

Georgia State University

ScholarWorks @ Georgia State University

Art and Design Theses

Ernest G. Welch School of Art and Design

5-1-2024

Touch the Earth: Integrating Biophilic Design and Nature Rx Therapy Initiatives at Georgia State University

Kennedy L. Burks
Georgia State University

Follow this and additional works at: https://scholarworks.gsu.edu/art_design_theses

Recommended Citation

Burks, Kennedy L., "Touch the Earth: Integrating Biophilic Design and Nature Rx Therapy Initiatives at Georgia State University." Thesis, Georgia State University, 2024.
doi: <https://doi.org/10.57709/36969582>

This Thesis is brought to you for free and open access by the Ernest G. Welch School of Art and Design at ScholarWorks @ Georgia State University. It has been accepted for inclusion in Art and Design Theses by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

TOUCH THE EARTH: INTEGRATING BIOPHILIC GRAPHIC DESIGN AND NATURE RX
THERAPY INITIATIVES AT GEORGIA STATE UNIVERSITY

by

KENNEDY LOREN BURKS

Under the Direction of Xinran Hu, MFA

ABSTRACT

Touch the Earth aims to establish a meaningful connection between university students experiencing mental health difficulties and the therapeutic advantages inherent in the natural world. The Touch the Earth program currently concentrates its efforts on an outdoor activity initiative at Georgia State University (GSU) within the Recreational Services Department. This thesis applies the principles of biophilic graphic design and Nature Rx initiatives to revitalize, redefine, and educate GSU students on effective strategies to enhance their mental well-being through a strategic rebranding and the creation of informative and promotional materials. The

thesis endeavors to raise awareness, educate, and encourage GSU students to actively participate in the program and harness the therapeutic benefits of nature.

INDEX WORDS: Biophilia, Biophilic design, Nature Rx, Nature therapy, Mental health,
Graphic design

TOUCH THE EARTH: INTEGRATING BIOPHILIC GRAPHIC DESIGN AND NATURE RX
THERAPY INITIATIVES AT GEORGIA STATE UNIVERSITY

by

KENNEDY LOREN BURKS

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

Master of Fine Arts

in the College of the Arts

Georgia State University

2024

Copyright by
Kennedy Loren Burks
2024

TOUCH THE EARTH: INTEGRATING BIOPHILIC GRAPHIC DESIGN AND NATURE RX
THERAPY INITIATIVES AT GEORGIA STATE UNIVERSITY

by

KENNEDY LOREN BURKS

Committee Chair: Xinran Hu

Committee: Nedda Ahmed

Meta Gary

Kess Silva

Electronic Version Approved:

Office of Academic Assistance

College of the Arts

Georgia State University

May 2024

DEDICATION

To all students who courageously navigate the challenges of mental health struggles, this paper is dedicated to you. Despite the obstacles you face, you continue to pursue your goals with determination and grace. You are not alone, and your struggles do not define you. Growing up, my mom would always tell me, “Do your best to be your best. If you don’t feel the best, it’s okay, because you did your best.” And I now pass it on to you.

ACKNOWLEDGEMENTS

To my family, thank you for encouraging me during my entire M.F.A journey. For being there for me every step of the way, I cannot thank you enough for holding me up through it all. I truly couldn't have done it without you. To my committee members, Xinran Hu, Nedda Ahmed, Meta Gary, and Kess Silva, thank you for your unwavering patience and guidance throughout this journey.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	V
LIST OF FIGURES	VIII
1 INTRODUCTION.....	1
2 LITERATURE REVIEW	3
2.1 Mental Health Concerns Amongst College Students.....	4
2.2 Nature-based therapies.....	6
2.2.1 4 Nature-based therapy activities and their benefits.....	8
2.3 The Role of Graphic Design in Health Promotion	11
3 GSU OUTDOOR RECREATIONAL SERVICES: TOUCH THE EARTH	
PROGRAM SWOT ANALYSIS	13
3.1 Strengths	14
3.2 Weaknesses	15
3.3 Opportunities.....	19
3.4 Threats	20
4 BRIDGING THE GAP: METHODOLOGY FOR TOUCH THE EARTH	
PROGRAM REBRAND AND NATURE RX IMPLEMENTATION	20
4.1 Initial Creative Research.....	20
4.2 Developing the Touch the Earth Visual identity	26
4.3 Typography and Color	29

5	EXHIBITION.....	32
6	CONCLUSION	43
	BIBLIOGRAPHY	44

LIST OF FIGURES

Figure 1.1 GSU Touch the Earth Program, Georgia State University	3
Figure 3.1 GSU Recreational Services: Touch the Earth	16
Figure 3.2 GSU Recreational Services social media 1, X	17
Figure 3.3 GSU Recreational Services social media 2, Instagram	18
Figure 3.4 GSU Recreational Services social media 3, Instagram	18
Figure 3.5 GSU Recreation Department, Touch the Earth Website Calendar.....	19
Figure 4.1 Attributes of Biophilic Design, 2015, Kellert and Calabrese	22
Figure 4.2 CSH Nature Heals 30x30 Program Website, University of Minnesota	23
Figure 4.3 Arboretum, 2015, Digital Illustration, Lisa Rydin Erickson	23
Figure 4.4 NatureRx@Cornell Program Website, www.naturerx.cornell.edu	24
Figure 4.5 Love Park Branding, J2 Creative Agency	24
Figure 4.6 Love Park Environmental Graphic Posters, J2 Creative Agency	25
Figure 4.7 2023 Washington State Parks Rebrand, People People.....	26
Figure 4.8 Word Map, Kennedy Burks.....	27
Figure 4.9 Touch the Earth Logo, Full-Color and 1 Color, Kennedy Burks	28
Figure 4.10 Touch the Earth Logo Breakdown, Kennedy Burks	28
Figure 4.11 Touch the Earth Typographic Selections, Kennedy Burks	29
Figure 4.12 Touch the Earth Rebrand: Color Palette, Kennedy Burks.....	31
Figure 4.13 Touch the Earth Brand Pattern, Kennedy Burks	32
Figure 5.1 Touch the Earth Outdoor Equipment, Kennedy Burks	33
Figure 5.2 Touch the Earth Exhibition, Biophilia Definition, Kennedy Burks	34
Figure 5.3 Touch the Earth Exhibition, 3 Biophilic Characteristic Groups, Kennedy Burks.....	35

Figure 5.4 Touch the Earth Brand Guide, Kennedy Burks.....	35
Figure 5.5 A Step Towards Wellness, 2024, 24x36in, Print, Kennedy Burks.....	37
Figure 5.6 Reflect, Rebalance, and Refocus, 2024, 24x36in, Print, Kennedy Burks	38
Figure 5.7 Grow Together, 2024, 24x36in, Print, Kennedy Burks.....	40
Figure 5.8 Touch the Earth Exhibition, Gardening Station, Kennedy Burks	41
Figure 5.9 Touch the Earth Nature Walk Section, Kennedy Burks.....	42

1 INTRODUCTION

Graphic design is a powerful tool in the field of health promotion and addressing stigmas. The American Psychiatric Association (APA) emphasizes the importance of reducing stigmas around mental health issues through strategic communication, with graphic design emerging as a vital player in this effort. By crafting visual materials that resonate with cultural nuances and address the unique experiences of communities, designers can contribute to an atmosphere in which seeking counseling services can be seen as a culturally competent and normative form of self-care.

There is a growing recognition of the urgent need to approach visual communication with a strong ethical sense, especially in today's complex sociocultural environment. Renowned designer David Berman sheds light on this crucial aspect in his influential book, *Do Good Design*, where he meticulously dissects the concept of design responsibility and its far-reaching consequences. Berman argues that designers carry a special burden: they have the power to utilize their creative abilities for the betterment of society, navigating the delicate balance between aesthetics and ethical considerations. As we delve deeper into this thesis, we can begin to realize the profound impact that graphic design can have on addressing societal challenges.

Berman's insights emphasize the crucial need for designers to go beyond aesthetics and adopt a comprehensive approach. The concept of cultural competence in design emerges as a central and resonating theme, aligning perfectly with the core principles of this exploration. When designers wield their skills with cultural sensitivity, design becomes an influential channel that breaks down barriers and fosters inclusivity. By incorporating cultural competence and inclusivity into graphic design, we can actively contribute to creating an environment that is more supportive. The intention is to go beyond mere visual representation and delve into how

graphic design can serve as a powerful instrument for driving broader societal change.

Specifically, this entails promoting mental wellness, building resilience, and ensuring equal access to support services for individuals who encounter distinct obstacles while navigating their way through higher education's terrain. Ultimately, the goal is to cultivate a space where students feel empowered to seek counseling services without the fear of being judged or alienated.

Over the past two decades, numerous reports from higher education professionals have drawn attention to the increasingly complex concerns relating to mental health among students in postsecondary education.¹ The mental health of college students is a significant issue for society at present. According to survey data, the universality of college students' mental health problems is increasing year by year, most of which are anxiety, depression, interpersonal problems, and the effects of academic pressure.² More recently, universities have implemented nature-based therapy programs to aid in providing additional services to support their students using the theory of biophilia as it's foundation. Nature has proven to present a full range of physical, mental, and social health benefits, as in reducing stress, anxiety, and depression.³ In response to the rising incidence of mental health challenges experienced by college students, there remains a pressing need for further investment in mental health resources and support services.

The Touch the Earth program (Figure 1.1) is an outdoor activity initiative at Georgia State University (GSU) within the Recreational Services Department, offering students amazing opportunities to explore and immerse themselves within nature. But many students are unaware of this program's existence. Navigating college life in downtown Atlanta can be stressful; this thesis aims to promote GSU's Touch the Earth program and establish a meaningful connection

¹ Duffy, Anne et al., "Mental Health Care for University Students," 885–87.

² Guliayimu Y, "The application of mental health education," 655–656.

