Sustainability is a Spiritual Journey

by

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ABSTRACT

Predominant sustainability pedagogy and science largely focus on fixing existing problems via solutions external to humans (e.g. carbon sequestration, renewable energy). While external or outer interventions can support a transition to a sustainable future, internal or inner developments should also be highly valued. For this dissertation, I define sustainability as the ability of any individual, community or country to meet their needs and live happily without compromising the ability of other individuals, communities, countries and future generations to meet their needs and live happily. Framed this way, a sustainable and happy life should focus on both outer and inner development, the latter largely unconsidered in sustainability science and scholarship.

I propose that emphasizing spiritual wellbeing and spiritual practices can support individuals and communities to act with mindfulness, awareness, compassion, connection, and love, transitioning to a more sustainable existence. This dissertation consists of three studies: (1) the development of a theoretical framework identifying spirituality as the missing link between sustainability and happiness, (2) an empirical pilot study testing the theoretical framework via contemplative practices in a sustainability classroom, and (3) an autoethnography exploring my inner development and transformation as a sustainability and spirituality researcher over the past four years.

The theoretical framework found and posits, based on existing literature, that spirituality indeed may be the missing link between an unsustainable existence and a sustainably and happy future. Results from the empirical study suggest that a focus on spirituality leads students to develop inner traits necessary for sustainable behavior and a deeper understanding of sustainability. My autoethnography demonstrates the spiritual

transformation possible from integrating spiritual well-being and intellect, while striving

to embody sustainability as a spiritual journey. My research supports further studies and a

greater understanding of the importance of spiritual well-being to sustainability and the

incorporation of contemplative practices in sustainability classrooms. Finally, I hope this

dissertation will (1) inspire sustainability scientists, researchers, and students to integrate

spiritual well-being as an important part of their lives and work, and (2) encourage deeper

conversations about the radical inner shift we need to achieve lasting sustainability for all

beings.

DEDICATION

To mother earth, *Pachamama*, for the home she gives us and for the example of love,

patience, and resilience she offers to humanity. I hope this dissertation will inspire more

people to protect you.

To Riper and Sherlock, the furry babies of the family, whose lives taught me to live in the

present moment, and whose physical deaths reminded me that life is precious.

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Mom and dad, thank you for letting me explore the world on my own and for trusting that life will guide me where I am meant to go.

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CHAPTER 1

INTRODUCTION

When I came to the School of Sustainability at ASU 4.5 years ago, I was passionate about zero waste research and practice, and thought that my research trajectory would remain there throughout my time at the Ph.D. program. As my research delved into local and global waste and consumption, however, I started to understand that it would take humanity a long time to achieve zero waste if we did not change our values first. The pivotal realization made me change my research focus from a solutions orientation to a process orientation. I became thirsty to understand the spiritual dimension of sustainability through research, arts, classes, and reflections. I spent about 2 years digging deeper into this research direction and saw a beautiful evolution of my research topic. I went from zero waste to food systems, to happiness, to inner balance, to inner sustainability, and settled into spirituality in the summer of 2018.

The summer of 2018 brought me the gift of depression, which offered the opportunity to question and reflect on my values, the meaning of life, sustainability, happiness, and spirituality. The painful experience opened my eyes to the sense of separation I had created in my life. I realized that unhappiness and unsustainability emerge when we do not have/feel love or connection in our lives. I was also able to see that love, as interconnectedness, is a universal experience we are born with. I saw that love is the prime energy that keeps humans moving and striving for a greater good. In attempts to heal my injured soul, I started meditating and became more intentional with my thoughts, actions, and behaviors. Within my first week meditating, I experienced an

inner awareness and clarity that I had not before. I realized that spirituality is the nourishment for my inner sustainability. When I have inner sustainability, my external actions and behaviors also become more sustainable and I live a happier life.

I owe my current research direction to the life changing experience of depression. With the unconditional support of my mentors, my work on the chapters that follow emerged organically after that summer. And now, it is my intention to share this process with a larger community.

Introduction and Problem Statement

The field of sustainability was created with the goal to address a rapidly changing and degrading environment and global wicked problems (Caradonna, 2014). Because these problems were (and are) urgent, most of the traditional approaches to address sustainability challenges have been external to the individual (van der Leeuw et al., 2014). And since we live in a society that tends to maintain the status quo, we still look primarily at external fixes to solve the pressing environmental crisis we perceive and are experiencing (Ericson et al., 2014; van der Leeuw et al., 2014). While it is necessary to address sustainability issues via external fixes, alone it is not enough. We also need to consider the inner sustainability of individuals and engender values that promote holistic sustainability. Inner sustainability refers to the values, beliefs, and traits individuals have that manifest externally as sustainable behaviors. These inner traits can be cultivated by spiritual means, both religious and non-religious.

Measures to cultivate inner sustainability are as important as external measures. In fact, there has been a growing interest in this inner dimension in the last few decades in

the scientific community. An emergence of scientific studies demonstrates the positive effect inner sustainability measures have not only on the individual, but also on the society of which the individual is a part (Emmons, McCullough, & Diener, 2003; Block-Lerner et al., 2007; Ericson et al., 2014; Horlings, 2015; Ulluwishewa, 2016).

A pathway toward the integration of inner sustainability with the external world, community, and nature is spirituality. Ulluwishewa (2016) describes spirituality as the experience of being one with spirit. In tandem, spirit is the prime energy of the universe, which makes up everything we see and feel, including ourselves (Capra, 2010). Being one with spirit means feeling connected as part of a whole and understanding the interconnectedness of life. There is great potential to bridge spirituality and sustainability science to humanely address challenges to sustainability.

Based on the literature, I refer to spirituality as the experience and process of five integrated factors: mindfulness, awareness, compassion, connection, and love. As we grow from childhood to adulthood, some of these qualities may diminish as we separate from spirit (and there are many reasons for this to happen, e.g., family upbringing and conflicts, lack of time in nature, traumas, social problems, etc.; Uluwishewa, 2016). This dissertation proposes spirituality as a pathway to increase happiness and enhance sustainable behavior in individuals with the larger goal of creating mindful communities.

My work draws on the fields of sustainability, happiness, and spirituality. The field of sustainability includes both western and indigenous philosophies, how they have evolved throughout time, and how modern society addresses unsustainability. Happiness science and research explores how and why humans strive for a happy life, including

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pleasure, meaning, self-actualization, and self-transcendence. Largely, humans derive values, beliefs, attitudes, and actions to support increasing our happiness levels. Spirituality, as both theory and practice, helps us understand how humans can achieve both lasting sustainability and happiness by reconnecting with the spirit and interconnectedness of life. When we live a more spiritual experience (e.g., awareness of the present moment, universal love, oneness, sense of unity) we may be more intentional and mindful with our actions.

Dissertation Format

The dissertation includes an introduction, three first-authored studies of research – the protein of this dissertation, and a conclusion and summary of the work presented. Study one is about the development of a theoretical framework to enhance sustainability and happiness at the personal and community levels. Study two is the assessment of the theoretical framework in a sustainability classroom, and study three is an autoethnography about my growth and transformation during my Ph.D. journey resulting from my research and work on sustainability and spirituality. In addition, a recorded dance performance of my autoethnography accompanies my dissertation defense, which is available online for watching on demand: https://youtu.be/OixdtBw5dlI.

