

THE SEA AND ISLANDS ARE CALLING:
THE POWER OF NATURE TO HEAL
A Qualitative Study

A Capstone project presented in partial fulfillment
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Master of Arts in Policy Studies

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ABSTRACT

For many, our ability and opportunity to experience and connect with nature, which we may have taken for granted, is dissipating. Humanity is encountering an immense shift with, according to the United Nations, most people—over half globally and approximately 4 in 5 in the United States—now live in urban areas. With more people living in urban areas, equity of access to green nature spaces (e.g., parks, forests, green open spaces) or blue nature spaces (blue spaces (e.g., lakes, rivers, oceans) is often unequal for marginalized communities. The uneven accessibility to urban nature results in lack of the positive mental health benefits and well-being for marginalized and low-income population and has become recognized as a Public Health and Environmental Justice issue. There is a vast amount of research globally on the positive mental health benefits from exposure to green space with much less on blue space. To my knowledge, there is a gap in the research on nature and well-being when experienced “in situ” (natural or original place) both green and blue spaces simultaneously, and while riding a Washington State Ferry across a large body of water such as the Salish Sea or Puget Sound. To fill this gap, 17 participants were interviewed on their experiences while riding on a Washington State Ferry from Anacortes, Washington to the San Juan Islands. The interviews revealed five themes: Emotions, Safety, Awareness of Engaged Senses, Impact of Blue and Green Spaces, and Healing. All the participants reported experiences of diverse positive emotions. Some had a sense of reconnecting with nature and a healing experience. The Ferry sensations and sound were soothing, comforting and a refuge. All the participants reported feeling safe and secure riding the Ferry, even in inclement weather. These new, positive and unique findings from this study could offer a new option and generally easily accessible resource to nature from the urban areas of Seattle. As such, these findings need to come to the attention of policy makers in Public Health and Social Justice as an ecosystem services tool. This tool, a ride on a Washington State Ferry in the greater Puget Sound region, can begin to address the inequity of accessibility to nature and subsequent positive mental health benefits of marginalized communities in the urban areas of Seattle. Further research on Washington State Ferry routes leaving from the core of Seattle would expand these findings and contribute to new research. Addressing the social determinants of health of marginalized communities can foster healthier citizens and healthier communities.

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INTRODUCTION

There is something infinitely healing in the repeated refrains of nature- the assurance that dawn comes after night, and spring after winter." Rachel Carson

Human beings are innately drawn to nature. This desire and affinity to connect with the natural world is deeply rooted in our biology and psychology, for we evolved in natural environments, according to the American biologist Edward O. Wilson in his work *Biophilia*. This inherent need has profound implications for human wellbeing (1984). Wilson suggests that we should incorporate more elements of nature into our built environments to promote health, happiness and ecological sustainability. Worldwide, many studies have shown the power of experiencing nature to be restorative, inducing positive emotions and improving well-being, mental health and healing (Frumkin et al., 2017, pg.1).

"In general, the definition of "nature" means areas containing elements of living systems that include plants and non-human animals across a range of scales and degrees of human management, from a small urban park through to relatively pristine wilderness" (Bratman et al., 2012, pg.120), bodies of water such as lakes, rivers, seas and ocean and abiotic elements such as a sunrise or vast mountain and

ocean views. Nature spaces in the various literature are labeled as “green” such as forests, parks, playfields, tree lined sidewalks or “blue” such as the sea, ocean, lake, rivers, and ponds.

For many, our ability and opportunity to experience and connect with nature, which we may have taken for granted, is dissipating. Humanity is encountering an immense shift. “Most people—over half globally and approximately 4 in 5 in the United States—now live in urban areas” (United Nations, 2019, as cited in Browning et al., 2024, p. 127). Life in built environments of urban settings is quite different from life in a natural, outside existence. “Most places where people live and work differ dramatically from the ones’ we occupied for 99.9% of human history, and our current surroundings often physically separate us from the natural world” (Browning et al., 2024, pg. 127).

With more people living in urban areas, equity of access to green spaces is often unequal for marginalized communities. According to Heynen et al., in the United States, people of color and low-income earners typically occupy the urban core and/or low-income inner ring suburbs where green space is either scarce or poorly maintained. Wealthier households often reside on the suburban periphery where green space is abundant, well-serviced, and well-maintained (2006, cited in Wolch et.al, 2014, pg.235). This inequity affects the social determinants of health, as

people in greener neighborhoods generally have better physical and mental health outcomes compared to those in less green areas (Jennings et al., 2016). The uneven accessibility of urban greenspace and lack of positive health and well-being for marginalized and low-income population, has become recognized as a Public Health and Environmental justice issue.

The purpose of this study is two-fold, to contribute new research to a growing field of positive mental outcomes from experiences in nature in Public Health Policy and Social Justice. Secondly, within Public Health Policy, my research may contribute new data which could support a new option to address the lack of accessibility and health benefits with an unrecognized and generally easily accessible resource -- a ride on a Washington State Ferry in the greater Puget Sound Region. This study examined the experiences reported by adult riders while traveling on a Washington State Ferry through the San Juan Islands in the Salish Sea from Anacortes, Washington.

My research explores the following questions: What are the positive affects of experiencing nature if people had the opportunity to experience both blue and green simultaneously while traveling on the Salish sea through the San Juan Islands? Will this experience provide a sense of well-being and positive emotions, such as happiness or awe? Will the Ferry be a distraction or create an emotion of

discomfort or fear? I hypothesize that riding as a passenger on a Washington State Ferry, experiencing simultaneously “green” and “blue” spaces together, will be a restorative experience resulting in positive emotions and outcomes of well-being, improved mental health and possible healing, in addition to being considered a potentially, easily accessible and positive impactful choice for a nature experience from urban communities in the greater Seattle area.

LITERATURE REVIEW

Human beings are innately drawn to nature. This desire and affinity to connect with the natural world is deeply rooted in our biology and psychology, for we evolved in natural environments (Wilson 1984, *Biophilia*), and this inherent need has profound implications for human wellbeing. Wilson suggests that we should incorporate more elements of nature into our built environments to promote health, happiness and ecological sustainability. Expanding on this concept, two prominent theories that account for the positive benefits of exposure to nature on human health are Attention Restoration Theory (ART) and Stress Reduction Theory (SRT) which offer insights into how nature positively impacts human health. ART suggests that modern life's mental fatigue stems from a diminished ability to focus, which nature environments can help restore (Kaplan et al., 1989). Concurrently, SRT proposes that nature exposure activates the parasympathetic nervous system, reducing stress and autonomic arousal due to humans' intrinsic bond with the natural world (Ulrich, 1991).

