthesis of the research concludes this paper.

## **Chapter 2. Literature Review**

One of the objectives of this research paper is to gain a better understanding of contemporary youth's loneliness and the potential of eco-art therapy to address it. This review begins by defining loneliness, exploring loneliness in youth today, and examining whether there is a connection between this issue and digital technology. It then investigates the potential of eco-art therapy to address loneliness, especially for youth nowadays, by defining eco-art therapy and identifying the various aspects of its theoretical and practical implications. Data is collected through the process of reviewing the literature on each topic, and connections are formed to bridge the gaps in the literature between them. This bridging serves to support or rethink the argument that eco-art therapy could be a way to address the current loneliness in youth as well as inform future research needed on the subject.

## **Loneliness**

### ***Defining Loneliness***

According to Hawkley and Capitanio (2015), loneliness is a person's subjective perception of social isolation. They explain that social isolation is an objective condition, whereas "perceived social isolation, colloquially known as loneliness" (p.1) is a subjective experience. They go on to describe loneliness as the result of a discrepancy between the social needs of a person and what their social environment offers. This discrepancy can be viewed as both quantitative and qualitative, the qualitative aspect having more influence on the experience of loneliness. Although in quantitative terms, an insufficient number of relationships may lead to loneliness, in qualitative terms, relationships, regardless of their number, may not result in a sense of connectedness or belonging that people need in order to flourish. Similarly, Wang et al. (2017) explain that "Loneliness is a painful subjective emotional state occurring when there is a discrepancy between desired and achieved patterns of social interaction" (p.1453).

### ***Loneliness from an Evolutionary Perspective***

Although loneliness may be experienced as painful, other authors nonetheless claim that it serves an evolutionary purpose. For instance, Hawkley and Capitanio (2015) explain that loneliness evolved as a survival trait. Over time, it has been easier for humans to survive as a group, and loneliness serves to motivate connections with others. Infants need parents to survive, and this relationship is crucial to their early development, but this is the first of many relationships that form at different life stages and which affect how we view the world relationally.

Social species such as humans have evolved both biologically and behaviorally to promote survival and ensure descendants (Cacioppo et al., 2011). According to Cacioppo et al. (2011), loneliness due to social isolation enhances sensitivity to threats, activating a stress response, which stimulates connection-seeking. However, they explain that this stress response includes potentially harmful physiological reactions that include, among others, increased activation of the sympathetic nervous system. Although loneliness has evolved to promote connection-seeking, its ensuing stress responses can have harmful and even devastating health effects (Cacioppo et al., 2011).

## ***The Risks of Loneliness***

There is a growing concern about loneliness among researchers and clinicians (Wang et al., 2017). This worry is due to its increasing prevalence and the serious mental and physical health risks associated with it (Novotney, 2020). Social isolation results in loneliness and can contribute to anxiety, depression, and psychological distress (Ranjan & Yadav, 2019), as well as “poor sleep quality, impaired executive function, accelerated cognitive decline, poor cardiovascular function and impaired immunity at every stage of life” (Novotney, 2020, para. 1).

Wang et al., (2017) explain that practitioners and policymakers increasingly recognize the role that a person’s social world plays in their mental health and wellbeing. Williams and Braun (2019) argue that loneliness and social isolation are personal problems that should be a matter of public concern since they have devastating effects on individuals and society. Novotney (2020) explains that the harmful effect of social isolation is clear, but the steps to combating it are less obvious and that efforts can start by helping children understand that being alone and feeling lonely are not synonymous. Loneliness is clearly an important issue that demands action (DiJulio et al., 2018; Novotney, 2020; Wang et al., 2017).

## ***Youth, Loneliness, and the COVID-19 Pandemic***

Bonetti, Campbell and Gilmore (2010) explain that the period of youth, especially between adolescence and adulthood, is a point when social schemes shift from a belief system constructed by the familial system to a new structure that puts more emphasis on peer relationships. Youth’s identity is forming at this point, and reconciling with this shift can trigger loneliness.

During these formative years, loneliness can have devastating consequences that could affect the rest of these youths’ lives. The resulting mental health issues, including social anxiety and depression, can lead to the externalization of “problem behaviours such as dropping out of school, alcoholism, drug usage, aggression, delinquency, obesity and even suicide” (Bonetti, Campbell & Gilmore, 2010, p.10). Awareness of the dynamics surrounding youth loneliness is an important step toward preventing harmful long-term individual and collective consequences.

The topic of loneliness and its potential long-term effects on individuals and society is of particular concern in the context of the COVID-19 pandemic. Miller (2020) explains that the



need for physical and social distancing during this pandemic has resulted in social isolation, which leads to loneliness, and an increase in loneliness has adverse impacts on psychosocial well being. Wang et al., (2021) further explain that loneliness is a widespread issue with serious social implications and that the COVID-19 pandemic has exacerbated it by making loneliness more prominent.

This notion is supported by Tso & Park (2020) in a study they conducted of public health measures in Hong Kong during the COVID-19 pandemic and their impact on mental health. The researchers found that a subjective sense of loneliness triggered severe mental health issues in the population. They stress that “To mitigate the potential epidemic of mental illness in the near future, there is an urgent need to prepare clinicians, caregivers and stakeholders to focus on loneliness” (p.5). Knopf (2020) also argues that, in the context of the pandemic, the longer youth are isolated, the greater the risk they have of developing mental health issues related to social isolation and that clinicians should prepare for an increase in demand and need for services. According to Knopf (2020) “prevention and intervention approaches should be an international priority” (p.4).

On another note, Fernandes, et al. (2020) found that the pandemic has affected both the internet usage and psychosocial well-being of adolescents, with an increase in loneliness being one of the outcomes. They explain that this highlights the need to consider and act on “maladaptive coping strategies” (p.51) that these youths are forming due to the distress caused by the pandemic. Miller (2020) explains that as a result of the COVID-19 pandemic, there is an increased need to implement effective offline techniques to combat the emerging crisis of loneliness. He suggests increasing “self-reflection and acceptance” (p.2). On the other hand, Knopf (2020) proposes “practical and psychological strategies that may help promote child and adolescent mental health in the context of involuntary social isolation” (p.2). These strategies include finding ways for them to feel a sense of belonging within their systems while providing information on computerized therapy, self-help services, and the risks and benefits of networking online.

This interest in the risks and benefits of online networking has been brought to the forefront of the conversation during the pandemic. The increased dependence on this technology as a form of communication during a time when in-person contact is restricted due to social

distancing measures has brought up questions about the positive and negative aspects of the virtual world – a virtual world that many cannot remember living without.

### ***Digital Technology and Loneliness***

Before examining the topic of digital technology and loneliness, it is necessary to understand the evolution of technology over the last century and its impact on the relationship between people and the world around them. Almgren and Skobelev (2020) argue that “In modern society, we have become more and more dependent on technologies and their progress. In the 21st century, life cycles of technologies have tended to shorten” (p.2), and thus, technology is in constant evolution.