The studies are titled: (1) Spirituality: The Missing Link of Sustainability and Happiness as a Framework for Holistic Development, (2) Cultivating Spiritual Well-being for Sustainability: A Pilot Study, and (3) Dancing Through the Inner Dimension of Sustainability: An autoethnography. Study one was published in 2019 as part of a book chapter by Springer and co-authored with Rohana Ulluwishewa, Scott Cloutier, Leah

Gibbons, Susana (Susie) Puga, and Anura Uthumange (see Berejnoi et al., 2019). I conducted the literature review and assigned tasks to the co-authors. Rohana, as the spirituality expert, provided input in that area, as well as in sustainability. Scott provided input to the sections on happiness and sustainability. Leah reviewed the paper and gave input on regenerative development – her expertise. Susie provided a general review of the paper. Anura provided the ideas that led Rohana to lay out the structure of the study. Study two is a publishable paper in review for the Sustainability open access journal and co-authored with David Messer and Scott Cloutier. I conceived and designed the research, facilitated the experimental intervention, drafted the manuscript, and prepared the tables and diagrams. David conducted the quantitative data analysis, assisted with the qualitative data analysis, and edited the manuscript. Scott helped to conceive the research, provided insights for the discussion, and edited the final manuscript. The final study, my autoethnography, was conceived and written by me and I have no plans for publishing it (at least not in the near future).

Research Questions

The research questions were designed to answer my overarching question *How does spirituality promote sustainable behavior and happiness*:

Study 1.

RQ1. What is the connection between spirituality, sustainability, and happiness?

RQ2. How does spirituality promote sustainable behavior and happiness?

Study 2.

RQ3. What effect do contemplative practices have on happiness, traits of spiritual well-being, and sustainable behavior?

Study 3.

RQ4. How did I grow during my time at the Ph.D. program?

RQ5. In what ways did my research on spirituality, sustainability, and happiness affect my personal life?

Study Abstracts

Each study is summarized below using the publication abstract for studies one and two, and a general summery for study three, and provided in full detail in the next three chapters of this dissertation.

<div align="center">

Study 1

Spirituality: The Missing Link of Sustainability and Happiness as a Framework for Holistic Development

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There is a growing consensus that sustainability and happiness are interrelated—while happiness promotes sustainable behaviors, sustainable behaviors enhance happiness. However, there are other factors linking sustainability and happiness. In this chapter, we identify the missing link as spirituality. Our exploration differentiates spirituality from religion and presents it in rational and scientific terms and points out how individuals become intrinsically happier and behave in sustainable ways as they grow spiritually. Spirituality can be the source of both happiness and sustainability and, ultimately, enhanced community well-being. Drawing on this understanding, we then develop a theoretical framework for sustainable personal and community development that is

holistic and can help foster understanding of the role of spirituality in happiness and well-being, including in the neighborhood context.

Study 2

Cultivating Spiritual Well-being for Sustainability: A Pilot Study

Sustainability science has focused predominantly on external/technological solutions to environmental degradation while ignoring the role of spiritual well-being – the sense of fulfillment one experiences when their spiritual needs are met – for sustainability. While it is important for students to learn about solutions in a time where environmental problems have been identified as prevalent, that alone is not enough. We propose sustainability may start as a deep individual internal process manifested as a change of values stemming from enhanced spiritual well-being. The current study examined whether a novel sustainability classroom curriculum, including contemplative practices (CPs), increased traits indicative of spiritual development and well-being and happiness, which are theorized to increase sustainable behavior (SB). Students attended a 15-week university course promoting SB through CPs in a space intended to be safe and supportive. Participants were compared to unenrolled peers and completed pre- and post-intervention quantitative measures of 1) happiness, 2) self-compassion, and 3) SB, and qualitative questions investigating spiritual development and well-being. Multivariate and univariate follow-up analyses indicated that course participation increased student self-compassion and happiness, while SB was unaffected. Qualitative reports indicated that CPs led students to develop spiritual traits, a systems' thinking mentality and an

awareness of their interconnectedness. Students, also, assigned greater importance to spiritual well-being as a prerequisite for SB.

Study 3

Dancing Through the Inner Dimension of Sustainability: An autoethnography

I came to ASU with a clear research idea in mind: zero waste. However, within my first few months in the PhD program, I started to dive into the area of consumer behavior and inner sustainability that led me to have a personal transformation. During my time in the sustainability program, I experienced the following three periods: (1) becoming aware of my inner world and different selves as well as the masks I wore to protect myself, (2) spiritual death, marked by a deep depression, and (3) rebirth and healing. This process allowed me to love myself fully, and as a result, love and accept other people. Also, becoming a more balanced human being allowed me to hold a loving space for suffering and grief, for communities, and for the earth.

CHAPTER 2

SPIRITUALITY: THE MISSING LINK OF SUSTAINABILITY AND

HAPPINESS AS A FRAMEWORK FOR HOLISTIC DEVELOPMENT

There is a growing consensus that happiness and sustainability are interconnected (Brown & Kasser, 2005; Kjell & Candland, 2011; Nisbet, Zelenski, & Murphy, 2011; O'Brien, 2013). Herein, we refer to happiness as subjective wellbeing or eudaimonia (i.e., cultivation of selflessness and virtue; Joshanloo, 2014), and sustainability as sustainable behavior which includes measures and practices for a sustainable society. While some studies have provided evidence to show that happy people are more likely to embrace sustainable practices (Brown & Kasser, 2005), other studies have provided evidence to show that those who embrace sustainable practices are likely to be happier (Kellert & Wilson, 1993; O'Brien, 2001; Kasser & Sheldon, 2002). However, the link between sustainability and happiness, and how it contributes to community wellbeing development, has received little attention from the scientific world.

This study, based on scientific evidence from quantum physics, neuroscience, transpersonal psychology, and studies on consciousness, identifies spirituality as the missing link between happiness and sustainability and points out that as we grow spiritually we become happier and embrace sustainable practices.

- Spirituality is the awareness and experience of belonging to the larger, interconnected community of life, of the purpose and meaning of life within this context, and the development of personal and community values and actions out of these. In other words, spirituality is a process of inner transformation, a

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transformation from self-centeredness to selflessness, from greed to generosity, from fear to courage, from disharmony to harmony within the self, from fear to love, and from "I" to "we" (Ulluwishewa, 2016). It is a personal transformation within individuals.

- Studies on consciousness describe the experience of spirituality as mindfulness of the present moment. This experience can emerge as a process of self-awareness and self-reflection. The right side of the brain, in charge of creativity, spontaneous communication, and receiving sensory information, plays a big role in staying present (Buck, 1980). The experience of mindfulness can be enhanced by learning to quiet the left side of the brain, which is in charge of logic and thinking. (For particular case studies on consciousness see Taylor, 2006; Alexander, 2012; Alexander & Newell, 2017).

- As we grow spiritually, we become happier, peaceful, more loving, more compassionate, wiser, and more creative (Zohar, Marshall, & Marshall, 2000). And eventually, we become less selfish and more altruistic and act for the wellbeing of all fellow human beings and their communities, and the natural environment (Horlings, 2015).