Before proceeding further in the literature review, it's essential to clarify the definitions of "nature" and "mental health" within the context of my study. Nature is defined as areas containing elements of living systems that include plants and non-human animals across a range of scales and degrees of human management,

from a small urban park through to relatively pristine wilderness” (Bratman et al., 2012, pg.120), and bodies of water such as lakes, rivers, seas and ocean and abiotic elements such as a sunrise or vast mountain and ocean views.

For 350,000, estimated generations, humans have lived close to the land as hunter-gatherers; a sense of belonging, place, and feeling embedded within the broader natural world characterized these cultures. In some ways, then, it would be surprising if the modern life of being divorced from nature did not have some negative consequences associated with it and that being in nature had positive benefits (Pretty, 2002 as referenced in Mayer et al., 2009, pg. 635).

GREEN SPACE STUDIES

There is vast literature that supports the power of nature to heal and restore with positive outcomes of mental health and well-being, predominantly in “green space”. According to Frumkin et al., the various studies conducted in the United States and globally, support the power of experiencing nature to restore one with positive emotions and outcomes of well-being, improved mental health and healing (2017, pg.1). Additional evidence is provided in *Nature and Mental Health: An ecosystem services perspective*, which outlines points of consensus, from 26 contributing authors from around the globe, and across the natural, social, and

health sciences, on the positive impacts of nature experience on cognitive functioning, emotional well-being, and other dimensions of mental health (Bratman, et al., 2019). Beyond these two reviews, there is a growing body of empirical evidence revealing the value of nature experience for mental health.

Research conducted in transcontinental Japan and China points to an abundance of positive health benefits for the human physiological and psychological systems associated with the practice of Shinrin-Yoku, also known as Forest Bathing. Shinrin-Yoku a traditional Japanese practice of immersing oneself in nature by mindfully using all five senses (Hansen et al., 2017). During the 1980s, Shinrin-Yoku was brought to light in Japan as a significant part of preventive health care and healing in Japanese medicine (Anonymous, Shinrin Yoku, cited in Hansen et al., 2017 pg. 1).

Jimenez et al. in *Associations between Nature Exposure and Health: A Review of the Evidence* from over a decade, “found evidence for associations between nature exposure and improved cognitive function, brain activity, blood pressure, mental health, physical activity, and sleep. . . and evidence of positive associations between nature exposure and increased levels of physical activity and decreased risk of cardiovascular disease (2021, pg. 1).

The ability to reflect on a life problem and positive affect from exposure to nature was examined in three studies by Mayer et al., *Why Is Nature Beneficial? The Role of Connectedness to Nature*. They found “exposure to nature increased connectedness to nature, attentional capacity, positive emotions, and ability to reflect on a life problem; these effects are more dramatic for actual nature than for virtual nature” (2008).

BLUE SPACE STUDIES

Research on “blue space” has been emerging with a growing interest in the potential use of blue space in the promotion of human health and well-being, specifically therapeutic nature-based practices according to Britton et al., in *Blue care: a systematic review of blue space interventions for health and well-being*. This study reviewed the existing evidence-based research on the well-being benefits of therapeutic interventions within blue space. Of the thirty-three studies that met their criteria, their findings suggest that mental health, especially psycho-social well-being, can be improved with investment in blue spaces (2018).

A study in Europe was conducted by Carreño et al., 2023, to assess the potential positive health effects of engaging in marine leisure activities in well-preserved blue spaces on the coast and in the sea for individuals with a history of

cancer in Spain. Results showed that exposure to blue spaces contributes to tension and anger reduction and improves the vigor and mood state of oncology patients (2023).

In *Public Health Policy*, a collection of six papers from Europe and Oceania, multiple researchers found evidence of the positive significance of "blue space" for health and well-being (2015, pg. 157). It is widely accepted that green spaces have the potential to serve as therapeutic landscapes and are a public health resource but less is known about the extent to which "water-related environments", blue spaces, may benefit health (Mishra et al., 2019, pg.1).

Most of the outdoor environment assessment tools which are limited to date, have focused on health and well-being on urban green design qualities in relation to activities. Less attention has focused on evaluating the qualities of existing blue spaces that afford health promoting behaviors and well-being. To fill this gap, a novel blue space quality assessment tool, BlueHealth Environmental Assessment or BEAT, helps define the attributes that benefit health and highlights the importance of key blue space physical environmental features to assist planning and designing of blue spaces and their inclusion in creating Public Health related Policies (2019, pg.1).

NATURE, MENTAL HEALTH and URBAN LIVING

One of the primary benefits of exposure to nature is improved mental health. Mental health, defined by the World Health Organization (WHO) as “a state of well-being in which [an] individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (2014). Poor mental health is the leading cause of disease burden in high-income countries (WHO, 2017).

In a recent report in 2024 by WHO, “urbanization is one of the leading global trends of the 21st century that has a significant impact on health with over 55% of the world’s population live in urban areas – a proportion that is expected to increase to 68% by 2050”. This is significant for individuals living in cities, are exposed to pollution, such as noise, water and soil contamination, urban heat islands, and a lack of space for walking, cycling and active living further making cities epicenters of a noncommunicable disease epidemic (such as mental health) and drivers of climate change (WHO, 2024).

The lack of access to nature in urban areas is addressed in *Advancing Sustainability through Urban Green Space: Cultural Ecosystem Services, Equity, and Social Determinants of Health* by Jennings et al. Their study emphasizes the

importance of equity in the distribution of urban green spaces, noting that access to such areas is often unequal, with marginalized communities experiencing fewer benefits. This inequity affects the social determinants of health, as people in greener neighborhoods generally have better physical and mental health outcomes compared to those in less green areas. The authors are calling for policies that increase the quantity of urban green spaces, improved quality and accessibility by providing crucial ecosystem services to foster stronger, healthier communities. Urban green spaces provide settings for a remarkable range of physical and mental health benefits, and pioneering health policy is recognizing nature as a cost-effective tool for planning healthy cities (2016).