McLuhan (2013) explains that during the mechanical age, technology extended bodies into space, and electric technology has “extended our central nervous system itself in a global embrace, abolishing both space and time as far as our planet is concerned” (p.3). He goes on to explain that the extension of the self into technology is approaching a final phase in which consciousness will be extended and simulated through technology. This would imply a complete merging of humans and technology; we would become our technology. To this effect, Levinson (1999) suggests that by extending ourselves through technology, we create and become “disembodied content for the medium—a voice without a face or a body [...in] the case of online writing [...] users become content in the lines of text they create” (p.39). Shute and Slee (2015) further state that that “cognition is not a brain-only phenomenon, but extends into the body and beyond, into the technological and cultural worlds of the individual” (p.189). The idea that we may be both embodied and disembodied within technology is paradoxical but underlines the idea that beneficial aspects present in the physicality of in-person interactions may be lost in online communication, which in turn may have consequences on social interactions.

Digital technology affects how we interact and engage with each other in complex ways. This could be due not only to how digital technologies are used but also to their fundamental characteristics. McLuhan (2013) brought forth the idea that there are hot and cold mediums. He explains that an example of a cold medium could be the telephone since in this case little information is picked up from the senses, so one must engage more with it. An example of a hot medium could be television since the senses are filled with information and we only need to engage minimally. Current digital technology could be either highly participatory, such as

texting, or require little participation, such as in the case of streaming videos. Video conferencing has the appearance of a hot medium since one can see and hear others in a different environment but the uncanniness of being with someone in this type of virtual space also highlights the missing sensory information we would usually have when face-to-face. This could lead to the user of this technology becoming disconnected through connection.

DiJulio (2018) found that a majority of their sample group of adults from the US and the UK view loneliness to be related to the increased use of digital technology as a whole. However, this sample group displayed uncertainty regarding whether social media, in particular, reduces or exacerbates loneliness. The idea that the internet can bridge the gap between people across physical distance can be viewed as an advantage in combating social isolation and loneliness. The “global village” is a term that describes one’s extension through technology within a collective space. (McLuhan, 2013). Levinson (1999) goes on to say that the “online villager [...] can engage in dialogue, seek out rather than merely receive news stories, and in general exchange information across the globe much like the inhabitants of any village” (p.7). Bonetti, Campbell and Gilmore (2010) also argue that anonymity, reduced social cues and ease of using the internet to find people with similar interests could result in more self-disclosure due to the lowered risk of feeling shame and rejection.

Whether or not there is a direct link between the use of digital technology and loneliness, it is important to understand the impact of technology on our lives. It may be especially important to investigate the role of digital technology in the lives of youths who can barely or not at all remember a time without this technology.

## **Digital Natives and Loneliness**

### ***Who are Digital Natives?***

Brites, Amaral and Cuvalo (2019) explain that due to the rapid advances in technology since the 1980s, interest in generational differences has emerged. They go on to explain that Millennials, also known as the “internet generation, digital natives [or] Generation Y” (p.2) have been at the forefront of the discussion about digital natives because they grew up alongside this technology. Adolescents growing up in the current digital landscape are known as digital natives as well but are more specifically dubbed Generation Z and were born in the late 1990s and early

2000s (Gentina & Chen, 2019). These youths have been immersed in digital technology from birth. “92% of all teens go online daily, and 91% of them are connected to the Internet through mobile devices. By age 20, these young adults will have spent approximately 20,000 hours online, exploring their place and identity in the world” (Gentina and Chen, 2019, p.1).

Gentina and Chen (2019) explain that “adolescent loneliness has been identified as a significant social problem since the 1970s. It continues to grow and affect the current digital native generation; almost 80% of digital natives constantly feel lonely” (p.7). According to Demarinis (2020), a survey done by Cigna health insurer found that Generation Z had the highest loneliness scores. The prevalence of loneliness for this population solicits attention and brings up questions about the role of digital technology within this phenomenon.

### ***Relationship Between Digital Natives and Loneliness***

The use of the internet as a medium of communication seems to have both positive and negative effects on the social world of youth. Although the internet is a way to connect despite physical distance, find people with similar interests and create a safe distance for self-expression (Bonetti, Campbell & Gilmore, 2010), its use is also associated with loneliness (Vodanovich, Shen & Sundaram, 2015). There are many hypotheses regarding how the use of this technology could be contributing to a rise in youth loneliness. Twenge (2017) explains that the rapid spread of smartphone and social media usage in teenagers is associated with the rise in loneliness these youths are experiencing due to their spending more time on their screens. Marche (2020) argues that “we live in an accelerating contradiction: the more connected we become, the lonelier we are” (para.3). Perhaps this is because the more time we spend online, the less we do in person. Overuse of the internet and the lack of social cues that online communication provides, compared to in-person contact, is associated with loneliness and other mental health issues (Bonetti, Campbell & Gilmore, 2010).

Gross, Juvonen and Gable (2002) found that the more time someone spends socializing on the internet, the less time they can participate in quality time with their offline social network. The ease of online connection for digital natives may lead to their spending more time forming these superficial relationships online instead of rich in-person relationships. This can result in individuals losing their sense of belonging and connection to the “real world.” Bonetti, Campbell and Gilmore (2010) explain that the anonymity of online interaction could also reduce the

strength of communications and relationships. This is due to the loss of social cues present in online interactions, leading to superficial and weak relationships as well as narrow-focused communications.

Ma and Leung (2006) found that it is not only the quantity but quality of online interaction that matters. Individuals who like to interact with others in person had more positive attitudes and behaviours online than people who dislike “real-life communication” (Ma & Leung, 2006, p.21). According to Gentina and Chen (2019), there are positive or active coping strategies and negative or passive coping strategies to combat loneliness. They explain that online self-disclosure is associated with passive coping and offline self-disclosure is associated with active coping. This is because in-person communication is rich in non-verbal social cues that are lost in online communication, and it is a more direct and content-focused approach.

Online communication is used as a substitute for in-person communication and is more concerned with the quantity than the quality of relationships (Gentina & Chen, 2019). This substitution of in-person for online communication has been exacerbated by the pandemic. It is important to think of ways to balance out the negative effects related to this form of communication which could be aggravating the issue of loneliness at this time.

## **Art Therapy and Loneliness**

### ***Art Therapy During a Global Pandemic***

Miller (2020) explains that the physical distancing measures put in place to reduce the spread of the virus during the COVID-19 pandemic have resulted in the pervasiveness of social isolation, leading to loneliness, which according to Ranjan and Yadav (2019) contributes to anxiety, depression, and psychological distress.

Amsen (2020) explains that art therapy has been an effective treatment for the adverse effects of social isolation across various populations including inmates, medical patients, and refugees. She argues that studies on these populations could provide insight on how art therapy could be used with people suffering from the effects of social isolation during the COVID-19 pandemic. This work could then also apply to loneliness due to its association with social isolation and its other harmful effects.

Braus and Morton (2020) explain that the COVID-19 pandemic has us “fighting two invisible enemies: COVID-19 and mental health challenges” (p.267) and that loneliness is a significant consequence of confinement. Invisible issues such as these can sometimes make them harder for people to understand and accept, and this is one of the many benefits of using art therapy with people living with the invisible enemy; art can make it visible.

Yang, Hoffman, Morrill, and Gupta (2020) explain that art therapy has been a source of empowerment during the COVID-19 health crisis. Art can be used to visualize the invisible issue and to externalize, contain and work through it with a safe distance. According to Yang, Hoffman, Morrill, and Gupta (2020), “visual artwork can offer collective healing” (p.598). It provides a tangible product that can be shared visually, intellectually and emotionally, becoming a dialogue about “shared human experience” (p.598). This dialogue can then lead to a shift in perspective about the nuances of loneliness, which could be especially important for youth to engage in.