- So, as we grow spiritually, we become happier and our intrinsic behavior becomes more sustainable. However, as discussed later in this study, there are external forces that may also make our behavior sustainable.

We suggest spirituality to be the ultimate source of both happiness and sustainability. Happiness is a state of mind we experience when we grow spiritually, and sustainability is the behavior resulting from our spiritual growth.

We suggest that individuals are born spiritual beings who, in the process of socialization and acculturalization, lose their spiritual experience. Zohar, Marshall, and Marshall (2000) state:

> *"The self also, we assume, has a source, an origin in the history and development of the universe and a starting point in its own history. Physically, we begin as stardust that has itself evolved out of the quantum vacuum. Spiritually, too, we may begin as proto-consciousness associated with that stardust. As infants, we begin as innocent, undifferentiated consciousness"* (p. 125).

The active process of becoming spiritual brings us back closer to our natural spiritual experience. As a personal emergence within individuals, spirituality is affected by both outer and inner circumstances. While the outer circumstances include social, economic, and environmental characteristics of the place where the person lives and works, the collective inner existence includes the person's state of mind and culture, and whether the mind is at peace and free from negativities such as greed, anger, hatred, envy and/or anxiety. Therefore, one's spiritual emergence can be accelerated by creating conducive outer circumstances via infrastructural, institutional, and technological changes, and by supporting individuals to increase their capacity to extend love to individuals, keep the mind at peace and free from negativities (Krempl, 2014).

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This understanding led us to develop a holistic development model that can be used as a guide by those who seek a form of development that is sustainable and can deliver higher levels of community wellbeing and happiness for all.

HAPPINESS AND SUSTAINABILITY

This section provides a review of empirical evidence to show the association and interconnectedness between happiness and sustainability.

Happiness leads to sustainability

In a study by Brown and Kasser (2005) on happiness and ecological wellbeing, results reported that participants whose subjective wellbeing was ruled by intrinsic values (that is, values that come from within) were more inclined toward ecologically responsible behavior. Mindfulness practices and voluntary simplicity included as part of a eudemonic lifestyle also related to environmentally responsible behavior. Individuals whose actions are motivated by intrinsic values tend to be less consumerist because they see that excessive material goods do not always add value to their lives, thus, their actions promote sustainable behavior by having a smaller ecological footprint. In a study on environmental performance in former Soviet countries from 1990 to 2000, Zidanšek (2007) points out that happier nations emit less CO_2 emissions than less happy nations. In fact, happier nations in this study are more energy-efficient and produce less CO_2 per unit of GDP. In addition, O'Brien (2012) argues that we are more likely to lead more sustainable lives when we become aware that our pursuit of happiness is interdependent

with the happiness of others and that of the environment, this includes our sustainable behavior. Finally, Cloutier and Pfeiffer (2015) suggest that a sustainable future can be achieved by placing a higher emphasis on measures to enhance community happiness.

Sustainability leads to happiness

Activities that promote sustainable behavior have been proven to lead to happiness. One such activity is the walk to school movement that encourages school children to walk or bike to school (O'Brian, 2001). There is an increase of Safe Routes to School (SRTS) movements worldwide to promote walking to school, which not only promotes sustainable behavior, but the act of being physically active promotes well-being and satisfaction among participants (O'Brian, 2001). Another study conducted by Kasser and Sheldon (2002), predicted that individuals who engage in environmentally friendly consumption during the holidays tend to experience more happiness. Pursuing a materialistic lifestyle (which does not exemplify sustainable behavior) results in unhappiness (Richins & Dawson, 1992). This behavior tends to exist because the individual is motivated by extrinsic goals which do not contribute to finding meaning in life. Sustainable behavior starts when individuals follow intrinsic goals, which then leads to happiness. Finally, humans are born with an innate need for nature (Kellert & Wilson, 1993), which promotes sustainable behavior (Conn, 1998), and in turn, increases wellbeing and happiness (Nisbet, Zelenski, & Murphy, 2011). The evidence suggesting that sustainability measures lead to happiness has led Cloutier, Jambeck, and Scott (2014) to develop an index for measuring sustainability and happiness for community development. Furthermore, Cloutier, Larson, and Jambeck (2014) suggest that

sustainable development "may function as a driver of residential happiness" (p. 643). In their study on happiness and sustainable development index rankings, they found that two out of the four indexes – Green Cities and Popular Science rankings – were strongly associated with self-reported happiness (Cloutier, Larson, & Jambeck, 2014). Other studies supporting that sustainability leads to happiness both at the individual and community level include Zidanšek (2007), White et al. (2013), Larson et al. (2016), and Zhang et al. (2017).

Policy opportunities

The trajectory the world is taking in terms of happiness and sustainability points out that we have come to a point where they both need to walk hand in hand. As O'Brien (2013), states "The union of sustainability, happiness, and well-being is inevitable, and sustainable happiness has the potential to create game-changing shifts in attitudes, policies, practices, and behaviors." (p. 250). Worldwide organizations are now promoting sustainable initiatives that also promote happiness. The United Nations (UN) is one of the global organizations looking at happiness with a critical eye. Since 2012, the UN has been releasing an annual World Happiness Report that looks at common variables that promote happiness at the cross-nation level. The 2018 report points out to five key variables, other than per capita income, to promote well-being: "population health (measured by health-adjusted life expectancy, HALE); the strength of social support networks; personal freedom (measured by the perceived freedom of individuals to make key life decisions); social trust (measured by the public's perception of corruption in government and business); and generosity" (Helliwell, Layard, & Sachs, 2018, p. 150).

What is this information telling us? We need policies that promote happiness and well-being to achieve more sustainable societies starting at a small scale. Happiness should not come at the expense of others or the planet because it would not sustain itself for long. O'Brien (2010) defines sustainable happiness as "happiness that contributes to individual, community and/or global well-being without exploiting other people, the environment or future generations" (n.p.). Thus, to experience sustainable happiness, sustainable behavior must also enter the game. Examples of policy opportunities include: investing in public libraries in low-income neighborhoods, starting family wellness programs in the community, promoting talks on belonging and mindfulness, encouraging the incorporation of sustainable behaviors (e.g., food gardens, composting, clean energy) at the household and community level and providing incentives (e.g., economic, social, environmental) that will benefit all members of a community.

UNDERSTANDING SPIRITUALITY, HAPPINESS, AND SUSTAINABILITY
Spirit and Spirituality

Spirit is the prime energy that gives life to all living and non-living beings. It is conscious, aware, and "can think" (Ulluwishewa, 2016, p. 157). This prime energy fills the whole universe. Despite its vastness, this mass field of energy functions as an indivisible and inseparable single field. From this perspective, the universe is a living being (Capra, 2010). It is known by various names: Universal Consciousness, Ultimate

Truth, Infinite Being, and Higher Self. In most religions, it is personified as God, Allah, Jehovah, and Brahman, among others.