A qualitative study in a northern UK city on urban living, mental health and nature experiences was comprised of 24 young multi-ethnic residents aged 17-27. Nine of the participants had reported lived experience of mental health difficulties. The participants expressed how nature doesn't judge you. Their urban nature encounters were experienced as accepting and relational, offering a: stronger sense of self; feelings of escape; connection and care with the human and non-human world. This study offered new understandings of youth mental health, urban living and nature experiences that support mental health and well-being (Birch et al., 2020).

SUMMARY

The literature has repeatedly shown that exposure to nature has a positive effect on human health and wellbeing. Yet, there is a need for additional research in the United States on both blue spaces and green/blue spaces, with children and adults, as the majority of the studies have been conducted in Europe. Policy makers are often more influenced by studies that are local than those that are conducted far away. Lastly, more research needs to be focused on the inequity of access that affects the social determinants of health for those in marginalized urban communities and the creation of Public Health Policies as a mechanism for healthy citizens in healthy cities.

METHODOLOGY

The design of my research, to answer my hypothesis and provide new data to the research on nature and health from the perspective of Public Health Policy and equity of access to nature, is an Exploratory Case Study design.

I will be collecting qualitative data with semi-structured face-to-face interviews of riders on the Washington State Ferry traveling from Anacortes, WA to the San Juan Islands. By using interviews, I will gain a rich in-depth understanding of the emotions a passenger will experience while riding on a Washington State Ferry.

Exploratory Case Study Methodology is the best choice for my research objectives for I am seeking to gain in-depth knowledge and insights into the passenger's experience on the Ferry. Exploratory case studies can uncover new patterns, relationships, or variables that may lead to the formulation of hypotheses for further research. This methodology is very valuable to my study for I will be investigating emerging phenomena and collecting new and unique data which is important for my study. In examining the authentic in-person experience in their natural context, using exploratory case studies will help me understand the context-specific factors that influence the phenomenon of the emotional experienced when riding on the Ferry. Findings from exploratory case studies can

have practical implications for addressing real-world problems or informing decision-making in various fields.

DATA COLLECTION

To collect my data, I took 8 round trip rides on the Washington State Ferry from Anacortes, Washington, that travels around, to and from the San Juan Islands, with stops at Lopez, Shaw, Orcas and San Juan Islands in the Salish Sea before returning to Anacortes. In seeking interviews from diverse riders, I rode on 2 different routes, the 9:40 am that traveled to Lopez and Shaw Islands and a 10:40 am route that traveled to San Juan Island.

In randomly selecting participants, I choose the main passenger level, Level 2, which is above the vehicle deck and where most of the passengers from their cars and walk-on passengers gather. I selected at random adults that appeared to be unoccupied with children, traveling companions, focused on taking in the scenery glazing intently through the window, working on a computer, reading a book or appeared to want to be left alone from both sides of the walkway from front to back of the Ferry. I choose not to approach adult passengers on the outside decks to avoid being a disturbance.

Each Ferry ride I approached adults, introduced myself as a UW Bothell Graduate student and asked if they would be interested in participating in my

research project. If they were interested, I offered a letter on UW Bothell letterhead describing my research project including the IRB number, their right to terminate their participation at any time, with my contact and my advisors. Additionally, I explained that the gathering of data would be face-to-face interviews taking 10-15 minutes and will be digitally recorded and semi-structured. After the initial open-ended questions listed below were answered, unexplored topics that arose in the interviews may have prompted additional questions that contributed unexpected data to my research.

Table 1: Profile of Respondents

Name	Age	Frequency of Ferry Trips	Predominate Emotions Experienced	Feel Safe on Ferry?	Additional Information
G.C.	20's	<6x a year now but frequent until several years ago.	Wonder , excited, relaxing.	YES	Lived on Orcas Island until 18 years old
J.D.	30's	Frequent- 3-4x a week.	A place for him to let go of his Grief and begin Healing from the recent loss of his dog who traveled with him for many years on the Ferry to his work sites. He was considering pouring a teaspoon of his dog's ashes off the Ferry.	YES	Travels to Islands often for work as a service technician.

L.H.	30's	1-2x a year	Overwhelming sense of calm. She has sailing on the America's Cup and will be doing so again in 2024.	YES	Used to come up for the Summers and stay on family property on Orcas Island. From Illinois, now lives in Seattle.
M.J.	30's	1st Ride	Peaceful and calm.	YES	Lives in Paris, was his first trip on WA State Ferry. Takes the Ferry from France to UK often.
R.C.	30's	2-3x a year	Awe at the world we live in. Riding the Ferry is a "quintessential PNW experience" .	YES	Grew up in Greater Seattle area
J.K.	30's	2-3x a year	"There is really nothing like being on the Island in the water, watching the sun go down, all the colors going up, you're like floating through the ocean."	YES	Living in Seattle now, did not grow up in the PNW
N.G.	30's	2nd Ride	Calming to look out at the water and "feel the motion of the ship" .	YES	Not from the area.
E.J.	30's	Once every couple of years.	"Lapping of waves gives a sense of peace." Solitude.	YES	Lives in Chicago, comes to Orcas Island every couple of years. Used to have a family cabin on Orcas Island.
A.F.	40's	2nd Ride	Excitement, joy, calming and magical. It's magical to take a boat from the	YES	Lives in NY City

			mainland to an Island and get to experience it.		
L.K.	40's	8-12x a year	The smell of the ocean/saltwater, "a sense of hope" .	YES	Lived on a Hawaiian Island for first 6 months of life. Lived on Orcas Island until 18 years old. Now in Edmonds.
T.A.	50's	>6x a year	It's a "cathartic experience" , it is healing .	YES	Owns a cabin on Orcas, lives in Seattle.
D.M.	50's	>6x a year, used to live on Orcas full time for 10 years.	Gratitude, at peace, serenity. "The blend of earth and water I think it's got its own type of healing."	YES	Used to live on Orcas full time. Currently in Skagit County.
P.S.	50's	1st Ride	Awe, relaxing, "makes me feel like a kid" , no worries , just go along for the ride.	YES	Lives in Northern California.
R.B.	60's	1x a year	The ride "is so profoundly grounding that it kind of gives you this feeling that you know, everything feels good."	YES	From the Seattle area.
K.S.	60's	2nd time in 39 years	Riding the Ferry through the San Juan Islands is "freeing" .	YES	Lives in Georgia. Professional in the Public Health.
J.A.	70's	1x a month to Friday Harbor for 70's years	"Riding the Ferry is like taking a teeny tiny vacation." The sound of the Ferry	YES	Lives in Anacortes, Washington

			engine has a nice rhythm like you could dance to it.		
G.B.	70's	2x a month, used to be many times a week to conduct research.	Amazement. "Very unique place." Not many Archipelagos like the San Juan Islands in the world.	YES	A Biologist in Seattle area, now retired. Rode the Ferry many times a week conducting research on plant species on the Islands. He visits less often to continue his own research.