### *Art Therapy and Youth, Loneliness*

According to Maguire (2016), an art therapist can hold space for a young person to feel heard, practice self-disclosure skills and become aware of inaccurate perspectives of themselves in their social environment. She goes on to explain that art therapy:

can be used to address negative attitudes to loneliness and overcome self-defeating thought patterns through supported art-making with an art therapist [and that] the process of making art can help a young person learn to become comfortable with silence, develop mindfulness, resiliency and coping skills, along with art skills which they can use to enjoy time alone. (Maguire, 2016, para. 4)

Novotney (2020) explains that it is important for youth to understand that being alone does not necessarily mean being lonely. If art therapy can provide enjoyment during alone time, perhaps eco-art therapy can expand on this by questioning aloneness when working within the context of nature. The added sense of belonging that comes with the perception of being part of something greater than oneself could be an added benefit of eco-art therapy.

## **Eco-Art Therapy**

### ***What is Eco-Art Therapy?***

Hughes (2017) explains that eco-therapy is outdoor counselling that focuses on mindfulness and ephemerality, making it an effective approach for working with loss and developing coping skills. The creative process in art therapy allows for the externalization of emotions, which can lead to processing feelings. “Eco-art therapy is the blend of using art therapy practices in an eco therapy setting, utilizing the natural resources at hand to create” (Hughes, 2017, para. 11).

Eco-art therapy involves connecting with nature by finding and using natural material. Although eco-therapy and land art (Kastner & Wallis, 2010) are usually done outdoors, Speert (2016) explains that eco-art therapy can be done anywhere, in a studio, a skyscraper and even a basement. Natural materials can be foraged and then used to create art or art materials (Cole, Jonath, & Earnshaw, 2018). Pike (2021) proposes that

therapists have multiple avenues of integrating eco-art therapy practices, whether it be taking clients outdoors to collect natural art materials, teaching them to cultivate art-making resources, or utilizing metaphor to embody nature processes (Struckman, 2020). As a result, eco-art therapy approaches are three-fold: nature-as-subject, setting, material, or a combination of the three. (p.3)

Pike (2021) argues that eco-art therapy could decrease the financial and environmental cost of art therapy materials while fostering a sustainable practice and providing “high-quality therapy without the exponential costs of commercial art materials” (p.107). Speert (2016) expands on this idea that eco-art therapy is inexpensive by adding that it is accessible and widens our perspective beyond “the individual/family/group/culture to include larger ecological systems as the source of both suffering and healing” (Speert, 2016, para. 2).

Atkins and Snyder (2018) further the discussion on the integration of nature in the expressive arts therapies and propose that this approach can lead to a paradigm shift. The authors argue that we are at a time where we need to re-examine how we relate to the earth and that eco-therapy and expressive therapies have similarities that lend themselves well to each other in terms of individual and collective healing. They prompt exploration and a rethinking of our

relationship with the earth and our environment through three main perspectives: ecological science, ecological philosophy, and indigenous cultures. These diverse perspectives allow the reader to view eco-art therapy from different lenses resulting in a more holistic understanding of this approach to art therapy. Kimmerer (2013) also embodies and encourages a multi-lensed approach to viewing ourselves as a part of our environment. She explains that she has come to view the world more holistically by marrying her knowledge as a botanist trained in a traditionally western fashion and the knowledge she inherited from her Potawatomi heritage.

### ***The Philosophical and Theoretical Implications of Eco-Art Therapy***

Speert (2016) explains that the roots of eco-art therapy can be traced back to humanity's first creative acts. “It builds on the historic use of art as ritual, interaction, and relationship, and challenges the legacy of the solitary artist” (Speert, 2016). Atkins and Snyder (2018) propose that the integration of nature in expressive arts therapies can shift our perspective from a more individual and diagnostic approach to a more holistic one. They argue that we are at a time where we need to re-examine how we relate to the earth.

Atkins and Snyder (2018) explain that American psychologist, James Hillman “foreshadowed the emergence of the field of ecopsychology with his statement that he could no longer distinguish between neurosis of the self and neurosis of the world” (p. 52). Hillman (2014) suggests that we cannot separate the individual’s issue from the issues of the world. Our disconnection from nature has caused us to see ourselves as separate entities, independent of the harm we cause our environment. Humans are intertwined with nature; caring for one is caring for the other. Healthy interactions with nature are therefore nurturing to humans.

This idea that our well-being is linked to nature is also discussed by Kimmerer (2013) who talks about our disconnection from the natural world and explains that “Philosophers call this state of isolation and disconnection “species loneliness”—a deep, unnamed sadness stemming from estrangement from the rest of Creation, from the loss of relationship” (p.208-209). She explains that individualist societies rely heavily on technology which isolates us from this relationship. For this reason, we have lost a sense of belonging to a greater whole. Speert (2016) proposes that eco-art therapy allows for a deep connection to nature resulting in a sense of belonging to one’s environment.



Eco-art therapy could be a way of helping youth feel more connected and understand the difference between being alone and being lonely (Novotney, 2020). When one is alone, one is still a part of nature. A sense of belonging can stem from this awareness and create a shift in perspective regarding the experience of loneliness. There are many ways in which a reconnection to nature can be beneficial to humans, one of the most important being a shift to a collective or holistic perspective.

### ***Biological Effects of Nature and Loneliness***

Loneliness can cause the sympathetic nervous system to become activated, triggering the fight or flight responses. (Cacioppo et al., 2011; Shiota et al., 2011). Overactivity of the sympathetic nervous system is harmful to many aspects of health (Fisher, Young & Fadel, 2009). The parasympathetic nervous system, on the other hand, is related to “the parasympathetic or ventral vagal state, [in which] we are “safe and social” and able to “rest and digest.” When functioning well, the ventral vagus nerve helps us produce the tones, facial expressions and listening skills needed for socializing” (Batterham, 2020, para.2). Shiota et al. (2011) argue that awe can activate the parasympathetic nervous system and result in “sympathetic withdrawal.” (p.1370).

If some of the adverse effects of loneliness are caused by elevated sympathetic activation and awe is an emotion to counter it, connecting to nature could help balance the nervous system. Bethelmy (2019) explains that awe is a transcendent emotion and that “the wilderness is one of the most widely recognized sources of transcendent emotion” (p.1). Awe is produced by stimulus perceived as vast and transcending the viewer's frame of reference (Piff et al., 2015). When confronted with the vastness and wonder of the natural world, one can feel like a part of a much larger system.

Meaningful connections to nature could expand our perspective (Atkins & Snyder, 2018) and produce transcendent emotions such as awe (Stellar et al., 2017), thus facilitating regulation of the nervous system (Shiota et al., 2011) and increasing prosociality (Batterham, 2020; Piff et al., 2015). This shows that an expansive view of the self as part of the vastness of nature could have both psychological and physical benefits. It also emphasizes a more holistic view of the mind and body as well as the self and the environment, which are inseparably intertwined.

### **Chapter 3. Research Questions**

This research paper aims to investigate whether eco-art therapy is a promising approach to understanding and addressing the adverse effects of loneliness in digital native youth. This investigation brings up subsequent questions. Is technology responsible for youth loneliness? Is technology separating us from nature? What would be the effects of this separation? Can eco-art therapy be beneficial? And in what ways? The research questions will be addressed via a philosophical inquiry, using a theoretical methodology, which is explained in detail in the next section of this paper.