³ David Suzuki Foundation, "One Nature Challenge."

between university students experiencing mental health difficulties and the therapeutic advantages inherent in the natural world. Moreover, this thesis exploration will also apply the principles of biophilic graphic design to revitalize, redefine, and educate GSU students on effective strategies to enhance their mental well-being through a strategic rebranding and the creation of informative and promotional materials.



Figure 1.1 GSU Touch the Earth Program, Georgia State University

2 LITERATURE REVIEW

This literature review will discuss topics and research findings to support this thesis exploration. Beginning with mental health concerns faced by college students at large and how implementing a nature-based therapy (Nature Rx) initiatives can present students with an additional service in addressing these concerns. With Georgia State being an urban, predominately black institution, I was eager to learn how the history of the relationship between nature and African Americans can influence implementing a program like Nature Rx at an institution like such. Also relevant to this review is examining the role of graphic design in health promotion, specifically mental health promotion.

2.1 Mental Health Concerns Amongst College Students

Colleges and universities are being forced to face the impact and escalation of mental health challenges among student populations. The national Healthy Minds Survey found that in the 2022-23 academic school year, reported that 41% of students reported experiencing major to moderate depression, feeling “very sad” or “so depressed that they couldn’t function,”⁴ while 36% of students reported symptoms of anxiety.⁵ Navigating through an urban campus like GSU can present its own set of unique stressors like obstacles related to transportation, financial strain, social injustice, violence, various forms of loss related to COVID-19, academic responsibilities, employment, as well as relationships.⁶

The two major groups represented among GSU’s student body are Black/African American students (43% of the student body) and first-generation college students (21%), per the university’s official records. The National Education Association discussed how these minority groups are the ones that are less likely to seek mental health services. Black students, alarmingly, are two-thirds less likely than white students to pursue mental health services on college campuses.⁷ In a detailed study, Dr. Mahogany Anderson of Eastern Michigan University, reveals why there’s a great deal of cultural mistrust for mental health providers among the African American community with seeking mental health support. She found that African Americans take more of an informal approach to addressing mental health concerns, often feeling there is “no need” for services. She also found common fears around being labeled as “mentally ill,” and the people used alternative modes of support such as receiving help from their church, friends or

⁴ Chen et al., “Psychiatric Symptoms and Diagnoses among U.S. College Students,” 442–49.

⁵ Healthy Minds Network (2023), *Healthy Minds Study, year (2022-23)* [Data set].

⁶ Pascarella, Ernest T et al., “First-Generation College Students,” 249–84.

⁷ Flannery, Mary E., “The Mental Health Crisis on College Campuses.”

significant other verses seeking counseling or therapy from health professionals.⁸ In addition to the fear of being mislabeled, she found that African-Americans have a fear of sharing their emotions, getting treatment, appearing emotionally vulnerable, and being perceived as weak for seeking mental health support.⁹

For first-generation college students (FGCS), especially those of color, these challenges are further exacerbated by the lack of familial guidance. Unlike their peers who benefit from familial guidance, these students must navigate through the unfamiliar terrain of academic norms, expectations, and the complexities of university life on their own. This navigation process extends beyond academics and significantly influences their social integration and overall college experience.¹⁰ Schuyler, Childs, and Poynton summarized 3 types of supports that can improve the overall experience of FGCS in their 2021 article “Promoting Success for First Generation Students of Color.” Their study concludes with the suggestion that clubs, programs, and environments that celebrate diversity, promote inclusivity, can help universities a foster a sense of belonging among this vulnerable population.¹¹

In addition to the stigma surrounding mental health in the Black community, accessibility remains a major obstacle, particularly here at Georgia State. Former GSU Counseling and Clinical Services Director, Mikyta Daughtery (2013-2023), stated that since the beginning of the COVID-19 pandemic to now the number of students seeking counseling services at GSU has increased by 80%, yet the University Counseling Center (UCC) at Georgia State has lost five contracted counselors since 2020.¹² As a result of this loss, one can determine that the workload

⁸ Pascarella, Ernest T. et al., “First-Generation College Students,” 249–84.

⁹ Anderson, Mahogany S., “Barriers to the Utilization of Mental Health Services.”

¹⁰ Pike and Kuh, “A Typology of Student Engagement,” 185–209.

¹¹ Schuyler, Childs, and Poynton, “Promoting Success for First Generation Students of Color.”

¹² Solomons and Wood, *The Signal Urbanite* 2, 20.

and caseload significantly increased for the remaining counselors, further compounding the students' lack of access to mental health services on GSU's campus. The UCC at GSU's official website records conducting 8,000 appointments every year, but access is capped: students are only allowed up to 8 individual counselling sessions per academic year.¹³ Upon reviewing the GSU UCC's available statistics and evaluating it based on the provision of services, there appears to be a significant disparity between the number students who the University's counselling centers and the number of services provided.

2.2 Nature-based therapies

There has been quite a bit of research on nature-based therapy programs on college campuses, nature-based interventions and the specific benefits associated with improving mental health problems, as well as research on implementing these approaches in an urban setting and serving a minority demographic.

No predominately black institution (PBI) has yet implemented a nature-based therapy program on their campus and it's important to understand why. The complex relationship between nature and Black Americans is deeply rooted in Black culture and history, long before slavery. It has many layers of love, discrimination, violence, hope, and joy.¹⁴ For generations African Americans have been cultivators of nature from tending to crops on plantations as enslaved people to farming and gardening as means of survival as well as seekers nature as a place of peace and joy.¹⁵ The marginalization of people of color throughout history has influenced different ethnic and cultural values toward outdoor recreation.¹⁶

¹³ Counseling Center, "Frequently Asked Questions - Georgia State Counseling Center."

¹⁴ Smith, "Creating Space for Nature Rx at Historically Black Colleges and Universities."

¹⁵ Tolliver, "Why Black people are turning to gardening."

¹⁶ Goodrid, "Racial Complexities of Outdoor Spaces."

Despite the complex historical relationship that African Americans experienced with nature, trailblazers like Rue Mapp, founder of Outdoor Afro; Ron Griswell, founder of HBCUs Outside; and Tiffany Tharpe and Michelle Warren, co-founders of Black Girls Trekkin, have contributed to a positive narrative of the relationship that African Americans can have with nature. Outdoor Afro is an organization where Black people can meet, celebrate, and inspire connections to nature through activities ranging from fishing and hiking to kayaking and gardening. Black Girls Trekkin' leads efforts to connect African Americans women with nature through cultural events, conservation projects, and outdoor activities. HBCUs Outside, a nonprofit organization currently partnering with 6 of 108 HBCUs across the nation (Florida A&M University, Tennessee State University, Howard University, Bowie State University, Elizabeth City State University, Hampton University, and Alabama A&M University) is committed to helping students attending Historically Black Colleges and Universities get outdoors and enjoy outdoor activities.

Among all kinds of people, nature and nature-based therapies have shown to have a profound impact on mental health and well-being since the early 1900s.¹⁷ The theory of biophilia, developed by Edward Wilson in 1984, explains how mankind has an inherent physiological desire to connect with nature and the different aspects of it.¹⁸ We witnessed this firsthand as healthcare professionals recommended nature-based interventions during COVID-19. Specifically how green and blue outdoor environments (gardens, parks, and water areas) demonstrated beneficial effects like reduced stress levels, improved moods, enhanced cognitive function, and increased feelings of happiness.¹⁹ In recent years studies conducted by various

¹⁷ Bratman et al., "Nature and mental health."

¹⁸ Wilson, *Biophilia*.

¹⁹ Pouso et al., "Contact with Blue-Green Spaces."

universities and outdoor programs further support how individuals who suffer from anxiety, depression, and other mental health issues can engage in activities such as forest bathing, gardening, mindfulness practices, and nature walks to experience the direct benefits associated with nature and tackling mental health concerns experienced widely.²⁰

2.2.1 4 Nature-based therapy activities and their benefits

Forest bathing is a nature therapy originally developed in Japan as *shinrin-yoku*, meaning “taking in the forest air,” was developed in 1982 by Tomohide Akiyama of the Japanese Forestry Agency. This therapeutic technique can be described as “bathing in the forest atmosphere or taking in the forest through our senses.”²¹ When compared to urban environments, the forest environment can lower pulse rates and blood pressure, and walking in the forest environment favorably influences cardiovascular responses and helps reduce stress.²² The University of Washington located in Seattle, Washing State’s largest urban city, invites students to learn and participate in the art of forest bathing through a guided or self-led experience challenging participants to be present in the moment and immerse themselves in the environment in which they situate themselves.²³ Studies have emphasized the significant benefits for the physiological and psychological health of university students participating in forest bathing, such as: (1) protecting the cardiovascular system via reductions in blood pressure and increased Natural Killer (NK) cells, which are white blood cells that destroy infected and diseased cells, like cancer cells; (2) maintaining mental health by alleviating, stress, and symptoms of depression and anxiety, as well as decreasing negative emotions—all of which are mental health concerns that

²⁰ Berman et al., “Interacting with nature,” 300–305.

²¹ Li Q. *Forest Bathing*. New York, NY: Viking Press; 2018:12

²² Lee et al., “Influence of forest therapy,” 1–7.

²³ University of Washington Botanic Gardens.

large numbers of college students experience, per the previously cited survey conducted by Healthy Minds.