After the initial open-ended questions listed below were answered, unexplored topics that arose in the interviews may have prompted additional questions that contributed unexpected data to my research.

My interview questions:

- 1.) How often do you ride the ferry?
- 2.) What emotions/feelings do you experience when riding the Ferry?
 - a. Do you feel safe riding on the Ferry?
- 3.) Where do your thoughts go while riding the Ferry?
- 4.) Are you aware of the green and blues spaces separately?
- 5.) Do you experience positive feelings riding the Ferry?
 - a. Do the positive feelings linger once you leave the Ferry?
- 6.) Is riding the Ferry a healing experience?

LIMITATIONS

Collecting qualitative data using interviews also has limitations such as: subjectivity and bias from researcher, the sample size is small, self-selected limited scope of insight from specific questions which may result in comprehensive understanding of the phenomenon, difficulty in replicating and verifying results, difficult to quantify and analyze, lack of control in natural environments, such as the Ferry deck or other public space on the Ferry and may make it difficult to establish causality or influence of different factors.

Selecting qualitative research, I believe is the best research method for it provides a powerful approach for conducting subtle and accurate research that seeks to understand the phenomena from a personal experience. I will analyze the data using Narrative Analysis to examine how the passengers riding the Ferry make meaning of their experiences and the language they use to convey their stories.

RESULTS & DISCUSSION

RESULTS

The sample for this study consists of 17 passengers traveling on a Washington State Ferry from Anacortes, WA to Friday Harbor, Lopez or Orcas Islands in the San Juan Islands. The age ranges of the participants were from 20's to 70's years old; 12 of the participants identified as female and 5 identified as male. None of the participants currently lived on one of the San Juan Islands, but several had in the past. The frequency of ridership ranged from first or second time, once a year up to 6 times a year, 8-12 times a year, and 2-5 trips a week. A ride on the Ferry is defined for this study as a round-trip ride from Anacortes to one of the Islands: Friday Harbor, Lopez or Orcas Islands, returning to Anacortes.

All 17 of interviews were conducted on the Washington State Ferry while traveling to or from the San Juan Islands. To maintain confidentiality, initials were used for all participants. The results of this study are divided into 5 different themes based on interviewees' self-reported experiences while riding the Ferry: Emotions Experienced, Sense of Safety, Awareness of Senses Engaged During Ride, Impact of Blue and Green Spaces, Experience of Healing on Ferry Ride.

Section I: Emotions Experienced

Riding the Ferry elicited a range of emotions by the 17 participants in the study. The emotions experienced are categorized into themes: awe/excitement/joy, calm/relaxation/peace, gratitude/appreciation, and reconnecting with nature. Each theme consists of a group of similar emotions. Participants often mentioned several emotions together when responding to the interview questions. It is important to note that all of the emotions experienced by the participants were positive.

Awe/Excitement/Joy

Awe and similar emotions of excitement and joy were mentioned by all 17 participants when asked what emotions they felt while riding on the Ferry. Awe, the most common emotion, is defined as “the feeling of being in the presence of something vast that transcends your current understanding of the world” in the book *AWE: The New Science of Everyday Wonder and How It Can Transform Your Life*, by Dacher Keltner (2023).

R.C.: “Yeah awe, and I even grew up in this area, and it's still exciting and beautiful. And you don't get tired of it, that's for sure. Quintessential Pacific Northwest experience”.

J.S.: "I would say excitement, and awe, specifically awe. I would say I'm someone that didn't grow up in this area, Like, this is new to me, very inspiring terrain and landscape. So yeah, excitement, awe and joy are the emotions, I would say".

L.K.: "Living on an Island since 6 months old, feels like home when there are open spaces of water and nature. Bringing people to the Orcas Island, people wandering around in awe, and I think people are shocked by their feelings of awe."

P.S.: "Feelings of relaxing, awe inspiring whether on the ferry or Islands".

L.K.: "When I stop working on a project, take a deep breath and relax, and look around, I have a feeling of complete awe, really grateful and thankful for this place."

E.A.: "Absolutely a sense of awe all the time. This year, I've actually invited some friends from California and, and we've brought people from all over and it's, you know, seeing it again, through other people's eyes who've never seen it. It's an extraordinary feeling. Just watching other people. Like they're like, whoa, this is, I mean, it's just so sort of like the last untouched, undisturbed area in America. But it's, you know, it's very, it's very pristine. Yeah, and glorious."

J.D.: "When riding the ferry, view is always changing, fresh view. Wondering as boats or ferries pass by, what their lives are about, where are they going."

E.J.: "Feel the vastness of the world, how grand the world is."

Traveling through the San Juan Islands and experiencing both blue and green spaces while on the Ferry elicited powerful emotions of awe, such as feeling the vastness of the world, the pristine nature and changing fresh views of nature. Interestingly, one of the participants shared that not only do they feel a sense of awe but the extraordinary feeling of observing their friends experiencing the wonder and beauty of the San Juan Islands for the first time.

Calm/Relaxation/Peace

The second most common emotional theme grouping is calm, relaxation and peace, experienced by 13 of the participants during their Ferry ride. This was also often contrasted with a calming or relaxing change in their emotions as they began the ferry journey.

L.H.: "A sense of overwhelming calm on the Ferry, a large ship vs a sailboat where you have to be very aware of your surroundings. Serenity- overwhelming sense that nothing mattered. Feelings of being alive, healthy, happy, gratitude".

G.B.: "It's certainly calming and restful. Like, you're very detached from the hustle and bustle of the world that you're, that I'm associated with in Seattle."