### **Chapter 4. Methodology**

#### **Theoretical Research**

Accounting to the Department of Creative Arts Therapies (2015) theoretical research focuses on “investigation, critical analysis, and synthesis of ideas” (p.7). The data collected from appropriate literature is synthesized and expands on the current knowledge by creating links “between theory, research, and practice” (p.7) and informs future research by identifying a gap of knowledge. The resulting literature opens a new avenue of research.

Wood (2020) explains that there are five steps to conducting theoretical research. This research follows these steps. The first step is the formulation of the problem, which involves articulating what you want to know and why. In this case, the issue is loneliness. There is a wealth of information concerning the issue, but there seems to be a gap between understanding the issue and how to address it. This first step involves setting inclusion and exclusion criteria to support the next step. The second step is data collection, which involves finding texts and documenting the search process in detail. This step involves searching the Concordia University Library and creating an Excel sheet to track each search. This allows the researcher to keep track of whether each search provided literature that would be used in the research or not. The rationale for this is to refine the criteria used for this research and to have access to the data collection process in the future. The third step is data evaluation. This step entails reading critically and extracting useful information from the texts found in the data collection process. The fourth step is data analysis. This step includes making sense of the data collected and putting

it together in a meaningful way. The fifth and final step is the synthesis and presentation, which includes writing the research paper and submitting it.

## **Philosophical Inquiry**

A philosophical inquiry is a form of theoretical research. Golding (2015) explains that there are six stages to a philosophical inquiry; each is considered in the process of this research. These six stages are pre-inquiring, initiating, suggesting, reasoning, and analyzing, testing, and evaluating as well as resolving and concluding. Each stage brings up new questions and directs the research process.

According to Golding (2015), this process begins with an “unrefined formulation of conception” (p.210), which becomes an “Articulated [...] philosophical problem [formulated] as a philosophical question” (p.210). Then, the researcher aims to offer suggestions for resolutions, positions, or answers to a philosophical question formulated in the previous stage. The next stage involves presenting a rationale for the suggestions offered in the previous stage. Then, the researcher should consider arguments for and against these suggestions and identify criteria for judging what resolution would be best. The final stage of philosophical inquiry, according to Golding (2015), is to make a “reasoned judgment about which is the best resolution” (p.210), to identify “new problems” and refine “formulation of initial conception” (p.210).

## **The Rationale**

### ***Addressing Bias and the Need for Conceptualization***

A philosophical inquiry allows the researcher to explore and then clarify their stance within the proposed research project. The inherent bias present in the research questions is that the researcher thinks that eco-art therapy could aid in addressing the issue of social isolation in youth today. This bias stems from personal, professional, and academic experiences. Personally, the researcher has experienced benefits from connecting to nature through eco-art. They have also used and studied eco-art in their practice as an art therapy intern, and they have noticed that interventions using natural materials foster a sense of wonder and connection.

A theoretical methodology allows the researcher to weave together various concepts and establish connections to ideas and theories related to this research. There is a wealth of

information on the issue of loneliness in digital natives and related concepts, but less is available in terms of ways of combating the issue, and little research on eco-art therapy is available. A knowledge gap is evident regarding the focus of the research question. Bridging all these concepts within a philosophical inquiry allows the researcher to open the potential for further research.

## **Ethical considerations**

### ***Trustworthiness***

Creswell (2013) explains that disclosing the purpose of the study and being transparent about biases is an important ethical consideration. This is relevant to the methodology of this research due to the idea that a philosophical inquiry is structured to address an inherently biased research question. Although the researcher may not be able to prove that this bias is well-founded, it does inform the course of conducting the research. This brings up other important considerations such as investigating and including information that may contradict assumptions.

It is important that the researcher is trustworthy and does not falsify findings by not including contradicting findings within the literature they analyze and synthesize on the topics at hand. This could happen by only focusing on texts or parts of texts that support the researcher's argument and leaving out important information that contradicts their argument. It is important that the researcher not report misleading information. Some ways to avoid this are to cite properly and get the work reviewed. This researcher's supervision will support the trustworthiness of this research. By acknowledging their biases through discussions with their advisor, the author ensures that these biases will not impact the results.

### ***Considering the Impact of the Research***

This research will be made public, so the impact of the study on the reader should be considered. If the reader decides to inform their practice with the findings of this research, they may be working with vulnerable populations. The author must consider how the results of their research could affect these people's lives. The author must also be conscious of the potential that their work may be cited or used in some way by academics and researchers in the future. This emphasizes the importance of considering how the information within this research could influence future research and academic work.

### ***Access to the Research***

Considering power imbalances is one way of promoting access to research. Some ways to do so are to “communicate in clear, straightforward and appropriate language” (Creswell, 2013, p.96). Distribution and dissemination are also considerations that can influence access to research. This research will be available on Spectrum, Concordia University’s open access research repository, which can increase access, but which is also a part of an institution that can feel out of reach for some potential readers.

### ***Cultural Humility and Competence***

It is crucial for the researcher to conduct this research with cultural humility and competence. This is done through the analysis of literature from various cultural perspectives and by considering the impact of all aspects of the research on populations of various cultural backgrounds. It is interesting to note that much of the research found on the issue of digital native loneliness is based on a more western perspective and the literature about connecting to nature and eco-art therapy is more rooted in indigenous ways of knowing (Atkins & Snyder, 2018). This is an important point to acknowledge and highlight. Jackson and Tervalon (2020) explain that art therapy is mostly rooted in western psychology and that the integration of cultural humility in its practice and research provides “an alternative way of knowing” (p. 34) which questions the idea of a quintessential truth and broadens the potential of art therapy research and its subsequent practice. Cultural humility and competence in art therapy research enriches the field and encourages ethically sound practice.

### **Data Collection**

#### ***Investigation, Analysis and Synthesis of Data***

The researcher used the Sofia discovery tool as well as the Major Sources section of the Concordia University Library Creative Arts Therapies collection, performing Boolean searches in ProQuest, PsycINFO and PubMed. Search criteria included peer-reviewed material and full text in order to have online access due to the potential decreased availability of print material. Keywords related to each concept were selected to facilitate Boolean searches in databases containing top-tier journals. Search criteria included keywords such as art therapy, eco-art therapy, digital natives, youth, nature, social isolation, loneliness, awe, nervous system, and

connection. Older adults and seniors were added to the exclusion criteria to focus on youth. The researcher then compared available research beyond the Concordia University Library by searching Google Scholar and Google Books. Each text was read critically and assessed for relevance to the topic. The literature was then separated and put together conceptually in a meaningful way.

### ***Addressing Validity and Reliability***

Leung (2015) explains that “Validity in qualitative research means "appropriateness" of the tools, processes, and data” (p.325) and goes on to explain that the “essence of reliability for qualitative research lies with consistency” (p.326). The rationale for using a philosophical inquiry is to use a method that is appropriate for addressing the inherent bias present in the research questions. This speaks to the validity of the method selected to conduct this research.

By taking detailed accounts of the research process from pre-inquiry to its presentation, the researcher works towards the reliability of the research. This research is likely replicable to the degree required by qualitative study standards, meaning that replicating this research should produce findings that are similar in their essence. The researcher can then conclude whether the argument fundamental to the research question can be supported by the literature available on each of the topics involved. The researcher’s argument could also be validated and support further research using other methodologies to further research and practice in this area.