The Universal Consciousness, while remaining as an indivisible and inseparable single entity at the quantum level, manifests itself as many material forms (e.g., rocks, soils, plants, animals, and human beings). From its perspective, we all are its inseparable parts. Therefore, it feels our pains and pleasures, and we can feel the pains and pleasure of the universe as well (Cozolino, 2014). Hence, we all benefit when everyone is happy, healthy, peaceful, and prosperous. Feeling a state of unity with the universe can be described as unconditional love. This sense of connectedness may be experienced through peace, happiness, wisdom, intelligence, and creativity (Cozolino, 2014).

However, we perceive ourselves as separate individuals, as beings separated from others and the natural environment – even ourselves! This perceived separateness is soft-wired in our brain, meaning that our "brain has been programmed by our wrong perceptions to see ourselves, not as integral parts of the whole, but as individuals separate from others and the environment, and to perceive our fellow human beings as 'others' – competitors and enemies (Ulluwishewa, 2016, p. 162). Therefore, we behave as self-centered individuals. This behavior is culturally learned, driven by mechanisms that have ensured our fitness in the past (Davis, 2017). However, our brain is hard-wired for ethical behavior and altruism (Cozolino, 2014). Pfaff (2007) suggests four mechanisms that can be mapped in our brain for this intrinsic behavior: 1) we consider how our actions will affect other people (e.g., throw a rock at somebody), represented in the nervous system; 2) then, mirror neurons are activated when we envision ourselves doing

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the action; 3) we blur identities of the individuals involved, leading to activation of various brain systems, such as the one related to empathy; and 4) we decide whether to perform the action. A sense of separateness occurs when step 3 is omitted (Pfaff, 2007). When acting under our soft-wired brain, we are inclined to achieve our well-being even at the expense of the well-being of others and the natural environment; yet, we are more likely to behave altruistically toward our social groups (Mathur et al., 2010). When individuals act under a soft-wired brain of separateness, they do not mind meeting their needs even at the expense of the ability of others and future generations to meet their needs (Dalai Lama XIV, 2014).

There is hope. We, human beings, are endowed with the capacity to overcome the perceived separateness through love (Cacioppo et al., 2012; Dalai Lama XIV, 2014). To understand what we mean by love, we refer to Fredrickson's (2013) definition: "…love is the momentary upwelling of three tightly interwoven events: first, a sharing of one or more positive emotions between you or another; second, a synchrony between your and the other person's biochemistry and behaviors; and third, a reflected motive to invest in each other's well-being that brings mutual care" (p. 17). In other words, she refers to the experience of love as positivity resonance. We expand the described feelings of love to animals, plants, and elements of nature. Love is hardwired in our brain as a tendency to connect with others and serve others selflessly, as altruism and as the golden rule—treat others as you would like others to treat you (Pfaff, 2007). But the soft-wired separateness and self-centeredness – the culturally conditioned self – prevent us from being guided by the hardwired love. Spirituality is about re-wiring our brain to empower the hardwired

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love to guide our behavior and thereby to overcome the separateness (Ulluwishewa, 2018).

Reasoning with our hard-wired brain, it makes sense to suggest that our life mission as human beings is to experience and recognize our oneness with the universe by means of altruism, unconditional love, and spiritual growth.

Happiness

Happiness or subjective well-being is the ultimate goal we all want to achieve in most of our day-to-day activities (Diener, Oishi, Lucas, 2003; Lyubomirsky et al., 2005; Johnston et al., 2012; Dalai Lama XIV, 2014; Ford & Mauss, 2014). It is usually measured by simply asking people how satisfied they feel with their lives (Diener et al., 1985; Lyubomirsky & Lepper, 1999). Subjective well-being is a combined effect of both pleasure and meaning (what we have been referring to as happiness or eudaimonia throughout the paper). Pleasure is a form of short-lived excitement caused by neurochemical reinforcement of an achieved state we enjoy (Huta & Waterman, 2014). We acknowledge pleasure as a component of happiness within academic literature (Kováč, 2012; Huta & Waterman, 2014) but, henceforth, refer to happiness as something more. The happiness we speak of is the feeling of goodness, well-being, fulfillment, and contentment that we experience when we are in full connection with our four selves — physical, mental, emotional, and spiritual (Burns, 2015). This is what Aristotle called Eudaimonia, which is broadly defined as human flourishing. The proportion of pleasure and happiness in one's level of subjective well-being, therefore, depends on our level of spiritual growth: those who are at lower levels of their spiritual growth mostly seek

pleasure, those who are at higher levels mostly seek happiness. Unsustainability arises when we find ourselves locked in the pleasure-seeking arena.

Experiencing happiness requires us to be in connection with the spirit within ourselves, spirit within fellow human beings, and spirit within nature. Hence, those who pursue happiness more than pleasure tend to stay connected to their inner selves, their fellow human beings, and nature. They live in alignment with the principle of oneness and follow the golden rule (Block-Lerner et al., 2007; Horlings, 2015). On the other hand, those who seek pleasure more than eudaimonic happiness are engaged in a continuous struggle of seeking pleasure and avoiding pain. They may find their life somewhat satisfactory in the short run if they have enough material wealth to continuously experience pleasurable activities. But they struggle to find life satisfaction in the long run. Their unending struggle to earn material wealth leads to disappointments, sorrow, stress, depression, and conflictive relationships. They value material wealth, physical pleasure, position, power, social status, and respect more than love, compassion, generosity, tolerance, and forgiveness. Evidence suggest that they are highly unlikely to act for the well-being of others and the natural environment (Zylstra et al., 2014).

Sustainability

Sustainability is popularly defined as meeting the needs of the present generation without compromising the needs of future generations (Brundtland et al, 1987). Implicit in this definition are concepts of intragenerational justice and externalities, among others; yet, under this definition, these issues are primarily focused on one dimension of

sustainability – the temporal dimension, which looks at "sustainability over time and bringing justice to future generations" (p. 66).

This definition does not explicitly recognize the possibility of meeting the needs of one community or one country at the expense of the ability of another community or another country to meet their needs. It is important to raise awareness of the interconnected and interdependent world we live in today, and, to place a higher emphasis on working toward sustainability in every region in the world. Many countries and regions in the world meet their needs at the expense of communities and countries under their domination. Yet, this is neither sustainable in the long term nor ethical.

We propose Uluwishewa's (2018) definition which accommodates both temporal and spatial dimensions of sustainability: "Sustainability is the ability of any individual, community or country to meet their needs and live happily without compromising the ability of other individuals, communities, countries and future generations to meet their needs and live happily" (p. 66).

Human society consists of many communities and many countries. If any community/country meets its needs at the expense of the ability of another community/country to meet their needs, human society cannot be sustainable. If we think of the tragedy of the commons, when everybody takes resources without mindfully leaving some for the future, at some point, we will run out of resources. In this case, acting with a mindful and altruistic heart also means being smart about managing our resources across space and time.

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SPIRITUALITY: THE MISSING LINK

Perhaps the best way to discover the third factor which links happiness and sustainability is to discover the root causes of unhappiness and unsustainability we are witnessing across the world. If we find that unsustainability and unhappiness are caused by the same factor, that factor could be the one linking sustainability and happiness. This section takes a deep look into unsustainability and unhappiness we are witnessing in our societies today in order to discover their root causes.

Why Unsustainability?