K.S.: "Well, I'm on vacation so relaxation, so I'm relaxed. Apprehensive to get to the ferry, but once I'm on the ferry, yeah, relaxed. Curious about the water and you know what I might see."

E.J.: "The lapping of the waves gives a sense of peace".

J.D.: "Calming with everything moving away". Traveling on the Ferry with his dog was a common occurrence for Kyle for his business. When I met him, we chatted outside on the main deck and he shared with me that this trip was uncommonly sad for him as he was grieving over the death of his dog. His dog had shared every Ferry ride with him usually 3-4 times a week to the San Juan Islands. This day he had taken the Ferry to say goodbye to his dog and scattering a teaspoon of ashes into the Salish Sea. I was deeply touched and humbled that he would share such a personal moment in his life with me.

P.S.: Riding the ferry is relaxing, makes me feel like a kid, no worries, just go along for the ride."

E.J.: The sound of the Ferry engine humming and vibrations is calming.

The emotional feeling of calm, relaxation and peace were expressed by participants as they offered observations on the Ferry, such as the awareness of traveling on a large vessel, the lapping of the waves, everything moving away and detaching as the Ferry pulled out of the dock, and lastly, the sound of the Ferry engine humming and vibrations. The awareness of the ferry itself and its movement seem to be a key part of experiencing these sensations of calm, relaxation and/or peace.

Gratitude & Appreciation

The journey through the San Juan Islands on the Ferry brought about emotions of gratitude for the beauty of the San Juan Islands and our world with appreciation for life.

A.F.: "So, okay, I guess it would be excitement and joy are the emotions you know the kind of being in all the beauty, appreciation, appreciating nature and the ability that we have to do this."

D.M.: "Gratitude for the beauty that surrounds us."

L.H.: "Appreciation of life when the sun is setting."

L.K.: "I've lived a lot of places and I wouldn't trade this area for any other place. It's a very unique place to be, it's a unique community, it's a unique environment. I've been told that Washington and San Juan's are what's called the gravity state because you always come back."

D.M.: "Everything slows down a bit, life slows down. Kind of take it all in."

Twelve of the 17 participants acknowledged feeling a deep sense of appreciation and gratitude for the beauty of nature surrounding them as they traveled to their destination.

Reconnecting with Nature & Introspection

Of the 17 participants, 8 expressed that the Ferry ride created a physical and mental ability to disconnect from their present mainland life and reconnect with nature and the natural beauty in the San Juan Islands. This emotion also overlapped with feelings of calm and peace and involved deeper introspection and reflection particularly because of how they connected with the natural setting.

D.M.: "You know, I think coming going on the Ferry and going to the islands. It's a journey. You know, and it's kind of like you're being released from whatever is you know, it is your kind of cleanse throughout this journey and then you know, you get to the islands and it's just it's a different it's so different. You know, you just feel different your energy is different. You feel at peace. Carrying with you like the sense of peace and serenity that you find traveling through the channel and you know, you kind of you kind of leave all your stuff Yeah. And you don't really carry it with you when you're traveling on the Ferry I feel it just kind of falls away you just enjoy the moment."

For R.B. reconnecting with nature and the natural beauty was profoundly grounding:

"I think that the, you know, it's so calming and it's so like, like, especially coming up here, you know, it's like so reconnecting, you're like reconnecting with all this natural beauty. And that is so profoundly grounding that it kind of gives you this feeling that you know, everything feels good."

K.S. described detaching from the city {Seattle} out in nature as a freeing experience:

"The natural beauty of the area. And just getting away from hustle and bustle of the city. It's just good to be out in nature in a way. That's very free. This nature as a whole or this particular experience is freeing. Great way of detaching. A place to think and relax, kinda forced to for you can't go anywhere, just appreciate the experience and destination."

The Ferry was a safe, natural space to be introspective and be in a "liminal territory" between life on either end for J.S.

J.S.: "I feel like it's natural, like, it's a natural space to be introspective. Because, you know, you just have it in essence, and say it's this liminal territory between places. And so it's natural to kind of think about, you know, where you're coming from what you're going to, you just have time for it."

Participant R.C. commented on the Ferry was a safe place as well to process thoughts while experiencing a separation "from your life on either end".

R.C.: "A safe place to process your thoughts. The Ferry is also this like, tangible representation of separating yourself from your life on either end."

J.K.: "I think I feel oftentimes, when you are experiencing any type of negative emotion at all, even if it's a very slight one, time is such a healing factor. And when you're on a Ferry, it's you have to kind of cyclic, right, you know, you have to kind of sit with those emotions. And you kind of, you know, it's it's a natural processing place."

The Ferry ride and surrounding nature was a "safe haven" to be introspective. Many acknowledged being in a mental and physical space of

separation between mainland and their destination to one of the Islands, referred to as freeing. The ability to reconnect with nature was grounding.

Section II: Safety

Each of the 17 interviewees responded to a question about whether they felt safe riding the Ferry affirmatively, even for those who had ridden the Ferry in inclement weather.

R.C.: "Yeah, I've never really feared being on the ferry or anything like that. I feel like being in a car in comparison is obviously so much more dangerous. And you have to be you know, on edge. And like making sure that your surroundings are just that you're aware of your surroundings and what not. But being on the ferry is more of like a peaceful, like, let's just relax while we're on our way to our destination."

J.S.: "I mean, I felt very safe and secure on a ferry, I don't really, I'm not a big like, oh, I'm gonna drown per say or the ferrys gonna break down. That being said, I've never ridden a ferry in really poor weather. I can imagine that might be quite intimidating, but it's never happened to me."

C.A.: "I've never been afraid even if it's very windy. Sometimes it's been tipping, but not, not like you were worried anything was gonna happen to the ferry, was just going to be a rough ride. Bouncy ride. Yeah, but not scary."

D.M.: "Feel quite safe, trust the crew."

R.A.: "Feel safe on the ferry, even in rough waters."

K.S.: "Feel very comfortable and safe."

G.B.: "Never entered my mind."

The participants revealed their trust and confidence in the Captain steering the Ferry, the employees, and Washington State Ferry system. They felt safe, comfortable and secure. Those who had experienced riding in inclement weather stated they were not scared or fearful during these unstable rides.