As previously stated, there aren't any nature-based therapy programs implemented at PBIs, which presents a gap in research and services. However, horticulture therapy, commonly referred to as gardening, is a more common nature activity that is present on campuses of some HBCUs. While it's not referred to a nature-based therapy activity in the context of their programs, HBCUs like the University of the District of Columbia (UDC) and Fort Valley State University (FVSU) have started community gardens where community members can plant and harvest fresh food while promoting the benefits of healthy eating. A study led by Siyuan Gao, explores the correlation between horticultural activity participation and positive mental characteristics and found that gardening can significantly improve students' quality of life. Gao tested this study on a total of 160 college students, measuring the frequency of participation, length of participation, degree of investment, and degree of achievement. Students participated in various activities related to beautifying campus landscapes of 4 different universities. Results showed that students who gardened for less than an hour per week had experienced a more difficult mental state than students who participated in gardening activities for longer periods of time per week. Ultimately, this study concluded by recommending students who are having trouble maintaining a balanced mental state to participate in at least one or more gardening activities that for more than one our per week.²⁴

Practicing mindfulness and meditation constitute another nature-based activity that positively benefits mental health. This activity's purpose is to develop experiences that foster psychological resilience, the ability to "bounce back" from the external stressors of life. In recent

²⁴ Guo, "Horticultural Activities Participation and College Students'," 9, 334.

explorations, labyrinth walking has emerged as a path to mindfulness and decreased stress.

Labyrinth walks consist of a singular walking path with one entry leading to a central point of reflection. To exit one must simply retrace their steps back to the initial entry point.

Boardman, et al. conducted a study to determine whether labyrinth walks were more effective in reducing stress, than neighborhood strolls. The majority of prior research conducted on labyrinth walks concluded that how the walk is conducted and the environment in which the labyrinth is placed are contributing factors to the meditative experience of this approach. For this study a 25' 7-circuit labyrinth was constructed in a natural wooded area directly next to the site where the participants would spend most of their day. Twenty-six participants were split into 2 groups. The first group would participate in labyrinth walks and the second group would participate in a neighborhood walk within the vicinity of the site. To effectively compare results, a perceived stress scale questionnaire was administered to participants before and after the experiment's trial period and cortisol levels, the primary hormone in balancing stress levels within the human body, were also monitored over the course of the study. Boardman's study concluded that taking a labyrinth walk reduced stress and cortisol levels more than a neighborhood stroll, providing the effectiveness of labyrinth walk in reducing stress.²⁵

Some universities are integrating labyrinths into the campus landscape for their community to help students cope with academic stress. No labyrinth has been constructed at a PBI, but there is a labyrinth on Emory University's campus, one of Georgia State's nearby neighbors.

The final reviewed nature-based therapy intervention is nature walks. Numerous studies agree to suggest that nature walks and being immersed in nature benefit participants not only

²⁵ Boardman et al., "Investigating labyrinth walking," 1, 12, 1-11.

experiencing mental health difficulties, but also those who experience heightened stress levels. When comparing studies conducted in an urban versus natural area, research has provided evidence for walks conducted in natural environments lowering stress hormones and enhancing the rest and recover nervous system more efficiently. The study, “Natural or Urban Campus Walks and Vitality in University Students” conducted by Shrestha, Di Blasi, and Cassarino evaluated the impact of natural and urban campus walks on the vitality, well-being, and overall experience of university students. Of the thirteen students who participated, most students lived in urban areas, while few resided rural areas. The students were randomly assigned to two groups designating which type of walk they would take; a nature walk or an urban walk. The nature walk took place along a river walk, immersed in vegetation. On the other hand, the urban walk took place on an urban built-up road passing by a hospital, commercial buildings and residential estates, with small patches of shrubbery but no trees on the route. Conclusions of this study revealed the nature walk was rated as having a considerably higher restorative potential than the urban walk, and common themes generated from the results were (1) “walking in nature is conducive to being more present in the moment and self-aware”; (2) “a walk in nature as a mood enhancing experience”; (3) “nature has the potential to restore energy levels.”²⁶

2.3 The Role of Graphic Design in Health Promotion

Graphic design, is a powerful communicative medium that influences the way we perceive information, interpret messages, and ultimately how we think, feel, and act. Through strategic use of visual elements such as imagery, color, and typography, design harnesses the ability to shape our understanding of the environments around us. The Health Benefit Model serves as a framework in understanding the role of graphic design in health promotion and how

²⁶ Shrestha et al., “Natural or Urban Campus Walks.”

design influences health behavioral changes by addressing susceptibility, severity, and benefits to action. Moreover, how graphic design can also address common barriers to behavior change, such as lack of knowledge, misconceptions, and practical constraints by providing practical tips, actionable steps, and motivational messages that empower individuals to seek support.²⁷

Guidelines from the APA emphasize the importance of imagery representation in mental health materials, particularly in promoting inclusivity and reducing stigma. Using images that reflects multiple backgrounds and identities help individuals feel seen, validated, and understood. By incorporating images that display a variety of races, genders, and ethnicities, intervention materials can communicate messages of inclusivity and accessibility, encouraging individuals to engage with the content.²⁸

Color in relation to design is a vital component of health promotion efforts because color can influence emotions and behaviors related to well-being through emotional association and perception. A study by Kaya and Epps examined college students' color-emotion associations and investigated the reasons for students' emotional reactions to each color. Their study concluded that warm, bright, and soothing colors (yellow, green, and blue) should be used within design to comfort and promote relaxation.²⁹ These findings align with previous research that indicates exposure to green and blue outdoor environments (parks, gardens, and areas with water) reduces stress levels and improves cognitive function.

The role of typography in health promotion, specifically mental health promotion, remains briefly addressed in literature, but the APA does emphasize the importance of clear communication in visual materials. When it comes to typography and specific font choices there

²⁷ Jones et al., "The Health Belief Model," 566–576.

²⁸ American Psychological Association, "Race and Ethnicity Guidelines in Psychology."

²⁹ Kaya and Epps, "Relationship Between Color and Emotion," 396–405.

are several guidelines that can enhance effectiveness and engagement: (1) readability, choosing fonts that are easy to read from a distance like serif and sans-serif fonts; (2) legibility, selecting fonts with well-defined letterforms that are easy to distinguish from one another; (3) consistency, maintaining consistent font choices throughout the design to create a cohesive look. Just as colors can evoke emotions, fonts can too. A study conducted by Vikas Singla examined the semiotics linked to serif, sans-serif, and display font styles. By conducting a focus group, the study concluded that serif fonts can be perceived as classic, formal, serious, practical, and dignified. Sans-serif fonts are generally perceived as modern, clean, progressive, and cool, and a display font evokes feelings of fun and excitement.³⁰

3 GSU OUTDOOR RECREATIONAL SERVICES: TOUCH THE EARTH PROGRAM SWOT ANALYSIS

Nature holds a significant importance for individuals, specifically college students navigating higher education while facing significant stressors. To thoroughly evaluate the Touch the Earth Program at Georgia State University, the primary focus of my thesis exploration, I will utilize the SWOT analysis method. SWOT, an acronym for strengths, weaknesses, opportunities, and threats, is a planning tool commonly employed to assess the internal and external factors affecting an organization or initiative. By conducting a SWOT analysis of the Touch the Earth Program, I will gain a deeper understanding of its current state, identify areas of success and potential improvement, and develop a strategic plan to enhance its effectiveness in promoting mental health support among college students.

³⁰ Singla, Vikas, and Sharma, "Understanding Role of Fonts," 272–86.

3.1 Strengths

The Touch the Earth program (TTE) at Georgia State University is a comprehensive initiative that aims to immerse students in a diverse range of outdoor activities and resources. The program's primary objective is to foster engagement, personal growth, and a sense of community among the student body. At the heart of the program lies a well-equipped outdoor equipment rental service, which grants students access to the necessary gear for outdoor pursuits, such as hiking, camping, rock climbing, and water-based sports. This service ensures that students, regardless of their previous experience or expertise, can safely and comfortably participate in these outdoor adventures, providing them with the essential tools and equipment required to fully embrace the natural world and engage in these enriching activities.

In addition to offering equipment rental services, Touch the Earth curates a wide array of trips and excursions designed to immerse students in diverse outdoor recreational experiences. From the thrill of archery and the adventure of caving to the serenity of hiking and the exhilaration of kayaking, these meticulously planned outings allow students to discover the breathtaking natural beauty of Georgia and beyond. Whether it's scaling the majestic rock formations at Foster Falls or navigating the serene waters of the Chattahoochee River, these excursions provide students with opportunities to push their boundaries, broaden their perspectives, and forge enduring bonds with their fellow participants.

TTE also features a valuable component known as the Challenge Program, which aims to equip students with a diverse range of essential skills through engaging, hands-on learning experiences. The Challenge Program offers students innovative and immersive opportunities to hone their teamwork, communication, and leadership abilities. These experiential learning activities, which can encompass team-building exercises, problem-solving challenges, and

collaborative group initiatives, provide students with practical, real-world applications to cultivate crucial life skills. By participating in the Challenge Program, students not only develop these critical competencies but also foster a strong sense of camaraderie, cooperation, and unity within their peer group.

The inclusion of an indoor rock-climbing wall on campus offers students a convenient and readily available space to participate in the physically challenging and cognitively engaging activity of rock climbing. This climbing facility serves as a valuable resource, catering to both novice climbers who seek instruction and guidance, as well as experienced climbers who can refine and improve their skills within a controlled and supervised setting. The presence of this indoor rock-climbing wall on the university campus allows students to explore and develop their rock-climbing abilities, fostering physical fitness, mental acuity, and a sense of accomplishment, all while having access to this specialized recreational amenity right on campus.

3.2 Weaknesses

One of the primary challenges that TTE faces is that many students don't know it exists, or how to access TTE if they do know it exists. TTE is part of GSU's Student Recreation Center, which is a prominent building on the Atlanta campus, but finding out about TTE's services requires a) knowledge that the program exists; and b) effort to discover everything TTE offers. TTE's offices are difficult to find for anyone not intimately familiar with the Student Recreation Center building. TTE's front door is tucked away in a dark corner, not visible from a main street (Figure 3.1).