One's behavior in sustainable lifestyle demands pursuit of the well-being for oneself, others, and the natural environment equally. Why can't we treat equally ourselves, others, and nature?

- We are soft wired with a false perception of separateness. Joshanloo (2014) states: "perceiving the self as separate from the non-self leads to unnecessary personal desires, and these desired are blamed for causing suffering. In order to stop the suffering, one needs to achieve a state of inner peace by realizing that the separation of the self and the non-self is but an illusion" (p. 479).

- We experience cravings and aversions. Each and every one of us has a unique set of cravings and aversions which make us pleasure-seekers and pain-avoiders, leading the way to greed, discomfort, and suffering (Chen, 2006). In fact, the Dalai Lama XIV (2014) states:

  "Whatever material comforts we have, we are still afflicted by greed, jealousy, and competitiveness. As long as these disturbing

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emotions remain intact, we continue to experience suffering. Besides

which, when the focus is solely on material development, there does

not seem to be much need for love and compassion. For example,

we do not need love and compassion to develop new machinery.

Therefore, if human beings think only about their physical problems

and try to counter them in exclusively material ways, they will

naturally ignore such inner values as loving-kindness and

compassion. Indeed, two centuries of scientific and technological

development have inclined people in many parts of the world to

consider material prosperity to be of greater worth than inner

qualities." (p. 6).

- When we are indulged in a pleasurable experience, depending on our attachment to the experience, we will want to prolong the period of the pleasure-experience at any cost, even at the expense of our own long-term well-being, the well-being of others and the natural environment (Dalai Lama XIV, 2014; Zylstra et al., 2014). Research has shown, however, that we are not very good at understanding when an activity is no longer providing us happiness (Nesse, 2004; Lyubomirsky et al., 2005). We stay invested in similar activities for long periods of time.

- Individuals, corporations, and governments (political leaders) oftentimes seek the pleasure of getting power, higher profits, higher social status, and respect. Hence, they fail to see the long-term consequences of their short-sighted decisions for themselves, others and nature. This failure to foretell how our actions will affect

the future may be caused by a naïve lack of understanding of the interrelationship between their actions and future trade-offs, or by an egotistical position to not consider the affected populations.

- Consequently, we all become more self-centred and more unsustainable in our behavior.

- Conversely, there is also the case of unsustainability caused by lack of access to education and resources. Much global unsustainable behavior is done to survive. Other individuals, for example, may have access to resources, yet lack a critical understanding of the environmental impacts they may cause with their action and behaviors.

Why Unhappiness?

Happiness is, as demonstrated above, an attribute of Spirit. We can experience it only when we strive to become one with spirit or become spiritual. How does a person become one with the spirit and become happy?

- Spirit lies within us, in others and in nature.

- Becoming one with spirit means connecting to the spirit within us, within others and within nature.

- Connecting means not only physical nearness, touch and likeness, but also unselfish interaction. For example:

- Spirit within us: What keeps us separated from the spirit within us is our sense of 'I'/Ego which acts for 'my' pleasure at the expense of my own long-term well-being, the well-being of others and the well-being of nature. The notion of I/ego is

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a product of the soft-wired brain, and the neuroplasticity of the brain allows us to change the soft-wired brain permanently. However, this is far from reality in our ordinary life. In our ordinary life, our notion of I/ego becomes weak and is temporarily dissolved when we are in deep meditation/prayer or when we are in a state of peace or when we are deeply engaged in any action, (e.g., reading, singing or teaching). On the other hand, it becomes strong when we are agitated, when we are challenged or threatened. We become one with the spirit within when the notion of 'I'/Ego is transcended by the individual's higher consciousness. Then, we connect with the spirit within and experience happiness.

- Spirit within others: When we interact with others without the sense of 'I'/Ego, we see them without prejudices and judgements, and we collaborate with them without expecting anything in return. We also see our understanding of others as only a reflection of ourselves. Then we connect with their inner selves, the spirit within and experience happiness.

- Spirit within nature: Seeing the beauty of nature without becoming attached to its commercial value; seeing nature with the attitude of gratitude for giving us life (e.g., oxygen and food); caring for nature and nurturing it; seeing nature without wanting to possess it or without wanting to gain some selfish benefits from it. If we interact with nature like this, we will directly connect with the spirit and experience peace and happiness.

Yet, most of us, especially in the West, are not in contact with the spirit within us, or interact with others and nature with self-centered interests in mind. Zohar, Marshall, and

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Marshall (2000) add "Western culture is ego-dominated. Its emphasis is on public personas and formal relationships, and its extreme emphasis is on the isolated individual who must constantly make rational decisions. This is why most of us in the West live from the periphery of ourselves, wrongly believing ego to be the whole story of the self" (p. 128). Hence, we fail to experience happiness. Thus, we suggest our spiritual underdevelopment to be the root cause of our unhappiness.

The Missing Link

We have provided evidence that the same factor may cause both unsustainability and unhappiness: it is our spiritual underdevelopment. Therefore, spirituality must be the missing link between sustainability and happiness. As we grow spiritually, we stay in touch with the spirit within us, with the spirit within our fellow human beings, and with the spirit within the natural environment during most of our waking life, and therefore we lead the way to more intrinsic happiness and sustainable behavior.

When intrinsically connected within and outside us, sustainable behavior is our default behavior and happiness is our default feeling. Spirituality is the key to unlock happiness and sustainable behaviors hidden within us.

TOWARDS A FRAMEWORK FOR HOLISTIC DEVELOPMENT

As already seen, the purpose of our life as human beings is to grow spiritually— transcending our illusionary perception of separateness and realizing our oneness with fellow human beings and nature—which provides access to peace, happiness, wisdom,

creativity and intelligence hidden within us. If any form of development is to be holistic, it must be aligned with the purpose. Such a form of development contributes not only to the physical quality of life but also to spiritual growth, which eventually makes people happy and their behavior sustainable.
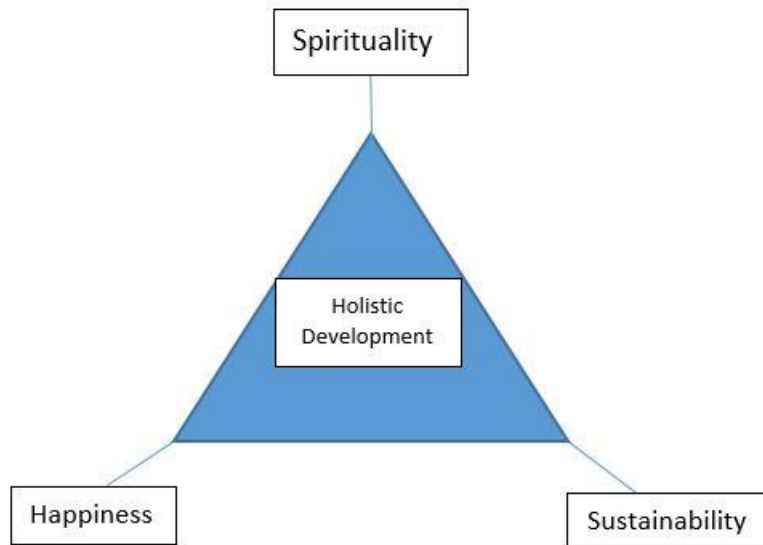
Figure 1: Framework for Holistic Development

As individuals grow spiritually, they become happier and behave in a sustainable way. While spirituality is the cause, happiness and sustainability are its effects. However, studies on happiness and sustainability show many other ways to make people happy and promote sustainability. For instance, while providing better amenities and more recreational facilities, raising income, providing access to open spaces and greeneries, and providing more opportunities to connect with others are recommended to enhance happiness, providing technological, infrastructural and institutional infrastructures conducive to sustainability are also recommended to work toward a more sustainable future. The extrinsic measures described above are necessary in the fast-changing world

we live in, but they by themselves are not enough to permanently remove the root cause of growing unhappiness and unsustainability: the sense of separateness soft-wired in our brain and resulting self-centeredness, greed, and fears. Only spiritual growth in individuals can do it.