Section III: Awareness of Engaged Senses While Riding the Ferry

Riding on the Ferry engaged a variation of the senses of sight, sound, tactile and smell for all of the participants. Sight was used by all but not mentioned as often as the smell of the ocean air, feeling the cool wind, or the various sounds of the Ferry: the horn in the distance, engine noise and vibrations.

L.K.: "The smell of saltwater is a sense of hope."

R.B.: "Sight and smell of the saltwater and sense the cool air on my face. Hearing the sound of the ferry, watching it go across the water."

G.C.: "Smells of the ocean are very nostalgic for me because I grew up on the Islands. The sound of the Ferry is a great white noise for sleep."

C.A.: "So the humming of the engine, relaxing in any weather, winter or summer. I don't care what it looks outside, I like it. I like the throb, the rhythm of the engine. You got it on the deck and to the outside and its louder, and it's like you could dance to that, you know, it's just a nice rhythm. It was good. Feeling the wind on your skin, and there's always wind if you're at the front of the Ferry even if it's a calm day with not wind in sight."

E.J.: "If you take a minute and go outside and just take it all in, even in the winter, it's wild."

N.G.: "The sound of the Ferry is calming."

K.S.: "The sound of the Ferry in the distances, you know, we were waiting for the Ferry, I could hear the horn going off. It's you know, gives you a little bit of a thrill that you're about to get on the Ferry. Yeah, well, when I'm out on the deck, I would say you know, you're smelling the fresh air. I mean, the air is so much crisper and fresher out here than in the city. So you definitely, you know, big smell and of course visually you just can't stop looking around."

L.K.: "There is really nothing like being on the Island in the water, watching the sun go down, all the colors going up, you're like floating through the ocean."

E.J.: "The water and Islands create a sense of a harmonious environment."

As described by J.S., the experience of standing on the outside deck was a "conjunction of the senses at the same time {sight, sound, smell and tactile} . . . a really unique experience".

J.S.: "Yeah. I would say it's a very like quintessential, like when you get outside on the ferry to like, have that combination of not only the sound of the wind, but the feeling of it the smell of the water. I feel more than anything, it's the like conjunction of the senses at the same time that is really unique experience about it."

Experiencing the Ferry ride through the San Juan Islands on the Salish Sea using the majority of our senses had a profound positive mental impact on the participants. The smell of the sea and fresh air was surprising powerful for many and created feelings of nostalgia and hope. The sound of the Ferry was calming for some. For one participant, the sound of the Ferry in the distance was thrilling for soon they would be boarding the Ferry.

Hoping to See Wildlife

Many of the participants mentioned hoping to see wildlife on their Ferry ride, especially Orca Whales, while traveling through the Islands. While not an expectation, there was a sense of hope and if not this trip, a different time.

P.S.: "So excited to have seen Orca Whales, seals, seagulls, and deer on my first trip in the San Juan Islands."

R.C.: "We were like, you know, hoping we might see some wildlife, we were looking online and where the latest orca spotting was, unfortunately, not very close to here right now. But we were like, oh, you never know. I have never seen Orca whales."

J.S.: "Well, I love looking for seals, though. You know, you always got a pretty good chance at seeing some seals."

Section IV: Impact of Blue and Green Spaces

There is a great deal of research on the positive mental outcomes and well-being from experiencing nature in either blue spaces (e.g., lakes, rivers, oceans) or green spaces (e.g., parks, forests, green open spaces). My research explored the potential positive mental impact of experiencing both blue and green spaces together and if the participants observed the blue and green spaces of nature as separately or as one when riding on a Washington State Ferry in the San Juan Islands.

E.J.: "The islands create a sense of a harmonious environment with the water, taking in the landscape, islands and water, the sounds, people and the water around you."

C.A.: "Feel more protected with the Islands and more interesting to look at with all the green, definitely it's different than open water."

G.C.: "A very good blend of earth and water. I think it has its own type of feeling vs blue or green spaces."

G.B.: "Different experience with the Islands. Have traveled from Cap Code to Nantucket and on a really foggy day and you don't see the land, it gets pretty disconcerting to a lot of people."

K.S.: "Yeah, I think there's, there's a beauty and a little bit of loneliness where you see no land. But when you're always inside of the land, and the mountains and those views as well. It's a little more reassuring to be close to the land when you're on the water. And you get to experience you know, the beauty of both together. So, and that was the shoreline, you know, especially when you're this close, you really kind of enjoyed the shoreline, the meaning of the land in the water. So, yeah, no, I didn't see them together. But there is kind of a calmness that's added by at least for me, in having the land nearby, you know, and not feeling like you're out in this vastness. "

N.G.: "It's more aesthetically appealing to see the green and the blue together versus just being out on open water and not seeing the green too. I like the combination of the two. I guess it's like a feeling of connection, like being connected to nature. More connected than if it was just water. Yeah, I'd say so. The combination of the two will be like more complete, like full circle, like, encompassing. Like a sense of completeness."

K.S.: "I would say when I'm out in nature in general, I noticed color more. Yeah. So I would say like, it's not just green, it's many kinds of green. And many colors of green. And the blues are not just blue. It's all the different blues and the colors around the blues. So I would say when I'm in this setting, I am much more aware of that kind of thing. Color and nature and the variation in color. While probably when I'm away from it, I'm just going through my day, like so I'm probably much more hyper aware of my surroundings in a positive way. As far as the difference between the two. No, it all feels like one beautiful thing."

D.M.: “To me, there is no separation, it is just beautiful, it’s nature we are part of and it’s a part of us.”

J.D.: “No distinction between blue and green spaces.”

Quite a few of the participants expressed that experiencing the blue and green together created a sense of harmony, more interesting to look at, and a feeling of protection and reassurance. Observing the blue and green together felt like a “sense of completeness, coming full circle”, for participant N.G.

Section V: Experience of Healing on Ferry Ride

Over half of the 17 participants found the experience of riding the Ferry ride as healing. Some offer details on how the healing positively impacted their mental well-being. Historically, physical mechanisms have been popularly described as the means by which blue environments, in particular the sea—positively influence health, for example, invigoration of the body and mind through contact with ‘bracing sea air’ (Grellier J. et al., 2017, pg. 8).

T.A.: “Being by the water and nature is healing, can’t really describe it.”