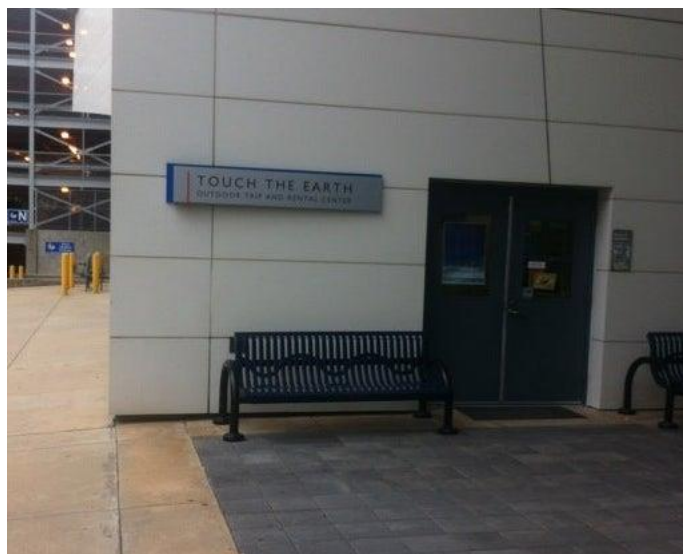


Figure 3.1 GSU Recreational Services: Touch the Earth

Once I found the TTE offices, I went through the process of renting a bicycle. I got to chatting with a few of the student employees that work for TTE. They told me that marketing was another of TTE's primary challenges. All events are posted on the Student Recreation Center's social media channels including Instagram and X (formerly known as Twitter) (Figure 3.2). After viewing their social media accounts, however, I was shocked to discover that there hadn't been any Instagram posts since August 10, 2023, nor any X posts since August 14, 2023 (Figure 3.3). The next most-recent post was from June 11, 2022 (Figure 3.4). With a year-long gap between posts, and only one post during the 2023-24 academic school year, it's clear that the Student Recreation Center and TTE do not currently have a robust social media marketing presence – proving that the TTE students' insights were accurate.

A calendar and equipment rental information are located on TTE's website, along with a full list of upcoming event and excursions (Figure 3.5). At the moment, this site appears to be the sole source of information for students interested in participating in TTE's programs and activities. However, without social media posts calling students' attention to the website, it

seems unlikely that students would stumble across this valuable information unless they knew or heard about TTE elsewhere.



Figure 3.2 GSU Recreational Services social media 1, X

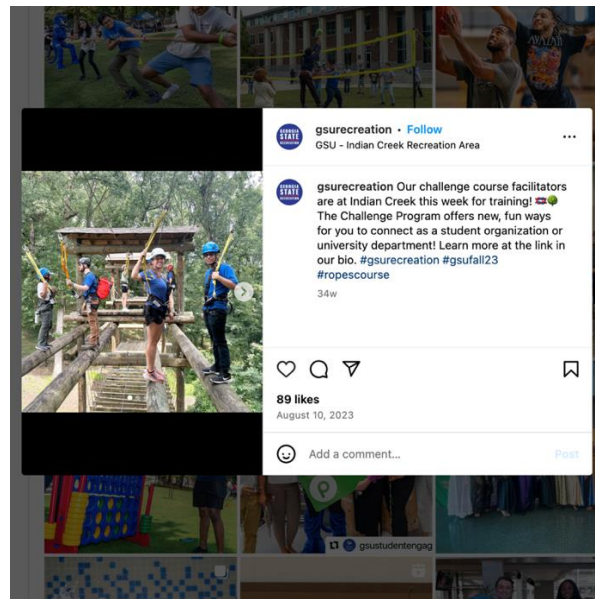


Figure 3.3 GSU Recreational Services social media 2, Instagram

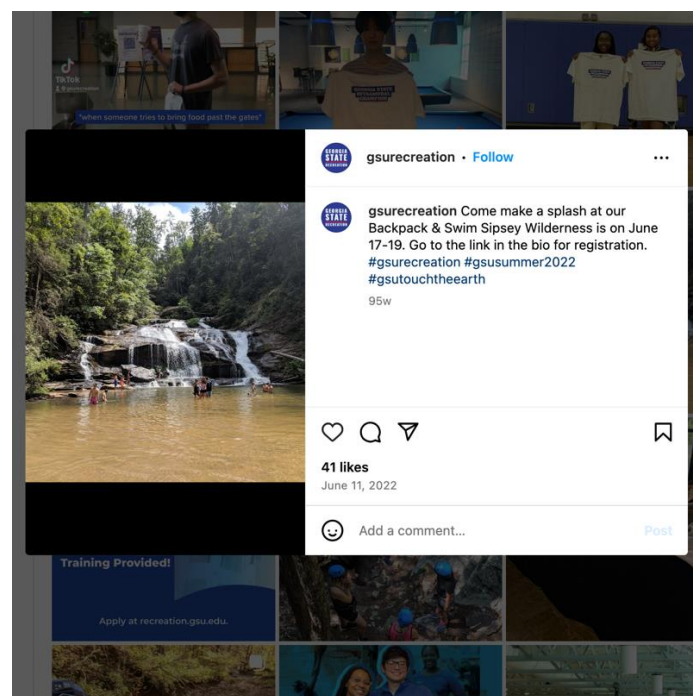
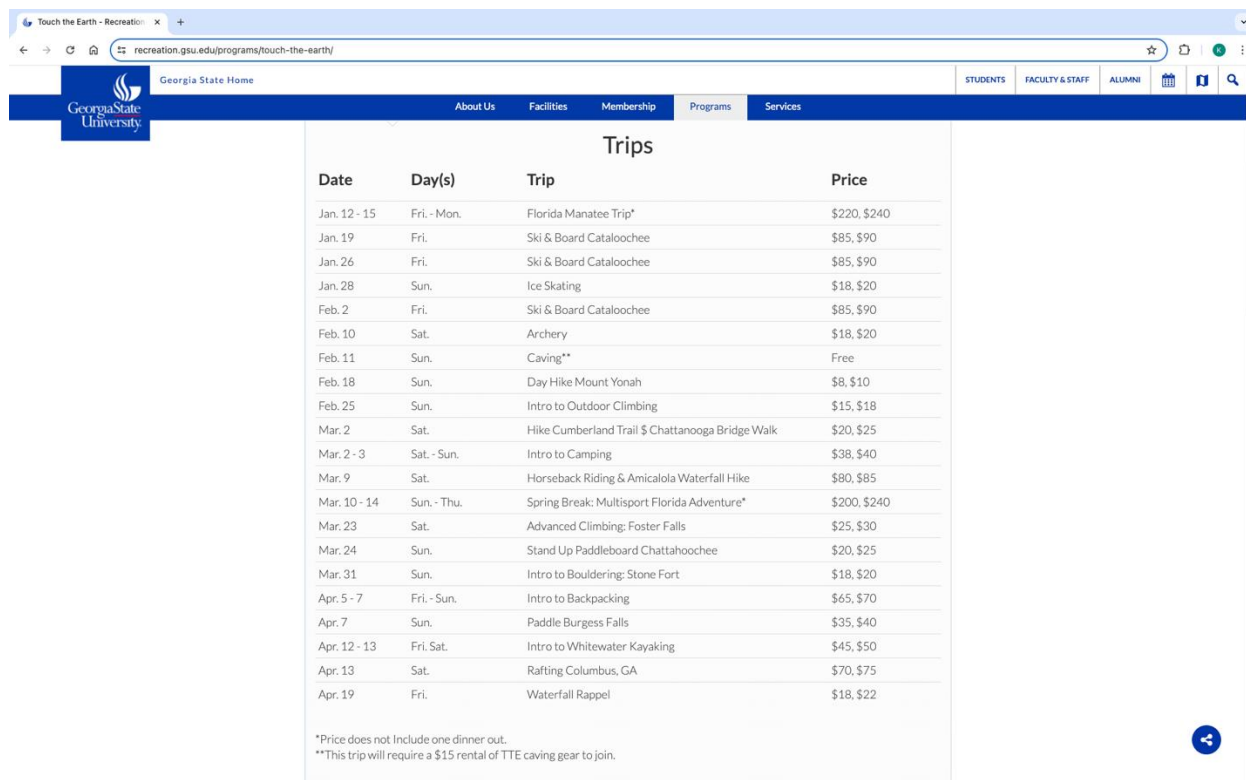


Figure 3.4 GSU Recreational Services social media 3, Instagram



The screenshot shows the Georgia State University Recreation Department website. The header includes the university logo and navigation links: About Us, Facilities, Membership, Programs, and Services. A secondary navigation bar lists STUDENTS, FACULTY & STAFF, and ALUMNI. The main content area is titled "Trips" and contains a table with the following data:

Date	Day(s)	Trip	Price
Jan. 12 - 15	Fri. - Mon.	Florida Manatee Trip*	\$220, \$240
Jan. 19	Fri.	Ski & Board Cataloochee	\$85, \$90
Jan. 26	Fri.	Ski & Board Cataloochee	\$85, \$90
Jan. 28	Sun.	Ice Skating	\$18, \$20
Feb. 2	Fri.	Ski & Board Cataloochee	\$85, \$90
Feb. 10	Sat.	Archery	\$18, \$20
Feb. 11	Sun.	Caving**	Free
Feb. 18	Sun.	Day Hike Mount Yonah	\$8, \$10
Feb. 25	Sun.	Intro to Outdoor Climbing	\$15, \$18
Mar. 2	Sat.	Hike Cumberland Trail & Chattanooga Bridge Walk	\$20, \$25
Mar. 2 - 3	Sat. - Sun.	Intro to Camping	\$38, \$40
Mar. 9	Sat.	Horseback Riding & Amicalola Waterfall Hike	\$80, \$85
Mar. 10 - 14	Sun. - Thu.	Spring Break: Multisport Florida Adventure*	\$200, \$240
Mar. 23	Sat.	Advanced Climbing: Foster Falls	\$25, \$30
Mar. 24	Sun.	Stand Up Paddleboard Chattahoochee	\$20, \$25
Mar. 31	Sun.	Intro to Bouldering: Stone Fort	\$18, \$20
Apr. 5 - 7	Fri. - Sun.	Intro to Backpacking	\$65, \$70
Apr. 7	Sun.	Paddle Burgess Falls	\$35, \$40
Apr. 12 - 13	Fri. Sat.	Intro to Whitewater Kayaking	\$45, \$50
Apr. 13	Sat.	Rafting Columbus, GA	\$70, \$75
Apr. 19	Fri.	Waterfall Rappel	\$18, \$22

*Price does not include one dinner out.
 **This trip will require a \$15 rental of TTE caving gear to join.