- What we call sustainable development today is not holistic and hence fails to be sustainable and deliver happiness. As previously discussed in the paper, a more holistic view of sustainable development would include both a spatial and temporal scale to this definition.

- We cannot expect governments, international agencies, and corporations to lead holistic development. In fact, holistic development can arise only from an intrinsic motivation from ordinary people at the grassroots level.

- The proportion of the world's population living in cities is on the rise. The World Health Organization (WHO, 2015) reports that in 2015, 54% of the global population lived in urban areas, an increase of 30% from 1950. Estimates show that this rate will continue increasing approximately 1.84% per year between 2015 and 2020, reaching 60% of the world population living in urban areas by 2030 (WHO, 2015). Hence, holistic development should arise as urban neighbourhood-based community development projects.

- This study is an attempt to develop a framework for holistic development that can be used as a guide for such urban neighbourhood-based holistic development.

Unsustainability and Unhappiness in Urban Neighbourhoods

- The root cause of continuing unhappiness is our perceived separateness between 'I'/self, others, and nature.

- The separateness is a more serious issue in cities than in country sides and rural areas (Tonkiss, 2005; Young, Diep, & Drabble, 2006; Knight & Gunatilaka, 2010). Tonkiss (2005) discusses the human disconnection created by the modern city, caused by separation of physical space and by a place filled with strangers. He states that disconnection from others is a social norm in the city, and that following the status quo ensures peace and order. We also add that the sense of separateness creates feelings of exclusion and othering.

- The separateness reflects outwardly as breaking down of families and communities. That is why social disconnectedness, alienation, and loneliness have become serious social issues.

- Consumerism rampant in urban society strengthens separateness. How?

  - Separateness is strengthened by the differences in likes and dislikes of individuals. Attachment to likes leads to craving, and attachment to dislikes leads to aversion; each and every person has a unique set of cravings and aversions which strengthens separateness from others and the natural environment. In a simplistic example, when a person is attached to a craving, they may behave in ways to have more of that particular object/service which in turn, would strengthen the craving. This can lead the person to focus on their personal cravings rather than to the needs of

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others (which includes the environment). Thus, strong attachments make us less receptive to altruism and to an inner connection with ourselves.

- o Consumerism feeds cravings — the more we have, the more attached we are to material possessions, and the stronger the craving for consumption.

- o Consumerism creates unique sets of cravings (and aversions) in each age/gender group such as children, adolescents, teenagers, youths, middle-agers, and elderly people. Each group has its own unique set of cravings and aversions.

- o The uniqueness of their cravings and aversions makes it difficult for each group to share their resources with other groups within family as well as within community. This encourages separateness. For instance, in the same family, children, adolescents, and parents cannot share the same TV, same food, same family phone; young children tend to leave parents and live separately; parents send grandparents to elderly homes.

- o Growing separateness causes unhappiness and unsustainability in Western cities and neighbourhoods where consumerism is dominant. According to research conducted by Berry and Okulicz-Kozaryn (2011), this situation is more prevalent in Western countries, or in countries that use a Western European foundation, where happiness decreases as we move from rural communities to urbanized and large cities.

- o Growing separateness increases competition between individuals, leading to feelings of "us better than them," leading way to conflict.

o However, the growing separateness and resulting unhappiness and

unsustainability generates market for more goods and services which

promote business, increase profit and GDP.

How to Achieve Holistic Development in Urban Neighborhoods?

Human beings are endowed with the capacity to overcome the separateness by

love and thereby to achieve oneness and make the world a happy, peaceful, and

prosperous place. By oneness, we refer to an intrinsic connection individuals feel with the

rest of humanity by the experience of love. When I feel unconditional love toward others,

I will no longer be I, but we. The feeling of oneness emerges as love is cultivated. The

outcome from love and oneness is a prosperous society, one where mindfulness and

cooperation are what drive people, rather than competition and greed. What can people in

neighbourhoods do to achieve such a state?

In the first place, it is important to be aware of two types of separateness: (1)

Inner Separateness: it refers to a mind-body disconnect, which is invisible to the eye,

but visible to the intuition and can be measured through rigorous scientific procedures

(Frewen & Lanius, 2006; Saunders et al., 2007; Daubenmier et al., 2013). Inner

separateness may arise due to an overemphasis on the external environment, a drive for

competition, and hardship to make ends meet, among many other causes. (2) **Outer**

Separateness: it refers to social disconnectedness and alienation, oftentimes experienced

in urban societies.

To overcome inner separateness:

- Engage in activities that create a mind-body connection. An example of such an activity is brain-heart coherence researched by the HeartMath Institute (McCraty et al., 2009; McCraty, 2015). The activity takes three steps: 1) shift focus from the brain to the heart. 2) breath in and out as slowly as possible. Breathing slowly is a sign of safety. We can trigger the mind and heart to feel safer by breathing at a slow pace. 3) feel gratitude, appreciation, kindness, and forgiveness from the heart. Doing this activity for three minutes has proven to have an effect in the individual for as long as six hours after the activity was performed (Braden, 2017).

- Engage in meditation and mindfulness practices (see Wallace & Shapiro, 2006; Nidich et al., 2009; Salzberg, 2010; Zeidan, Diamond, & Goolkasian, 2010; Dalai Lama XIV, 2014; Wamsler et al., 2018).

- Engage in a gratitude practice (e.g., via journaling, poetry, group talk). Experiments demonstrate that a gratitude practice increases positive affect, mood and well-being (Watkins et al., 2003), improves quality of sleep (Emmons, McCullough, & Diener, 2003), decreases depressive symptoms (Krause, 2009), and enhances pro-social behavior (Bartlett & Desteno, 2006).

- Provide facilities to develop spiritual knowledge and understanding. For instance, a community spiritual center that provides spiritual talks, seminars, discussions, yoga, spiritual therapy and spiritual-based music, sports, games, meditation, and a community library with spiritual literature.

- Provide facilities to use the spiritual knowledge and understanding to overcome inner separateness. For instance, organizing spiritual-based service activities (e.g., helping others without expecting anything in return). Taking part in such activities reduces self-centeredness, which eventually overcomes inner separateness. The human brain is soft wired (in a self-centred way) to make others expect benefits to the self. Helping others without expecting any self-benefit will re-wire our brain to reduce our self-centeredness. Then we begin to enjoy the happiness of giving more than the happiness of receiving and accumulating.