## **Chapter 5. Discussion**

This section discusses the data collected in the literature review of this research paper and explores how eco-art therapy could address digital natives’ loneliness. By weaving together the subjects previously explored in the data collection process, the researcher fills the gap in the literature between each topic. By doing so, the relevance, importance and meaning of the data become evident. An argument is then established for the use of eco-art therapy to mitigate the adverse effects of loneliness experienced by digital native youth. Once the argument is established and the implications and limitations are explored, this research suggests avenues for further research.

## **Filling Gaps in the Literature**

### ***Recap of the Literature Review***

Loneliness is a growing issue that is troubling because of all the risks associated with this increasing disconnection (Novotney 2020). It is of special concern for youth growing up at a time when the omnipresence of digital technology is putting up an invisible wall between humans and nature. (Gentina & Chen, 2019; Kimmerer, 2013) One of the physiological effects of perceived social isolation is the overactivation of the sympathetic nervous system (Cacioppo et al., 2011). According to Stellar et al. (2017), awe is an emotion that can decrease this activation and increase its counterpart, the parasympathetic nervous system. Nature is one of the most common sources of awe-provoking stimulus (Bethelmy, 2019). Piff et al. (2015) explain that awe is produced by stimulus which is perceived as vast and transcending the viewer's frame of reference. There is a growing worry that our modern lifestyle, which connects us more and more to the virtual world, is disconnecting us from the natural world (Ives et al., 2018; Kesebir & Kesebir, 2017). Although connecting with nature does not directly result in spending more time with each other in person, it could result in a shift in perspective on loneliness. Perhaps this shift could lead people, especially youth, to understand the distinction between being alone and being lonely.

### ***Addressing the Scarcity of Research on Eco-Art Therapy***

There is a wealth of research concerning the issue of loneliness experienced by digital natives, less is known about how to combat this issue and even less is available on eco-art therapy's potential to address it, which is why this potential is inferred through research and practice in various related fields. These include art therapy, eco-therapy, philosophy, biology, psychology, botany, and indigenous ways of knowing.

Although there is not much formal research on the subject of eco-art therapy, this approach to art therapy has gained recognition in practice, through books, websites and various other publications. The sparseness of research on eco-art therapy made it necessary to form links in this paper between the subject of art therapy and loneliness as well as nature and loneliness. Making these associations allowed the researcher to uncover how combining aspects of eco-

therapy, eco-art and art therapy form an approach which evokes a shift in perspective on loneliness and allows for a greater sense of connection.

### ***Linking Concepts to Answer the Research Questions***

One of the research questions in this paper is whether or not technology is responsible for youth loneliness. The author found that the answer is not simple, and that complex variables are at work when it comes to the interaction between technology and loneliness. This being said, loneliness is on the rise, and technology has evolved very rapidly since the beginning of the millennium; the internet is now in most homes and smartphones in most pockets. Both of these increases have been exacerbated by the COVID-19 pandemic that has isolated us from others and shifted these technologies from a chosen means of communication to a necessary one. This correlation does not mean causation, but it hints to an issue that is starting to gain attention.

Another question this research aims to address is whether technology is separating us from nature and what the effects of this separation could mean. The literature suggests that the overuse of technology results in people connecting more often in a virtual world, which leads to less time spent in the physical world (Twenge, 2017), and less time to spend outside in nature. Technology has put up walls between humans and nature. McLuhan (2013) explains that our last technological frontier is the absorption of consciousness into technology. The possible fusion of humans and technology highlights the importance of considering how the negative effects of using digital technology can be mitigated.

The author proposes that eco-art therapy could be a way to mitigate these adverse effects, and thus the question of how eco-art therapy is beneficial, especially to this population, is essential to this investigation. The literature shows that eco-art therapy could provide a shift in perspective regarding the dichotomous relationship that has been constructed between nature and technology and could result in viewing the self in a greater context. This research provides avenues for future practice in general, but also specifically with digital native youth due to their susceptibility to loneliness. By reconnecting to nature through eco-art therapy, digital natives could start to view themselves as a part of both the physical and virtual worlds, which could lead to a greater sense of belonging. This could help youth feel more connected to a greater whole and learn to enjoy time alone, knowing that they are still connected to others through the physicality of the natural world.



## **The Argument**

### ***Starting With Youth for a Brighter Future***

Youth is a formative period. It is a time when developing healthy relations with the world and others is important and will influence future relationships. Youth loneliness has potentially devastating effects which they can carry on into adulthood (Bonetti, Campbell & Gilmore, 2010). Loneliness has serious mental and physical health risks (Novotney, 2020). Based on the author's research, if youth are lonely and experiencing health risks associated with the condition, then more adults will suffer these consequences in the future and the overall health of our society may be affected. It is important to consider the collective impact of a rise in loneliness. As more people report being lonely, society as a whole suffers.

Eco-art therapy is known to be an accessible approach that emphasizes collective healing (Speert, 2016). This makes it a great candidate for having a widespread effect on society. The accessibility and relatively low cost of eco-art materials can allow more people to connect with themselves as part of a greater whole. This approach can have beneficial effects, not only on the person, but on the environment that people interact with. It enables them to experience an inter-connection between their individual wellbeing and that of the physical and natural world. If youth learn to live within nature with care, respect and reciprocity, perhaps they will make more informed decisions regarding the future of the earth as a whole, which could have a positive impact on the environment.

### ***The Potential of Art and Nature in Eco-Art Therapy***

Eco-art therapy has the potential of combining the therapeutic benefits of both art and nature. Maguire (2016) explains that art therapy provides space and supports both self-exploration and self-expression. She argues that art therapy can help youth gain insight into loneliness and build skills to cope with it. Yang, Hoffman, Morrill, and Gupta (2020) explain that the COVID-19 pandemic has demonstrated the power of art to make the invisible tangible, be a source of empowerment, and offer healing at a collective level by having people engage in dialogue that recognizes "shared human experience" (p.598). This idea that art can unite people in shared experiences also applies to nature. We are all part of nature, and connecting with it can lead to a sense of belonging that relates us to each other. This systemic view of the self within a

larger context in constant interaction relates to the paradigm shift that Atkins and Snyder (2018) argue is possible through the integration of nature in the expressive arts therapies.

Another way in which connecting to nature is therapeutic is demonstrated in its effect on human physiology. The process of eco-art therapy could help regulate the nervous system. Awe is known to be an emotion linked to experiencing the vastness of nature (Bethelmy, 2019). It also prompts a parasympathetic state (Stellar et al., 2017; Shiota et al., 2011) in which people can feel “safe and social” (Batterham, 2020, para.2). Speert (2016) explains that eco-art therapy offers a systemic perspective to art therapy that allows far-reaching impacts due to its accessibility. The accessibility of natural materials is important to consider since their familiarity, convenience, and low cost could allow more people to be assisted by this approach.