Figure 3.5 GSU Recreation Department, Touch the Earth Website Calendar

3.3 Opportunities

Many of TTE's events align directly with activities that have proven to be successful in Nature Rx programs that organizations have led or at other colleges and universities. Therefore, a great opportunity exists to positively impact GSU students' mental and emotional wellbeing. Promoting students' physical, emotional, and social health also ties directly into GSU's new Strategic Plan, entitled Blueprint to 2033. Goal two under "Identity, Placemaking, and Belonging," outlines creating inviting sustainable, and accessible physical and social places where people feel safe and want to learn, study, work, live, play, and connect. Under this goal, the plan emphasizes expanding services to promote the physical, emotional, and social health of students, staff, and faculty. These opportunities place TTE in a favorable position: their services already exist and fit into the University's overall vision for the future.

3.4 Threats

Threats to TTE are few in number, but still important to note. Some students might view participating in TTE activities as a substitute for professional mental health counseling. For students with persistent or severe mental health challenges, not seeing a therapist or clinician regularly could be dangerous. The other threat is one of scale; should TTE become a widely popular service on campus, the available resources might not be able to keep up with demand, forcing some students to be left out of activities and events.

4 BRIDGING THE GAP: METHODOLOGY FOR TOUCH THE EARTH PROGRAM REBRAND AND NATURE RX IMPLEMENTATION

Given all the above, I decided to explore what a cohesive marketing campaign for TTE might look like and what it could do. My design approach is grounded on insights from biophilic design principles and visually compelling typography, imagery, and color that prioritizes clarity, accessibility, and engagement. Inspiring students to explore nature, its benefits, and reduce stigma associated with seek mental health support.

4.1 Initial Creative Research

For creatively rebranding and developing TTE, I relied heavily on the theory of biophilia and the application of biophilic design. Biophilia is the inherent human inclination to affiliate with nature that even in the modern world continues to be critical to people's physical and mental health and wellbeing.³¹ When applying biophilic design, there are three kinds of experiences of nature that form design framework. These include the direct experience of nature,

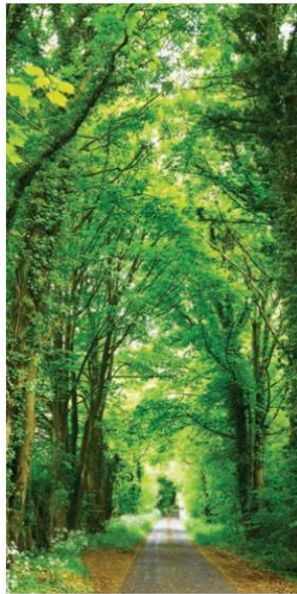
³¹ Wilson, *Biophilia*.

indirect experience of nature, and experience of space and place (Figure 4.1). The direct experience of nature refers to actual contact with environmental features in the built environment including natural light, air, plants, animals, water, and landscapes. The indirect experience of nature refers to contact the representation or image of nature, the transformation of nature from its original condition, or exposure to patterns and processes characteristic of the natural world. Lastly, the experience of space and place refers to spatial features characteristic of the natural environment that have advanced human health and wellbeing.³²

Initial creative research included assessing other nature-based therapy programs' marketing materials, looking for any biophilic features. The University of Minnesota took an indirect approach, while Cornell's marketing blended a direct and indirect approach. The University of Minnesota's Center for Spiritual Health's Nature Heals 30x30 Program collaborated with Lisa Rydin Erickson, an artist and digital illustrator, who specializes in nature illustrations. The illustrations include natural landscapes, plants, and animals, while utilizing natural colors (Figures 4.2 and 4.3). NatureRx@ Cornell's website display natural landscapes that can be found around their campus, and uses those images to construct a digital map that helps viewers explore their local greenspaces (Figure 4.4).

³² Kellert, Stephen, and Calabrese, *The Practice of Biophilic Design*.

Experiences and Attributes of Biophilic Design



DIRECT EXPERIENCE OF NATURE

- Light
- Air
- Water
- Plants
- Animals
- Weather
- Natural landscapes and ecosystems
- Fire



INDIRECT EXPERIENCE OF NATURE

- Images of nature
- Natural materials
- Natural colors
- Simulating natural light and air
- Naturalistic shapes and forms
- Evoking nature
- Information richness
- Age, change, and the patina of time
- Natural geometries
- Biomimicry



EXPERIENCE OF SPACE AND PLACE

- Prospect and refuge
- Organized complexity
- Integration of parts to wholes
- Transitional spaces
- Mobility and wayfinding
- Cultural and ecological attachment to place

Figure 4.1 Attributes of Biophilic Design, 2015, Kellert and Calabrese



Figure 4.2 CSH Nature Heals 30x30 Program Website, University of Minnesota



Figure 4.3 Arboretum, 2015, Digital Illustration, Lisa Rydin Erickson

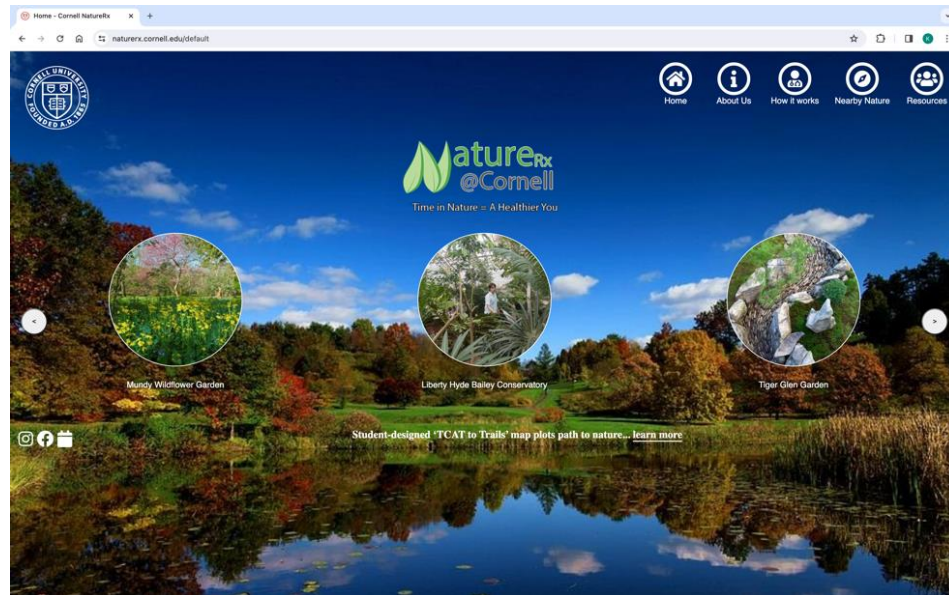


Figure 4.4 NatureRx@Cornell Program Website, www.naturerx.cornell.edu

As I began researching brand identity, I looked at J2 Creative Agency's provided visual identity work for the famous Love Park, in Philadelphia, Pennsylvania (Figures 4.5 and 4.6). Their implementation included a modern color palette and creative messaging which appealed to the direction I took for my TTE campaign.



Figure 4.5 Love Park Branding, J2 Creative Agency



Figure 4.6 Love Park Environmental Graphic Posters, J2 Creative Agency

National Park logos, specifically badge logos (Figure 4.7) also piqued my interest when researching the creative direction for TTE. These logos make good use of indirect biophilic principles by displaying abstracted representations of the most prominent park landscapes. These images integrate the key environmental features the park has to offer. Ultimately, I combined the approaches from all these sources: bold natural color choices, impactful messaging, and celebrating Atlanta's beautiful landscapes.



Figure 4.7 2023 Washington State Parks Rebrand, People People

4.2 Developing the Touch the Earth Visual identity

To begin creating the visual identity for TTE, I created a word map (Figure 4.8) to develop a strategy for visual assets and to organize my thoughts. The human connection with nature became a reoccurring theme, which in turn provided a framework to supply visual inspiration for the developing the branding. The program's goal is to foster connections with nature and each other, so I wanted to ensure that the visual representation reflected these core values and objectives. Recognizing the program's multifaceted offerings, I sought to showcase the diverse elements of nature with which participants engage with: bodies of water, lush landscapes, and towering mountains. The visual identity was crafted with careful consideration of both aesthetic appeal and functional clarity with the use of geometric shapes, natural hues, and bold lines (Figures 4.9). I also had to consider logo forms. From equipment identification to apparel design, TTE's logo must be adaptable to multiple forms while still providing effective brand cohesiveness.