To overcome outer separateness:

- Form community/neighbourhood organizations (Franco & Tracey, 2019).

- Hold dialogs/discussions in organizations to identify the root cause of unhappiness and unsustainability as the separateness, and measures to overcome the separateness (Franco & Tracey, 2019).

- Provide more opportunities for individuals to meet and interact with each other, and to enhance the level of happiness and sustainability of the neighbourhood (González Morales, 2019). In identifying measures/projects, the goal should aim at overcoming separateness rather than enhancing happiness and sustainability. The reason for this is that some individuals may come up with measures and/or projects which enhance happiness and/or sustainability but further strengthen separateness. Some sample measures/projects for overcoming outer separateness (from others and from nature) while promoting happiness and sustainability are: improving walkability, encouraging cycling and the use of public transport,

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establishing public parks and open spaces, providing more public recreation facilities and amenities, organizing community festivals and activities such as sports, music, dancing, etc.

- Provide more opportunities to connect and interact with nature. This can be done by incorporating natural processes in the community and making them more visible, such as restoring urban streams, developing urban gardens and CSA's, and incorporating composting programs (Ives et al., 2017; Pennisi et al. 2017).

- Identify income-generating opportunities which promote/do not conflict with outer and inner connectedness (Ulluwishewa, 2020).

As the activities help to overcome both inner and outer separateness, people grow spiritually and eventually become happier and behave in sustainable ways. While the inner connectedness contributes to the outer connectedness, the outer connectedness contributes to the inner connectedness. Inner and outer measures should take place simultaneously for more effective and lasting change in the community. The graph below indicates how the process of holistic development emerges:

Outline of the Framework for Holistic Development
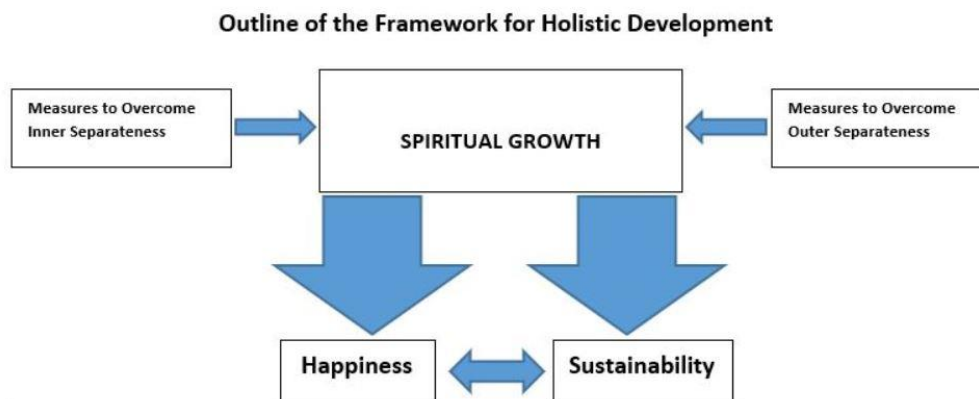
Figure 2: Outline of the Framework for Holistic Development

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The measures adopted to overcome inner and outer connectedness have the potential to create lasting results in a community when applied simultaneously. Spiritual growth takes place when there is a process for both inner and outer connectedness. As the individual grows spiritually, they become more mindful toward their actions as well as more reflective on how their thoughts, behaviors, and actions have an effect on the wider ecosystem. With more mindfulness in our actions, there is an intrinsic desire to behave sustainably, and by behaving in such a way, we feel genuine happiness because we feel connected at a deeper level with existence and our actions speak love.

Therefore, holistic development considers spirituality as its core. The model provides a guide for community members, grassroots organizations, policy makers, and planners to set goals and to identify projects and strategies for holistic development. The model suggests two sets of projects:

(1)   projects which provide physical infrastructural facilities, institutional strategies and technologies that are necessary for individuals to overcome their existing separateness from others and from the natural environment.

(2)   projects which provide facilities for individuals to gain spiritual understanding.

The model emphasizes the significance of having projects and activities aimed at all three goals: growing spiritually, enhancing happiness, and working toward sustainability. It also emphasizes the significance of ensuring the harmony among the activities performed. For instance, the activities undertaken for enhancing happiness should not conflict with those undertaken for achieving sustainability and promoting

spiritual growth. Likewise, the activities undertaken for spiritual growth should not conflict with happiness and sustainability.

CONCLUSION

The present chapter explored the missing link between happiness and sustainability. Through an extensive evaluation of the connection between happiness and sustainability and the causes of unhappiness and unsustainability, we suggest that the missing link is spirituality. We presented spirituality in rational and scientific terms and defined it as the experience to belonging to the larger living and non-living ecosystem. The process of spiritual growth allows individuals to become mindful of their thoughts, actions, and behavior, leading to happier and more sustainable communities. Gutenschwager (2013) points out that the development of altruistic societies starts at the local level, creating a rippling effect to the larger scale. It is through the process of spiritual emergence that we become more altruistic and consider the well-being of everyone in the temporal and spatial scales.

We have provided a framework for individuals and neighborhoods to achieve lasting happiness and sustainability by mindfully working on the following processes:

1. Inner connectedness: Engage in spiritual practices to reconnect within and facilitate this process to other individuals.

2.   Outer connectedness: Incorporate educational, infrastructural, institutional, and technological measures at the community level to reconnect as a community and as part of the ecosystem.

Using this framework, we suggest that while inner connectedness contributes to outer connectedness, outer connectedness contributes to inner connectedness.

The measures adopted for outer connectedness can generate a superficial connectedness with others and with nature, but there is no intrinsic inner connectedness (e.g., selfless relationships, connection with the spirit within others and within nature). The outer connectedness is self-centred. Such a superficial connectedness can overcome the pain/suffering caused by existing disconnectedness/loneliness and make people feel pleasure (or hedonic happiness). But without the inner connectedness with the spirit within others and within nature – which generates happiness, people cannot experience true happiness. Most community-based projects aimed at happiness and sustainability (without spirituality) fail to deliver "true" happiness and achieve "true" sustainability. In such projects, only those who are in the process of spiritual growth would experience "true" happiness and effortlessly behave in sustainable ways (e.g., voluntarily embrace sustainable practices).

However, such an outer connectedness facilitates inner connectedness. Positive interactions with others and with nature re-wires our brains and prepares us for inner connectedness. Those who interact negatively will not experience this. Most people find it hard to achieve spiritual growth first. Hence, it is wise to adopt measures necessary for the second endeavor. Community development programs can create an environment

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conducive to outer connectedness which will eventually help people achieve inner

connectedness. The resulting inner and outer connectedness will lead to a lasting

experience of happiness and sustainability.

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CHAPTER 3

CULTIVATING SPIRITUAL WELL-BEING FOR SUSTAINABILITY

A PILOT STUDY

Sustainability science has focused, predominantly, on technological solutions (e.g., carbon sequestration, renewable energy, etc.) to environmental challenges while ignoring the role of spiritual well-being for sustainability. While important, these interventions may not ensure lasting sustainability since they do little to curb environmentally compromising behavior (Ericson et al., 2014; Ives, 2020; van der Leeuw et al., 2014). We propose that the cause for such environmentally compromising behavior stems from a disconnection from our spiritual well-being, which refers to the fulfillment one experiences when their spiritual needs are met. As a result, sustainability science may benefit from integrating spiritual well-being into intellectual frameworks.