### ***At the Root of Creative Expression***

The first creative acts reflected nature, using materials found in the natural environment. By using these types of materials, eco-art therapy could have the power to reconnect us to creative acts such as these and perhaps remind us of the deep connection human beings have long had with nature and each other. Eco-art therapy could remind us of how important it has always been for us to be connected in this way and make us consider that evolution has wired us to seek these types of connections. People are wired on a biological level to seek connections with others, and nature has been found to engender emotions that lead to prosocial behaviours and feeling connected to a greater whole, which could help regulate the nervous system and counter some of the adverse effects of loneliness. (Hawkey & Capitanio, 2015; Shiota et al., 2011; Piff et al., 2015).

### ***A Shift in Perspective***

This research argues that reconnecting to nature through eco-art therapy can cause a shift in perspective and provide an increased sense of belonging. This could promote improved connections to physical and virtual environments, leading to healthier decisions in both spheres. Perhaps a more holistic perspective of the self as a part of both nature and technology could inform and balance a sense of belonging for young people today. Eco-art therapy appears to be a promising approach to addressing this issue due to its connection to mental health and nature. Art therapy has been shown to have a positive impact on people suffering from loneliness (Maguire,

2016), and integrating nature within its practice makes sense when considering that technology is removing people from their context in nature and from each other's physicality, which is associated with a deep sense of loss and loneliness (Kimmerer, 2013).

At a time when digital technology is omnipresent, it is important to find ways to balance our relationships with the virtual and the physical. Kimmerer (2013) explains that technology is creating a divide between humans and nature, profoundly affecting how society functions. Technology has made it possible to consume in ways that remove the purchased object from its context in nature. We have no idea where the material of the items we purchase come from. Kimmerer (2013) questions how one can practice "reciprocity" with objects that we do not know or do not relate to. This is not directly related to the virtual or digital world, but it speaks to the way we view our relations to the world and underlines how this virtual landscape compounds our disconnection. We are then not only disconnecting from nature but to the physicality of ourselves in relation to each other. By working with found and foraged natural materials in eco-art therapy, we connect to nature through relationship, building a narrative that provides a sense of belonging through the process of relation.

Kimmerer (2013) talks about "species loneliness" (p.208), which is caused by a lack of relationship with the rest of the world. Perhaps reconnecting and rebuilding this relationship could be a protective factor against loneliness. Kesebir & Kesebir (2017) explain that "technological change, and in particular the burgeoning of indoor and virtual recreation options" (para.15) is an important factor in our disconnection from the natural world. According to Kesebir & Kesebir, (2017) "The loss of physical contact with nature, combined with a parallel loss of symbolic contact through cultural products, may set in motion a negative feedback loop, resulting in diminishing levels of interest in and appreciation for nature" (p.268). Eco-art therapy could be a way for youth from various backgrounds to regain an interest in nature and reconnect with their culture since as Speert (2016) explains, eco-art therapy has been a part of the human experience since their first acts of creation.

The expansive view of the self within nature (Atkins & Snyder, 2018; Sweeney, 2013), a structure much larger than oneself, could be compared to the self within an ever-expanding virtual and technological world. These two worlds can seem to be dichotomous, but we are increasingly part of both simultaneously. A pendulation of attention between the natural world

and the digital world could result in a more balanced view of the self in a larger context for youth. This could in turn produce an increased sense of belonging and improve prosocial behaviours and attitudes (Stellar et al., 2017; Shiota et al., 2011; Piff et al., 2015) which could result in more meaningful online and offline interactions. Eco-art therapy addresses the need to reconnect with nature and the need to address loneliness. The practice of eco-art therapy with youth who have grown up alongside digital technology addresses the issue at a fundamental level since the growth of technology is associated with both a rise in loneliness and disconnection with nature.

### **Implications and Limitations**

This research contributes to current efforts to understand and address youth loneliness and how technology could be playing a role in this phenomenon. It also contributes to the recognition of eco-art therapy and art therapy in general. It provides a new perspective from which to view this issue and calls for further research to be done on the topic. If youth are lonelier now in a digital world, it is imperative to understand why and find ways to mitigate the effects of these feelings of social isolation so that the adverse effects of loneliness have less long-term impacts on the adult of the future.

A limitation of this research is that various implicit biases or assumptions are present on the author's part. Some of these assumptions are that nature can be integrated into art therapy, that this integration will strengthen the potential of art therapy with youth suffering from loneliness, and that loneliness is a significant issue lived by this population. The author feels strongly about the potential of eco-art therapy in addressing loneliness in general and specifically in youth nowadays. Growing up in rural Quebec was a formative experience. Land art was a part of the play process that taught the author about their relationship to the world and others. The author's relationship with the natural world has always been an important part of their sense of self and has provided a sense of belonging and connection. Despite this bias, the findings of this research support these assumptions and suggest directions for further research on the topic.

### **Recommendations for Future Research**

Qualitative and quantitative participatory and art-based research could provide more information on the specific dynamics of eco-art therapy interventions as well as how they could

address loneliness in digital native youth. These methodologies would allow for a more practical understanding of the potential of eco-art therapy for this population. Additionally, blending eco-art therapy and digital art therapy could help youth find a balance between their physical and virtual world and form healthier relationships with and within them. Further research into the possibilities of combining both approaches to art therapy could reveal more of the positive aspects of digital technology and perhaps help youth interact more with the benefits of both worlds.

Due to the complexity of the issue of youth loneliness as it relates to the evolution of technology, it would be important that more quantitative studies be done on the subject. The COVID-19 pandemic has resulted in a global shift towards a reliance on virtual communication (De, Pandey & Pal, 2020). A considerable amount of data could be collected concerning the impact of youths' relationship to technology and nature during the pandemic, whether being in relation to nature was a protective factor against loneliness or not and if so, in what ways. There is a big gap when it comes to research on eco-art therapy.

The literature on eco-art therapy mostly comes from conceptually combining eco-psychology and art therapy. Any research on the subject would be valuable. Due to the nature of eco-art therapy, art and intervention-based research could provide important clinical information on the efficacy of this technique.

## **Chapter 6. Conclusion**

This research is informed by a belief that eco-art therapy can have significant health benefits as well as the idea that our disconnection from nature through technology has an important role to play in the current rise in youth loneliness. The researcher's experiences have informed the idea that art and nature can allow people to access new perspectives and that these new perspectives can alleviate the loneliness that causes many other mental health issues. These experiences have also brought up the idea that the misuse of digital technology can lead to loneliness, especially for youth for whom this technology has been omnipresent for all or nearly all their lives. These beliefs have guided this research, and the data collected from the literature has supported many of them but has also shown that this is a complex topic. Although the risks of loneliness are significant and frequent in youth who have grown up with digital technology,

the complexity of the variables that cause this issue requires further research. A common hypothesis is that technology separates humans from nature and each other on a physical level.

Eco-art therapy could be a way of addressing youth loneliness by integrating nature in a healing process that would provide a sense of belonging and connection to the natural and physical world. Gaining a sense of belonging through contact with nature could help a shift in perspective to happen and promote less screen time. If we approach digital interactions differently, perhaps we can find an ideal balance between the virtual and the physical worlds we live in simultaneously. Instead of experiencing a separation from nature due to our engagement with technology, we could shift our perspective and understand that we are constantly part of one world within which we interact both physically and virtually. This philosophical inquiry investigated, analyzed, and synthesized the issue and how it could be addressed. It bridged the gaps in the literature by weaving together various related concepts that supported the argument informed by the research question. This led to the formulation of future research recommendations.