E.J.: “Yeah, I think it's I think it's a cathartic experience. And I think it's, especially if you take the minute time to go outside and just take it all in, even in the

winter, just like the wind is so bracing and so not really cold. I mean, it is cold, but it's not really cold. It's pretty temperate. It's, it's, it's wild!"

R.B.: "Yes it's healing for it is calming, brings you down, rejuvenated."

C.A.: "I definitely think so [healing]. Mentally my thoughts quiet down."

D.M.: "I think so [healing]. You know, I think coming and going on the ferries and going to the islands. It's a journey. You know, and it's kind of like you're you're being released from whatever is you know, it's your kind of cleanse throughout this journey and then you know, you get to the Islands and it's just it's a different it's so different. You know, you just feel different your energy is different. You feel at peace. The blend of earth and water I think it's got its own type of healing."

G.C.: "I think that it does have a similar kind of healing but not in the same way as it does strictly with just forest or just water when you're swimming you're gonna feel a lot different emotionally and psychologically versus walking through the forest because you know, you're more grounded, you're more aware of your surroundings when you're in the forest, I think because you have so many sounds and so many animals there with you. And then you get in the water and you know, it's more sensational. And it teaches you fluidity mentally I think you know because you have to go with the current whether you want it to or not, you know. So, yeah, I think they have their own unique ways of healing those who need it."

In experiencing both the blue and green spaces together, over half of the participants felt it was a healing experience. Some described the healing as "cathartic", "calming", and "my thoughts quieted down". The healing with the blend of blue and green spaces was expressed as "it's own type of healing" or "unique ways of healing" than when experiencing blue or green spaces separately.

DISCUSSION

Previous research from 26 contributing authors from around the globe and across the natural, social and health sciences validates evidence of the positive impacts of nature [green] experience on cognitive functioning, emotional well-being, and other dimensions of mental health (Bratman, et al., 2019). Additionally, various studies from the United States and globally, support the power of experiencing [green] nature to restore one with positive emotions and outcomes of well-being, improved mental health and healing (Frumkin et al. 2017, pg.1).

It is widely accepted that green spaces have the potential to serve as therapeutic landscapes as a public health resource but less is known about the extent to which “water-related environments”, blue spaces, may benefit health (Mishra et al., 2019, pg.1).

The research on green space and positive outcomes of well-being and mental health is abundant around the globe. Further studies are needed on the positive mental health benefits of experiences in blue space. At the present time, to my knowledge, no studies exist that assess the positive health benefits of experiencing both blue and green spaces simultaneously as well as on a Washington State Ferry.

The findings from my study on the positive mental health benefits and healing was articulated by many of the participants when experiencing both blue and green spaces simultaneously. Such as, for G.C. it's "A very good blend of earth and water. I think it has its own type of feeling vs blue or green spaces". Observing the blue and green together felt like a "sense of completeness, coming full circle", for participant N.G.

A feeling of healing in the blue/green spaces was described by D.M. as "it's kind of like you're you're being released from whatever is you know, it's your kind of cleanse throughout this journey [Ferry ride through the San Juan Islands] . . . you just feel different your energy is different. You feel at peace. The blend of earth and water I think it's got its own type of healing." Another participant, E.J. think "it's a cathartic experience. And I think it's, especially if you take the time to go outside and just take it all in." Lastly, R.B. states, "Yes it's healing [blue & green spaces] for it is calming, brings you down, rejuvenated". The combination of blue and green spaces when experiencing nature may provide a powerful and unique sense of mental well-being and healing for the Ferry riders.

This study used qualitative data to contribute new findings and fill a gap regarding the positive impact of nature experience in both blue and green nature spaces simultaneously while riding on a Washington State Ferry in the San Juan Islands on the Salish Sea. The 17 participants interviewed reported experiencing

various positive emotions and feelings of well-being. Over half of the 17 participants felt it was healing, and for some, a unique healing experience with both blue and green spaces together. The participants revealed that when using the majority of their senses while experiencing the Ferry ride, being around and on the San Juan Islands, had a profound positive mental impact. For some of the participants, there was no distinction between blue and green spaces in observing the beauty of nature. An additional finding shared by several participants is the feeling of safety and security with the Ferry while traveling through the San Juans on the vast Salish Sea.

For subsequent research, it would be beneficial to increase the sample size to a larger number of first-time riders, increase number of Ferry rides to gathering larger amounts of data, and explore other urban Ferry Routes leaving from the city of Seattle and Edmonds. Such as, Seattle to Bainbridge, Seattle to Bremerton, Edmonds to Kingston and Fauntleroy to Vashon Island and Southworth.

These findings are suggestive that providing opportunities to experience the healing powers of nature from a Ferry Ride could promote positive mental health outcomes. As well as a new option for accessibility to both blue and green nature for marginalize citizens who lack equal access to nature in urban areas in the greater Seattle area. I therefore recommend further research be conducted on

Ferry routes leaving from the core of Seattle to outlying areas in the greater Puget Sound. Such research would further goals of equity to access to nature, green and blue, contribute to Public Health Policy and Social Justice.

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

The overall findings from my qualitative research interviews with the passengers riding on a Washington State Ferry through the San Juan Islands was a positive experience for the passengers as I had hypothesized, with some unexpected findings.

POSITIVE EXPERIENCES OF PARTICIPANTS

The participants experienced various positive emotions including awe, gratitude, appreciation, joy, excitement, wonder (curiosity), serenity (calm, peaceful), love, safe, freeing and hope. Some reported during the Ferry ride a sense of reconnecting with nature and detaching from everyday life, in addition to feeling that the Ferry was a natural space for introspection. When inquired if the participants had an awareness of the blue and green spaces as separate, one felt it was a good blend of earth and water while others felt it has its own type of feeling, saw no separation between the blue and green, just beautiful nature. The various senses engaged by the participants during the Ferry ride included the sight of the Islands, observing water and wildlife, the changing colors of the sky and water as

the day progressed, the sound and vibrations of Ferry engine and horn, the feel of the bracing wind blowing against your skin and the smell of the ocean.