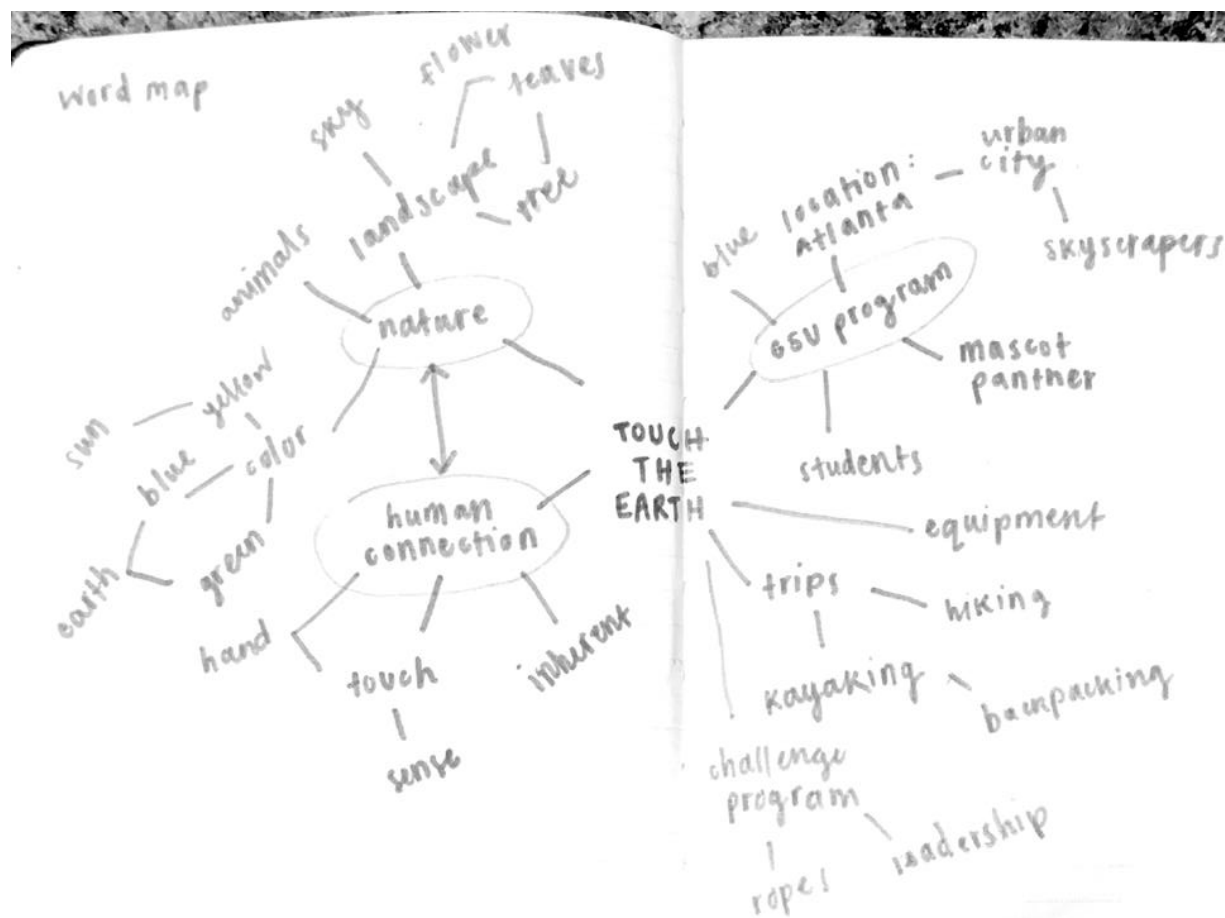


Figure 4.8 Word Map, Kennedy Burks



Figure 4.9 Touch the Earth Logo, Full-Color and 1 Color, Kennedy Burks

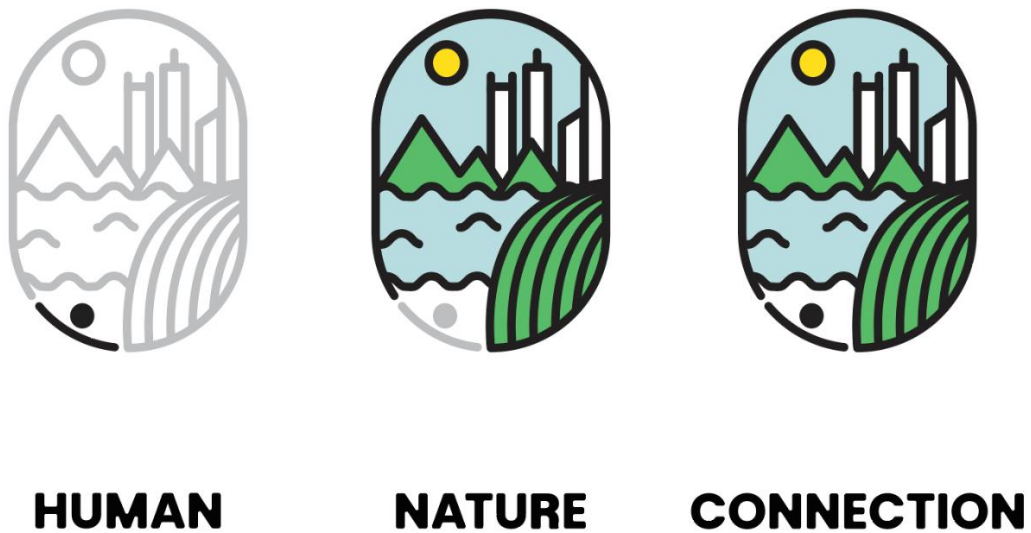


Figure 4.10 Touch the Earth Logo Breakdown, Kennedy Burks

4.3 Typography and Color

Typography and color choices were especially important when developing TTE's brand identity. For this program to be promote services that contribute to participants' quality of life, a foundation of trust must be built. Clear and concise messaging and judicious font choices that take psychological factors into account can help establish this trust. (Figure 4.11)

Poppins

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk
 Ll Mm Nn Oo Pp Qq Rr Ss Tt Uu
 Vv Ww Xx Yy Zz
 0 1 2 3 4 5 6 7 8 9

Sentinel

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk
 Ll Mm Nn Oo Pp Qq Rr Ss Tt Uu
 Vv Ww Xx Yy Zz
 0 1 2 3 4 5 6 7 8 9

SALTED

A B C D E F G H I J K
 L M N O P Q R S T U V W X Y Z
 0 1 2 3 4 5 6 7 8 9

Figure 4.11 Touch the Earth Typographic Selections, Kennedy Burks

I selected Poppins, a sans-serif font, was designated as the program's primary typeface because its simplicity and readability makes it suitable for conveying important information clearly and effectively across digital and print platforms such as digital and print. Sentinel, a serif font, adds a touch of refinement and sophistication to the program's branding and creates a harmonious contrast with Poppins modern simplicity. This classic serif style evokes a sense of tradition and authenticity, evoking credibility to the program's identity—a key quality in effectively promoting services that improve health and well-being.

To further integrate biophilia into TTE's visual identity, I selected hues that reference natural elements of nature such as water, sunshine, land, and plants. As mentioned in prior research, shades and tones of blue, green, and yellow contribute to reducing stress and anxiety, an added benefit of y color selections. I developed three colorways for the TTE brand manual: Nature's Renewal, Earth's Embrace, and Radiant Vitality. Nature's Renewal embodies the lushness of nature, foliage, and flourishing landscapes, symbolizing growth renewal, and abundance. Earth's Embrace represents the depth and tranquility of Earth's skies and oceans, evoking feelings of calmness while also symbolizing harmony. Radiant Vitality represents the warmth and brightness of the sun, symbolizing joy, and positivity while evoking feeling of enthusiasm. These colorways represent the Touch the Earth program in a wholistic way, by reinforcing the program's connection to nature. (Figure 4.12)

Nature's Renewal**Earth's Embrace****Radiant Vitality**

Figure 4.12 Touch the Earth Rebrand: Color Palette, Kennedy Burks

To expand the design assets for TTE, I introduced additional visual elements to enhance the programs aesthetic appeal while reinforcing the program's connection to nature.

Incorporating a geometric pattern inspired by images of nature (indirect biophilic design) to infuses the visual identity with a sense of modernity and vibrancy. By intertwining shapes reminiscent of leaves, waves, flowers, and mountains, the asset emphasizes the harmony and connectedness with the environment (Figure 4.13).



Figure 4.13 Touch the Earth Brand Pattern, Kennedy Burks

5 EXHIBITION

The main goals for the exhibition were to educate viewers about biophilic design, to demonstrate how I applied those principles to the materials I produced, and to create an interactive experience that allowed people to experience the therapeutic benefits of the Touch the Earth Program at GSU. Upon entry, viewers were met with soothing natural sounds and an opening statement regarding the purpose of exploring this exhibit:

This gallery show invites visitors to delve into the intricate relationship between graphic design and the natural world, showcasing how biophilic design principles infuse artworks with the beauty and essence of nature, captivating viewers with their harmonious blend of natural elements and visual storytelling. At the heart of this gallery show lies the Touch

the Earth program, an approach to promoting mental wellness through immersive nature experiences, mindful practices, and environmental education, underscoring the profound impact that reconnecting with nature can have on our overall well-being.

Viewers also could see and touch some of the outdoor equipment available from Touch the Earth's rental service (Figure 5.1).



Figure 5.1 Touch the Earth Outdoor Equipment, Kennedy Burks

The exhibit transitioned into defining Biophilia (Figure 5.2), outlining the three main ways we experience biophilia and biophilic design (Figure 5.3). Next, I presented the first design deliverable: the brand guide (Figure 5.4) I created for the TTE program. This guide includes the new TTE logo, information about the brand identity, colors and fonts, and illustrations and examples for how to use the brand guide when creating marketing materials and other content. Viewers could flip through the guide and understand the creative choices that carried through the

other deliverables presented within the exhibit. Following the brand guide, I presented a TTE brochure to help demonstrate how the brand guide could be directly applied in the creation of physical marketing materials. The brochure informed viewers on nature-based therapy practices and activities they can implement in their daily lives.