The timely topic of this research demands further engagement immediately. We are facing a real and serious threat when it comes to youth loneliness and its adverse effects. Being aware that technology has a role to play in the issue and that eco-art therapy could address it should be considered and prompt further research. This research could then inform practice that would have a positive impact on individual and collective levels.

## References

- Almgren, R., & Skobelev, D. (2020). Evolution of technology and technology governance. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(2), 22–22. <https://doi.org/10.3390/joitmc6020022>
- Atkins, S. S., & Snyder, M. A. (2018). *Nature-based expressive arts therapy: Integrating the expressive arts and ecotherapy*. Jessica Kingsley.
- Amsen, E. (2020). *Can art therapy combat depression during self-isolation and social distancing?*. Forbes. <https://www.forbes.com/sites/evaamsen/2020/03/30/can-art-therapy-combat-depression-during-self-isolation-and-social-distancing/?sh=6264646634eb>
- Batterham, A. (2020). *Polyvagal theory: Getting back to safe and social*. Medium. <https://audrey-batterham.medium.com/polyvagal-theory-getting-back-to-safe-and-social-ce94fe27f3c8>
- Bethelmy, L. C., & Corraliza, J. A. (2019). Transcendence and sublime experience in nature: Awe and inspiring energy. *Frontiers in Psychology*, 10, 509–509. <https://doi.org/10.3389/fpsyg.2019.00509>
- Brites, M. J., Amaral, I., & Cuvalo, A. (2019). Generations, digital uses, and competences: trends and gaps in the research. *Medijske Studije*, 10(20), 1–9. <https://search.proquest.com/openview/4f443448806a42a31b0c2b047991cc94/1?pq-origsite=gscholar&cbl=2046298>
- Bonetti, L., Campbell, M. A., & Gilmore, L. (2010). The relationship of loneliness and social anxiety with children's and adolescents' online communication. *Cyberpsychology, behavior, and social networking*, 13(3), 279-285. <https://pubmed.ncbi.nlm.nih.gov/20557247/>
- Braus, M., & Morton, B. (2020). Art therapy in the time of COVID-19. *Psychological Trauma: Theory, Research, Practice, and Policy*, 12(S1), S267–S268. <https://doi-org.lib-ezproxy.concordia.ca/10.1037/tra0000746>
- Cacioppo, J. T., Hawley, L. C., Norman, G. J., & Berntson, G. G. (2011). Social isolation. *Annals of the New York Academy of Sciences*, 1231(1), 17–22. <https://doi-org.lib-ezproxy.concordia.ca/10.1111/j.1749-6632.2011.06028.x>

- Cole, P., Jonath, L., & Earnshaw, R. (2018). *Foraged art: creative projects using blooms, branches, leaves, stones, and other elements discovered in nature*. Bluestreak Books.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: qualitative, quantitative, and mixed methods approaches (Fifth)*. SAGE Publications.
- De, Pandey, N., & Pal, A. (2020). Impact of digital surge during covid-19 pandemic: a viewpoint on research and practice. *International Journal of Information Management*, 55. <https://doi.org/10.1016/j.ijinfomgt.2020.102171>
- Demarinis, S. (2020). Loneliness at epidemic levels in America. *Explore: The Journal of Science and Healing*. 16(5), 278–279. <https://doi.org/10.1016/j.explore.2020.06.008>
- Department of Creative Arts Therapies. (2015). *Art Therapy & drama therapy research handbook: Policies and procedures for the art therapy & drama therapy options magisterariate in creative arts therapies*. [Handbook]. Concordia University. [https://moodle.concordia.ca/moodle/pluginfile.php/3867157/mod\\_resource/content/0/ATDTRResearchHandbookRevisedSept2015%20%281%29.pdf](https://moodle.concordia.ca/moodle/pluginfile.php/3867157/mod_resource/content/0/ATDTRResearchHandbookRevisedSept2015%20%281%29.pdf)
- DiJulio, B., Hamel, L., Muñana C., & Brodie M. (2018). *Loneliness and Social Isolation in the United States, the United Kingdom, and Japan: An International Survey*. Kaiser Family Foundation. <https://www.kff.org/other/report/loneliness-and-social-isolation-in-the-united-states-the-united-kingdom-and-japan-an-international-survey/>
- Fernandes, B., Biswas, U. N., Mansukhani, R. T., Casarín, A. V., & Essau, C. A. (2020). The impact of COVID-19 lockdown on internet use and escapism in adolescents. *Psicología Clínica con Niños y Adolescentes*, 7(3), 59-65. [https://www.revistapcna.com/sites/default/files/010\\_0.pdf](https://www.revistapcna.com/sites/default/files/010_0.pdf)
- Fisher, J. P., Young, C. N., & Fadel, P. J. (2009). Central sympathetic overactivity: Maladies and mechanisms. *Autonomic Neuroscience: Basic and Clinical*, 148(1-2), 5–15. <https://doi-org.lib-ezproxy.concordia.ca/10.1016/j.autneu.2009.02.003>
- Gentina, E., & Chen, R. (2019). Digital natives' coping with loneliness: Facebook or face-to-face? *Information & Management*, 56(6). <https://doi.org/10.1016/j.im.2018.12.006>
- Golding, C. (2015). The community of inquiry: Blending philosophical and empirical research. *Studies in Philosophy and Education: An International Journal*, 34(2), 205–216. <https://doi.org/10.1007/s11217-014-9420-9>



- Gross, E. F., Juvonen, J., & Gable, S. L. (2002). Internet use and well-being in adolescence. *Journal of social issues, 58(1)*, 75-90. <https://psycnet-apa-org.lib-ezproxy.concordia.ca/record/2002-02296-005>
- Hawkley, L. C., & Capitanio, J. P. (2015). Perceived social isolation, evolutionary fitness, and health outcomes: A lifespan approach. *Philosophical Transactions: Biological Sciences, 370(1669)*, 1–12. <https://royalsocietypublishing.org/doi/full/10.1098/rstb.2014.0114>
- Hillman, J., & Hillman, J. (2014). *The thought of the heart; and the soul of the world*. Spring Publications.
- Hughes, L. (2017). *How art in nature heals: A glimpse into eco-art therapy*. She Explores: Women in the outdoors. <https://she-explores.com/features/how-art-in-nature-heals/>.
- Ives, C. D., Abson, D. J., von Wehrden, H., Dorninger, C., Klaniecki, K., & Fischer, J. (2018). Reconnecting with nature for sustainability. *Sustainability Science, 13(5)*, 1389–1397. <https://doi-org.lib-ezproxy.concordia.ca/10.1007/s11625-018-0542-9>
- Jackson, L., & Tervalon, M. (2020). *Cultural humility in art therapy: applications for practice, research, social justice, self-care, and pedagogy*. Jessica Kingsley. <https://concordiauniversity-on-worldcat-org.lib-ezproxy.concordia.ca/oclc/1138485540>
- Kastner, J., & Wallis, B. (2010). *Land and environmental art* (Abridged, revised, and updated). Phaidon Press. <https://concordiauniversity-on-worldcat-org.lib-ezproxy.concordia.ca/oclc/456174241>
- Kesebir, S., & Kesebir, P. (2017). A growing disconnection from nature is evident in cultural products. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science, 12(2)*, 258–269. <https://doi-org.lib-ezproxy.concordia.ca/10.1177/1745691616662473>
- Kesebir, S. S., & Kesebir, P. P. (2017, September 17). *How Modern Life Became Disconnected from Nature*. Greater Good. [https://greatergood.berkeley.edu/article/item/how\\_modern\\_life\\_became\\_disconnected\\_from\\_nature](https://greatergood.berkeley.edu/article/item/how_modern_life_became_disconnected_from_nature)
- Kimmerer, R. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants*. ProQuest Ebook Central. <https://concordiauniversity-on-worldcat-org.lib-ezproxy.concordia.ca/oclc/868925013>