UNEXPECTED POSITIVE FINDINGS

There were many positive unexpected findings in my study. The importance of the Ferry itself being central to the overall positive experience was surprising. Such as, the sound and sensations from the Ferry engine were soothing. The Ferry horn elicited excitement and anticipation for an upcoming adventure. One participant felt like a kid when riding the Ferry, able to let go and enjoy. All participants reported feeling safe riding on the Ferry and had full trust in the Ferry staff, even in inclement weather. The Ferry was additionally, for one participant, a space to grieve a loss, let go and start the healing process with peace.

Observing the blue and green spaces together created a sense of harmony, and feelings of protection with the Islands surrounding the Ferry. Coming very close to the Islands at times by the Ferry, elicited feelings of awe. Being by the water and nature is healing, can't really describe it. Lastly, observing the San Juan Islands and Salish Sea together created a feeling of completeness, as to come full circle.

Experiencing the Ferry ride from the outside deck was described as a unique experience with conjunction of the senses engaged at the same time. The smell of

the ocean was powerful for many of the participants evoking feelings of nostalgia, comfort, and a sense of hope. Lastly, positive feelings lingered for some passengers depending on their agenda once off the ferry and onto the mainland, Anacortes.

RECOMMENDATIONS

From my findings, the experience of riding a Washington State Ferry in the San Juan Islands is a positive experience that some people find a safe, calm place to be introspective, detach from everyday life with lingering positive feelings. For others, it was a cathartic and healing experience. I recommend further research be conducted using the same research design of interviewing passengers on Washington State Ferries but traveling between the city of Seattle to outlining destinations. From my experiences and observations, riding on the routes leaving from the urban core of Seattle, the geography and some passenger intentions such as commuting to and from work in the Seattle area is different than traveling through the San Juan Islands from the small town of Anacortes on Fidalgo Island. If the findings from the research conducted in the Seattle area are similar to the findings from the San Juan Island ferry route, a ride on a Washington State Ferry from Seattle could offer a low cost, accessible by mass transit and fully inclusive for all citizens unique positive, nature experience. Such experience may improve mental health and well-being for citizens living in the urban areas in marginalized

communities, that often have unequal access or abilities to experience nature and subsequently fewer health benefits. "According to the best available evidence, nature contact offers considerable promise in addressing a range of health challenges, including many, such as obesity, cardiovascular disease, depression, and anxiety, that are public health priorities. Nature contact offers promise both as prevention and as treatment across the life course. Potential advantages include low costs relative to conventional medical interventions, safety, practicality, not requiring dispensing by highly trained professionals, and multiple co-benefits. Few medications can boast these attributes (Fumkin et al. 2017, pg. 10).

As such, these findings need to come to the attention of policy makers in Public Health and Social Justice as an ecosystem services tool. This tool, a ride on a Washington State Ferry in the greater Puget Sound region, can begin to address the inequity of accessibility to nature and subsequent positive mental health benefits of marginalized communities in the urban areas of Seattle. Addressing the social determinants of health of marginalized communities can foster healthier citizens and healthier communities.

APPENDIX I

ADDITIONAL QUOTES FROM PARTICIPANTS

Awe/Excitement/Joy

G.C.: "Excited for where we end up and it's usually a relaxing ride and any of the people I typically meet here are really, really nice."

R.C.: "Yeah, I'm certainly at awe with the world that we live in when I'm on the ferry. It's a good way to just observe your scenery and take it all in and feel like you're wow we really live here. We always say that to each other like we live here. That's so beautiful. It's so cool that we can just be so close to an area like this. Makes me feel appreciative. We were like, you know, hoping we might see some wildlife, we were looking online and we're the latest orca spotting was, unfortunately, not very close to him right now. But we were like, oh, you never know, we have never seen Orca whales. Maybe this weekend, next month, next year."

K.S.: "So I mean, I, I love to be near water. So I guess it's it's joy. It's joyous to be on the water for me. Gives me a sense of awe, so that's why we came to this area."

N.G.: "I would say calm and excited at the same time. So it's calming to look out at the water, feel the motion of the ship. And then also, it's exciting because we I know we're going somewhere new that we haven't been before."

R.B.: "I would say feelings I have getting on the Ferry, it's exciting, it's calming, fills me with a sense of wonder seeing nature."

C.A.: "When we go past an island where you can see where the tide goes up and down. I do try to picture in my mind this the whole volume of water in the whole Sound, that volume rise and lowering. And I think that is a huge amount of water. It's so slow you you don't know what's happening. It's hours. And that's a cool thought. I think maybe by tonight, the water will be up to that line, and they won't see all that stuff I'm seeing, I like that. Yeah, that's interesting."

Calm/Relaxation/Peace

L.K.: "So I'll go back to that story I was telling, I lived on an island since I was six months old. And so being around water in nature, in general, is something I think that's just been a part of me since I was little. And whenever I go places, and there's bodies of water, or open spaces of nature, it's always peaceful, doesn't matter if it's desert, prairie mountains, whatever it is, lakes streams, whenever there's open spaces without a lot of noise, and, you know, noise pollution of people and, and other things going on, it's always makes me feel really peaceful."

G.C.: "It's so different. You know, you just feel different your energy is different. You feel at peace."

N.G.: "I would say calm and excited at the same time. So it's calming to look out at the water, feel the motion of the ship. And then also, it's exciting because we I know we're going somewhere new that we haven't been before."

E.J.: "Feel disconnected from mainland life when on the Ferry."

A.F.: "It's just you're out in nature, which is just in and of itself healing to people."

APPENDIX II

Unique Shared Thoughts and Moments from Participants

R.C.: "I think for me the ferry is like this community, it's kind of a community."

G.B.: "The Ferry trip is part of the whole experience. The Ferry trip sort of book ends on the whole experience to the Islands."

P.S.: "Go with the flow, no worries, feel like a kid!"

A.F.: "I think it's magical. That, yeah, you can take a boat from, like mainland to an island, and get to go experience it. Something that, you know, couple 100 years ago wasn't possible. Like as it was, if you were Native American."

L.K.: "I've lived a lot of places and I wouldn't trade this area for any other place. It's a very unique place to be, it's a unique community, it's a unique environment. I've been told that Washington State and San Juan's are what's called the gravity state because you always come back."

J.S.: "It's also this like, tangible representation of separating yourself from a situation from what your life is on either end. Yeah, there's this like, it's a physical representation of one place over here and one place over here you have to take this like there's no other way taking a break. Taking a break. Yeah."

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