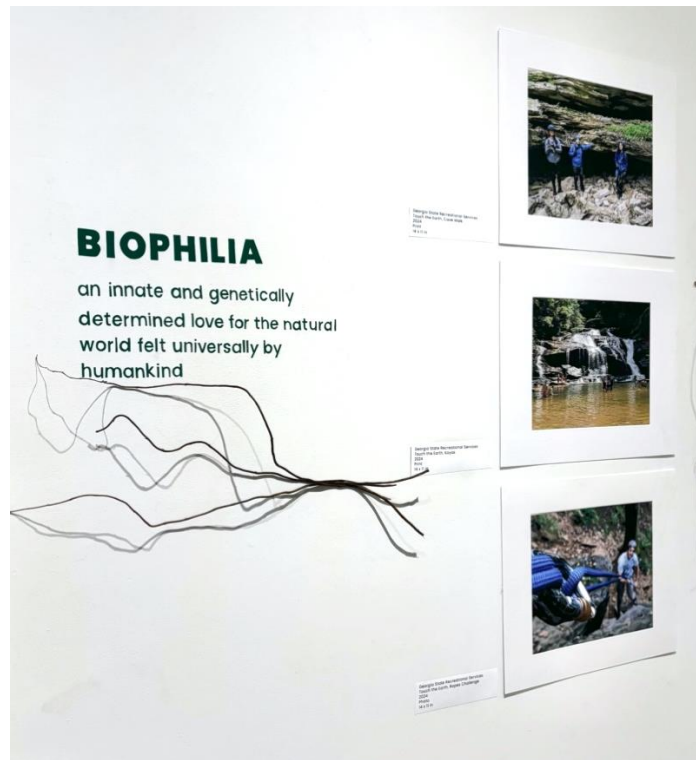


Figure 5.2 Touch the Earth Exhibition, Biophilia Definition, Kennedy Burks

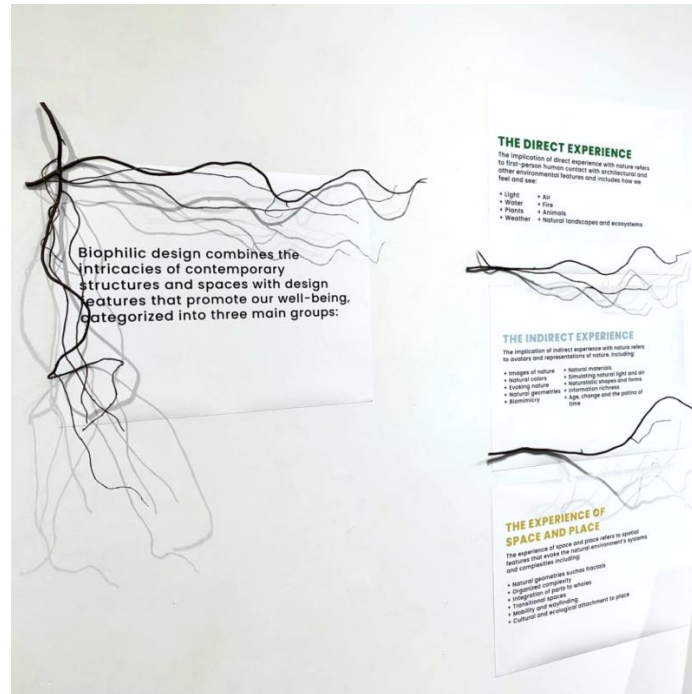


Figure 5.3 Touch the Earth Exhibition, 3 Biophilic Characteristic Groups, Kennedy Burks



Figure 5.4 Touch the Earth Brand Guide, Kennedy Burks

Next, the exhibit transitioned into an experiential and interactive portion. I highlighted four nature-based therapy activities that the Touch the Earth Program at GSU offers or that are available in the Atlanta area, along with a description of each activity and its therapeutic benefits. First, I featured forest bathing, which is the practice of immersing oneself in a natural woodland setting and interacting with the sights, sounds, and scents of the forest. Forest bathers stroll leisurely, take deep breaths, and ground themselves in their surroundings. To advertise forest bathing as an option for GSU students, I created *A Step Towards Wellness* (Figure 5.5), a poster showcasing the brand's modern and display typography and imagery of TTE participants on a guided weekend trip to Mount Yonah located an hour and forty minutes outside of Atlanta.

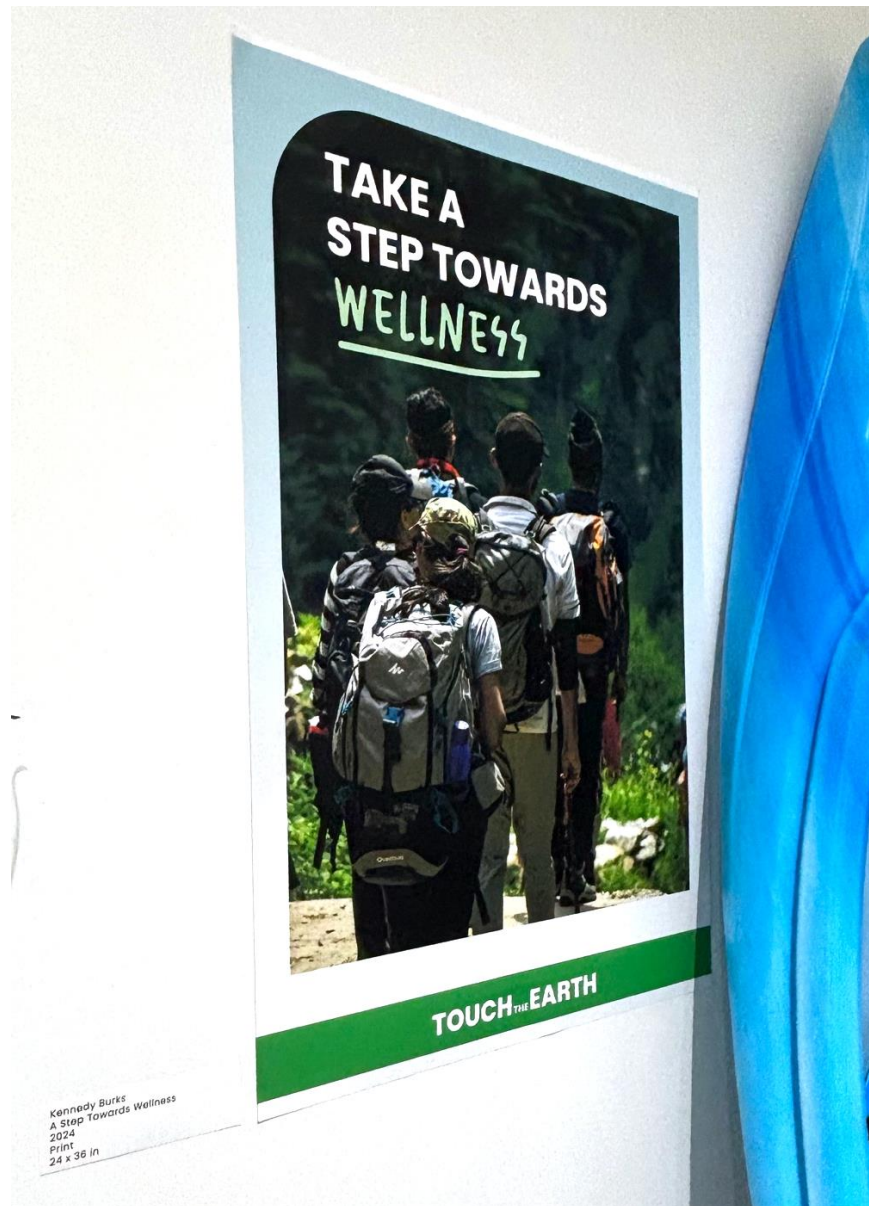


Figure 5.5 A Step Towards Wellness, 2024, 24x36in, Print, Kennedy Burks

Second, *Reflect, Rebalance, and Refocus* (Figure 5.6), encourages viewers to engage in mindfulness and meditative practices, through a finger and eye labyrinth. These labyrinths involve tracing a circuitous route around an image, which focuses our attention on the present moment and calms our minds.³³ Viewers had the opportunity to physically interact with the

³³ Guo, "Horticultural Activities Participation and College Students," 9, 334.

labyrinth on the poster. I also included a QR code that directs people to a webpage about local labyrinths.



Figure 5.6 Reflect, Rebalance, and Refocus, 2024, 24x36in, Print, Kennedy Burks

The third nature-based therapy activity highlighted within the exhibition is gardening, which brings about a feeling of calmness, helps reduce stress, and creates a sense of meaning and unity with nature. Gardening stimulates the senses, encourages social connections when done with others, and fosters personal development. Gardening directly correlates with the concept of transformation and growth, so planting something and watching it grow helps us reflect on changes in our lives. Overall, it's a very rewarding activity. My poster *Grow Together* (Figure 5.7) showcases the brand's bold color palette, and geometric floral illustrations. The plant-like forms on the poster are of varying heights, which represent different stages of personal growth that we might encounter.

While gardening offers us therapeutic benefits, *what* we can grow can be just as beneficial. Superfoods are foods that also have been shown to have a positive impact on our health. Berries are packed with lots of vitamins and nutrients and are shown to improve cognitive function and boost moods.³⁴ Gallery visitors were invited to plant and take home their very own berry plant, along with instructions on how to tend to their plant and information on the benefits of the berry they selected (Figure 5.8).

³⁴ Brookie, Best, and Conner, "Intake of Raw Fruits."



Figure 5.7 Grow Together, 2024, 24x36in, Print, Kennedy Burks



Figure 5.8 Touch the Earth Exhibition, Gardening Station, Kennedy Burks

Nature walks were the closing nature-based activity featured in the exhibition. Advantages for walking or hiking in natural settings include physical activity, fresh air, and exposure to sunlight. These elements can boost mood, decrease anxiety, and improve cognitive function.³⁵ Visual elements for this section included photographs taken on walk I took during my time at GSU, at nearby places like Cascade Springs State Park, Stone Mountain Park, and the Atlanta Botanical Gardens. (Figure 5.10).

³⁵ Shrestha et al., "Natural or Urban Campus Walks," 2003.