- Knopf, A. (2020). Prepare for increased depression, anxiety in youth due to covid-19 lockdown. *The Brown University Child & Adolescent Psychopharmacology Update*, 22(8), 1–4. <https://doi.org/10.1002/cpu.30511>
- Leung, L. (2015). Validity, reliability, and generalizability in qualitative research. *Journal of Family Medicine and Primary Care*, 4(3), 324–7. <https://doi.org/10.4103/2249-4863.161306>
- Levinson, P. (1999). *Digital McLuhan: A guide to the information millennium*. Routledge.
- Ma, M. L.-yee, & Leung, L. (2006). Unwillingness-to-communicate, perceptions of the internet and self-disclosure in icq. *Telematics and Informatics*, 23(1), 22–37. <https://doi.org/10.1016/j.tele.2005.01.001>
- Marche, S. (2020, January 21). *Is Facebook Making Us Lonely?*. The Atlantic. <https://www.theatlantic.com/magazine/archive/2012/05/is-facebook-making-us-lonely/308930/. E>
- Maguire, J. (2016, July 18). *Can Art Therapy Combat Loneliness?*. Youth art therapy. <https://www.youtharttherapy.com.au/single-post/2016/07/18/Can-Art-Therapy-Combat-Loneliness>.
- McLuhan, M. (2011). *The Gutenberg galaxy: the making of typographic man* (1st ed.). University of Toronto Press.
- McLuhan, M. (2013). *Understanding media: The extensions of man*. Gingko Press Inc.
- Miller, E. D. (2020). Loneliness in the era of COVID-19. *Frontiers in Psychology*, 11, 2219. <https://doi.org/10.3389/fpsyg.2020.02219>
- Novotney, A. (2020, March). *The risks of social isolation*. Monitor on Psychology, 50(5). <http://www.apa.org/monitor/2019/05/ce-corner-isolation>
- Pike, A. A. (2021). *Eco-art Therapy in Practice*. Taylor & Francis.
- Piff, P. K., Dietze, P., Feinberg, M., Stancato, D. M., & Keltner, D. (2015). Awe, the small self, and prosocial behavior. *Journal of Personality and Social Psychology*, 108(6), 883–899. <https://doi-org.lib-ezproxy.concordia.ca/10.1037/pspi0000018>
- Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon - the Strategic Planning Resource for Education Professionals*, 9(5), 1–6. <https://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf>

- Ranjan, S., & Yadav, R. S. (2019). Social isolation: development and validation of measures. *Benchmarking*, 26(6), 1905–1920. <https://www-emerald-com.lib-ezproxy.concordia.ca/insight/content/doi/10.1108/BIJ-11-2018-0371/full/html>
- Shah, S. G. S., Nogueras, D., van, W. H. C., & Kiparoglou, V. (2020). The covid-19 pandemic: a pandemic of lockdown loneliness and the role of digital technology. *Journal of Medical Internet Research*, 22(11), 22287. <https://doi.org/10.2196/22287>
- Shute, R. H., & Slee, P. T. (2015). *Child development: theories and critical perspectives* (Second, Ser. International texts in developmental psychology). Routledge. <https://concordiauniversity-on-worldcat-org.lib-ezproxy.concordia.ca/oclc/928387114>
- Speert, E. (2016 October 27). *Eco-art therapy: Deepening connections with the natural world*. American Art Therapy Association.
- Stellar, J. E., Gordon, A. M., Piff, P. K., Cordaro, D., Anderson, C. L., Bai, Y., Maruskin, L.S., & Keltner, D. (2017). Self-transcendent emotions and their social functions: Compassion, gratitude, and awe bind us to others through prosociality. *Emotion Review*, 9(3), 200–207. <https://doi.org/10.1177/1754073916684557>
- Sweeney, T. (2013). Eco-art therapy: Creative activities that let Earth teach. Theresa Sweeney
- Shiota, M. N., Neufeld, S. L., Yeung, W. H., Moser, S. E., & Perea, E. F. (2011). Feeling good: Autonomic nervous system responding in five positive emotions. *Emotion*, 11(6), 1368–78. <https://doi-org.lib-ezproxy.concordia.ca/10.1037/a0024278>
- Tso, I. F., & Park, S. (2020). Alarming levels of psychiatric symptoms and the role of loneliness during the COVID-19 epidemic: A case study of Hong Kong. *Psychiatry Research*, 293, 113423. <https://pubmed.ncbi.nlm.nih.gov/32871487/>
- Twenge, J. M. (2017). *Igen: Why today's super-connected kids are growing up less rebellious, more tolerant, less happy-- and completely unprepared for adulthood (and what this means for the rest of us)*. Atria Books.
- Vodanovich, S., Shen, K. N., & Sundaram, D. (2015). *Social competence of digital natives: Impact of Social Networking Sites (SNS) use*. Research online. <https://ro.uow.edu.au/dubaipapers/671/>
- Wang, J., Lloyd-Evans, B., Giacco, D., Forsyth, R., Nebo, C., Mann, F., & Johnson, S. (2017). Social isolation in mental health: A conceptual and methodological review. *Social Psychiatry and Psychiatric Epidemiology: The International Journal for Research in*

- Social and Genetic Epidemiology and Mental Health Services*, 52(12), 1451–1461.  
<https://doi.org/10.1007/s00127-017-1446-1>
- Wang, X., Wong, Y. D., & Yuen, K. F. (2021). Rise of ‘lonely’ consumers in the post-covid-19 era: a synthesised review on psychological, commercial and social implications. *International Journal of Environmental Research and Public Health*, 18(2), 404–404.  
<https://doi.org/10.3390/ijerph18020404>
- Williams, S. E., & Braun, B. (2019). Loneliness and social isolation—A private problem, a public issue. *Journal of Family & Consumer Sciences*, 111(1), 7–14.  
<https://doi.org/10.14307/JFCS111.1.7>
- Wood, S. (2020, March 18). *Literature Research PowerPoint* [PowerPoint slides].  
[https://moodle.concordia.ca/moodle/pluginfile.php/3941819/mod\\_resource/content/0/Literature%20%20Research%20Powerpoint.pdf](https://moodle.concordia.ca/moodle/pluginfile.php/3941819/mod_resource/content/0/Literature%20%20Research%20Powerpoint.pdf)
- Yang, M., Hoffman, L., Morrill, Z., & Gupta, N. (2020). Singing away the social distancing blues: Art therapy in a time of coronavirus. *Journal of Humanistic Psychology*, 60(5), 593–603. <https://doi.org/10.1177/0022167820927807>
- Zavaleta, D., Samuel, K., and Mills, C. (2014). Social isolation: A conceptual and measurement proposal. *OPHI Working Papers*, 67, University of Oxford.  
<https://ora.ox.ac.uk/objects/uuid:71379222-a0da-4e1a-aec6-248d437e0914>