Figure 5.9 Touch the Earth Nature Walk Section, Kennedy Burks

6 CONCLUSION

This thesis underscores the profound healing effects that nature can offer to individuals grappling with mental hardships and the transformative role that design can play as a positive catalyst in this process. Through this exploration, I've deepened my understanding of communication strategies that promote mental health support and the significance of design thinking and fostering inclusive and impactful solutions. As Tim Brown, executive chair of IDEO, aptly stated, "It's not 'us versus them' or even 'us on behalf of them.' For a design thinker it has to be 'us with them,'" emphasizing the importance of collaborative and empathetic approaches in addressing complex challenges.³⁶

One of the most challenging aspects of this exploration was creating an exhibition environment that captured and conveyed the benefits of nature to participants. However, this challenge also provided valuable insights into the potential of immersive and experiential design to evoke emotional responses and facilitate meaningful connections with nature. Moving forward, I'm eager to further explore and test how design can effectively support individuals experiencing socioeconomic issues such as homelessness and relational poverty. By leveraging design as a tool for empathy, innovation, and social impact I aspire to contribute to the creation of more equitable and compassionate communities where individuals can thrive.

³⁶ Singh, Tanya, "What Is Design Thinking?"

BIBLIOGRAPHY

- American Psychological Association, APA Task Force on Race and Ethnicity Guidelines in Psychology. *Race and Ethnicity Guidelines in Psychology: Promoting Responsiveness and Equity*. (2019). Retrieved from <http://www.apa.org/about/policy/race-and-ethnicity-in-psychology.pdf>.
- Anderson, Mahogany S. "Barriers to the Utilization of Mental Health Services on College Campuses by African-American Students," *McNair Scholars Research Journal* 11, (2018): Article 3. <https://commons.emich.edu/mcnair/vol11/iss1/3>.
- Berman, M. G., Kross, E., Krpan, K. M., Askren, M. K., Burson, A., Deldin, P. J., Kaplan, S., Sherdell, L., Gotlib, I. H., and Jonides, J. "Interacting with Nature Improves Cognition and Affect for Individuals with Depression." *Journal of Affective Disorders* 140 (3), (2012): 300–305. <https://doi.org/10.1016/j.jad.2012.03.012>.
- Boardman, Paula, Suzanne Klatt, Diane Rudebock, and Teresa Araas. "Investigating Labyrinth Walking as a Tool for Stress Relief in the Workplace." *International Journal of Stress Prevention and Wellbeing* 1 (2017): 1-12. <http://www.stressprevention.net/wp-content/uploads/2017/12/IJSPW-1-12.pdf>.
- Brookie, Kate L., Georgia I. Best, and Tamlin S. Conner. "Intake of Raw Fruits and Vegetables Is Associated with Better Mental Health than Intake of Processed Fruits and Vegetables." *Frontiers in Psychology* 9 (April 10, 2018). <https://doi.org/10.3389/fpsyg.2018.00487>.
- Bratman, Gregory N. et al. "Nature and Mental Health: An Ecosystem Service Perspective." *Science Advances* 5, no. 7 (July 24, 2019). DOI: 10.1126/sciadv.aax0903.
- "Charles Roundtree Bloom Project." *CR Bloom Project*. Accessed April 2024. <https://www.crbloomproject.org/>.

- Chen, Justin A., Courtney Stevens, Sylvia H. Wong, and Cindy H. Liu. "Psychiatric Symptoms and Diagnoses among U.S. College Students: A Comparison by Race and Ethnicity." *Psychiatric Services* 70, no. 6, (June 2019): 442–49.
<https://doi.org/10.1176/appi.ps.201800388>.
- Duffy, Anne, Kate E Saunders, Gin S Malhi, Scott Patten, Andrea Cipriani, Stephen H McNevin, Ellie MacDonald, and John Geddes. "Mental Health Care for University Students: A Way Forward?" *The Lancet Psychiatry* 6, no. 11, (November 2019): 885–87.
[https://doi.org/10.1016/s2215-0366\(19\)30275-5](https://doi.org/10.1016/s2215-0366(19)30275-5).
- Flannery, Mary E. "The Mental Health Crisis on College Campuses" *National Education Association*, March 29, 2023. <https://www.nea.org/nea-today/all-news-articles/mental-health-crisis-college-campuses>.
- "Frequently Asked Questions - Georgia State Counseling Center." Counseling Center. Accessed February 14, 2024. <https://counseling.gsu.edu/frequently-asked-questions/#:~:text=Students%20may%20be%20scheduled%20for,approximately%2030%20to%2040%20minutes>.
- Goodrid, M. "Racial Complexities of Outdoor Spaces: An Analysis of African American's Lived Experiences in Outdoor Recreation." M.A. Thesis, University of the Pacific, 2018.
https://scholarlycommons.pacific.edu/uop_etds/3121.
- Guliyayimu Y. "The Application of Mental Health Education in Ideological and Political Courses in Colleges and Universities." *Psychiatria Danubina*, 2020: 34(suppl 1), 655–656.

- Guo, S.; Li, T.; Xue, B.; Yang, X. “Horticultural Activities Participation and College Students’ Positive Mental Characters: Mediating Role of Academic Self-Efficacy.” *Horticulturae* 9, no. 3 (March 2023): 334. <https://doi.org/10.3390/horticulturae9030334>.
- Healthy Minds Network (2023). *Healthy Minds Study among Colleges and Universities, Year (2022-23)* [Data set]. Healthy Minds Network, University of Michigan, University of California Los Angeles, Boston University, and Wayne State University. <https://healthymindsnetwork.org/research/data-for-researchers>.
- Jones, C. L., Jensen, J. D., Scherr, C. L., Brown, N. R., Christy, K., and Weaver, J. “The Health Belief Model as an Explanatory Framework in Communication Research: Exploring Parallel, Serial, and Moderated Mediation.” *Health communication*, 30, no. 6 (2015): 566–576. <https://doi.org/10.1080/10410236.2013.873363>.
- Kaya, Naz, and Helen H. Epps. “Relationship between Color and Emotion: A Study of College Students.” *College Student Journal* 38, no. 3 (September 2004): 396–405. <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=psych&AN=2004-19149-009&site=ehost-live&scope=site>.
- Kellert, Stephen R. and Elizabeth Calabrese. *The Practice of Biophilic Design*. 2015. <http://www.biophilic-design.com>.
- Lee, Juyoung et al. “Influence of Forest Therapy on Cardiovascular Relaxation in Young Adults.” *Evidence-Based Complementary Alternative Medicine* (2014): 1–7. DOI: 10.1155/2014/834360.
- Li Q. *Forest Bathing*. New York, NY: Viking Press; 2018.
- One Nature Challenge*. David Suzuki Foundation, December 7, 2023. <https://davidsuzuki.org/take-action/act-locally/one-nature-challenge/>.

Pascarella, Ernest T., Christopher T. Pierson, Gregory C. Wolniak, and Patrick T. Terenzini.

“First-Generation College Students: Additional Evidence on College Experiences and Outcomes.” *The Journal of Higher Education* 75, no. 3 (2004): 249–84.

<http://www.jstor.org/stable/3838816>.

Pike, Gary R., and George D. Kuh. “A Typology of Student Engagement for American Colleges and Universities.” *Research in Higher Education* 46, no. 2 (2005): 185–209.

<http://www.jstor.org/stable/40197352>.

Pouso, Sarai, Ángel Borja, Lora E. Fleming, Erik Gómez-Baggethun, Mathew P. White, and

María C. Uyarra. “Contact with Blue-Green Spaces during the COVID-19 Pandemic Lockdown Beneficial for Mental Health.” *Science of The Total Environment* 756

(February 2021): 143984. DOI: 10.1016/j.scitotenv.2020.143984.

Schuyler, Sophie W.; Childs, Jonique R.; and Poynton, Timothy A. “Promoting Success for First Generation Students of Color: The Importance of Academic, Transitional Adjustment, and Mental Health Supports,” *Journal of College Access* 6, no. 1, (2021): Article 4.

<https://scholarworks.wmich.edu/jca/vol6/iss1/4>

Shrestha, Topaz, Zelda Di Blasi, and Marica Cassarino. “Natural or Urban Campus Walks and Vitality in University Students: Exploratory Qualitative Findings from a Pilot

Randomised Controlled Study.” *International Journal of Environmental Research and Public Health* 18, no. 4 (February 19, 2021): 2003.

<https://doi.org/10.3390/ijerph18042003>.

Singh, Tanya. “What Is Design Thinking?” *Medium*, January 4, 2021.

<https://bootcamp.uxdesign.cc/what-is-design-thinking-6d0ee995699b>.

- Singla, Vikas, and Nidhi Sharma. "Understanding Role of Fonts in Linking Brand Identity to Brand Perception." *Corporate Reputation Review* 25, no. 4 (November 9, 2021): 272–86. <https://doi.org/10.1057/s41299-021-00127-3>.
- Smith, Marci-Anne Colline. "Creating Space for Nature RX at Historically Black Colleges and Universities." M.A. Thesis, University of Maryland, 2023. <https://drum.lib.umd.edu/items/188afee0-f956-4988-9300-7ff8816c1e6b>.
- Solomons, Will and Ada Wood. "Navigating the University's Services." *The Signal Urbanite* 2, no. 1 (Summer 2019): 20. <https://issuu.com/gsusignal/docs/urbanite2019>.
- Tolliver-Jackson, L. "Why Black People are Turning to Gardening During Difficult Times." *The Palm Beach Post*. (June 29, 2020), <https://www.palmbeachpost.com/story/news/coronavirus/2020/06/29/why-black-people-are-turning-to-gardening-during-difficult-times/41743333/#>.
- University of Washington Botanic Gardens. "Self-Guided Forest Bathing." <https://botanicgardens.uw.edu/washington-park-arboretum/activities/forest-bathing/>.
- Wilson, Edward O. *Biophilia*. Harvard University Press, 1984.