Scholars have recently suggested that a fuller array of individual and group behaviors, in addition to such technologies, are needed to stem long-term environmental degradation and ensure societal longevity. For instance, one framing for approaching sustainability challenges are the sustainability competencies, which consist of "a cluster of related knowledge, skills, attitudes and values that enable a person to act effectively in a job or situation" (Lambrechts et al., 2019, p. 1632). The sustainability competencies include ways of thinking—considering complex systems, anticipating future scenarios, and strategic design of concrete solutions—ways of valuing—reflection and articulation of guiding principles and goals—and ways of acting—including skillful collaboration

with and motivation of diverse individuals toward a common cause (Wiek & Redman, 2011).
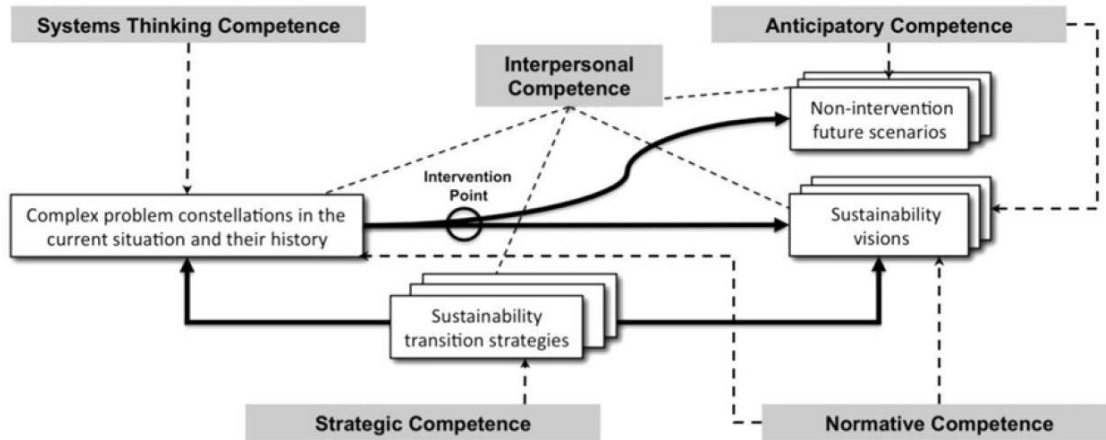
Figure 3: The Five Key Sustainability Competencies. From Wiek & Redman, 2011

These competencies serve as an excellent framework to describe how people can engage in meaningful and effective sustainable behavior (SB). Even so, the competencies do not explicitly address why individuals adopt, or in many cases fail to adopt, motivation to engage in SB. The sustainability competencies are like the iceberg: we can only see the surface, but there is much more under water. All that which is under water – spiritual well-being – is what needs to be developed to engender resilient and sustainability champions (Goralnik & Marcus, 2020; Ives et al., 2020). Motivation to engage in SB is critically important and the focus of the current study. Specifically, this study investigates whether spiritual growth – a process – and well-being – a state, cultivated through contemplative practices (CPs), increase motivation to engage in SB and increase happiness even in the presence of perceived sustainability problems.

We define sustainability as "*the ability of any individual, community or country to meet their needs and live happily without compromising the ability of other individuals,*

communities, countries and future generations to meet their needs and live happily"
(Ulluwishewa, 2018, p. 66), acknowledging both the temporal (past-present-future),
spatial (global-wide), and personal (human well-being and happiness) dimensions of our
sustainability goals. Regarding the latter, our use of the word happiness in this paper
refers to subjective well-being or eudaimonia (Lyubomirsky & Sheldon, 2005; Huta &
Waterman, 2014).

Motivation to engage in SB is likely multi-factorial with interrelated and
interacting causes. In the current study, we consider this problem from the standpoint of
spiritual well-being and propose that the lack of such motivation stems from a sense of
separateness from the self (body, mind, and spirit), others, and the natural environment.
This sense of separateness leads people to prioritize their personal comfort, stability, and
goals above that of others and the environment (for more information on how people
develop a sense of separateness, see Berejnoi et al., 2019). We propose the expansion
from an egocentric value system to one that includes the well-being of all can be
achieved most directly through spiritual development and well-being. As this
development occurs, and a sense of connection is improved, we suggest that happiness
and SB occur naturally without the need for special coercion.

Spiritual development and well-being have been defined and pursued in varied
ways, shaped by culture, epoch, and individual-level preferences. Still, most authors have
highlighted the integral role that CPs play in their pursuit and attainment, across culture
and time (Atchley, 1997; Bormann et al., 2012; Nsamenang et al., 2016; Vaughan, 2016;
Plante, 2020). Such practices encourage introspection (Bush & Barbezat, 2014) and may

support an individual in accessing the meaning behind a problem or situation (Wessels, 2015).

A small but growing number of sustainability scholars have addressed spiritual growth and well-being for the goal of fostering sustainability. Chowdhury and Fernando (2012) state that spiritual well-being (comprising communal, transcendental, personal, and environmental dimensions of well-being) can influence the ethical perceptions of consumer actions. Burns (2015) suggests that connection with, and integration of, all parts of oneself (physical, intellectual, emotional, and spiritual), using methods of mindfulness, promotes ecological awareness and care. Similarly, Goralnik and Marcus (2020) suggest that specific personal processes, including collaboration, reflexivity, and empathy are needed to achieve spiritual growth, and that such growth manifests in character traits such as compassion, altruistic love, and respect for life. Finally, Horlings (2015), suggests that the development of this "inner dimension of sustainability" must be accompanied by commensurate values-change for personal growth to translate into meaningful action. Inner change may be especially important for sustainability scholars and activists, who confront perceived external sustainability challenges daily (Ives, 2020).

These sentiments, and our own views, are summed up well by Ulluwishewa (2016), who states:

> "*External changes are necessary but inadequate to achieving sustainability and delivering happiness to all. Therefore, our attention should be focused*

on inner changes, the changes which make our relationships with fellow

human beings and with nature less self-centered and more loving" (p. 167).

Ulluwishewa asserts that spiritual growth and well-being may not only benefit the environment, but individual happiness as well, thereby resolving the oft perceived, but potentially illusory, tension between achieving personal and collective well-being. The view is also supported by research demonstrating the positive effects of contemplative practice on happiness (e.g. Joshanloo, 2014) and of SB on happiness (see Brown & Kasser, 2005; Zidanšek, 2007; O'Brien, 2012; Montgomery, 2014; Cloutier, Larson, & Jambeck, 2014), suggesting a common determinant, spiritual development and well-being, may lead to both.

As such, calls for the inclusion of contemplative practices in academia and, specifically, sustainability curricula have grown (Schoeberlein, 2009; Biggs & Tang, 2011; Hülsheger et al., 2013; Ragoonaden, 2015; Bush & Barbezat, 2014; Wamsler et al., 2018). Students, they argue, must be equipped not only with the intellectual frameworks (i.e., the sustainability competencies) but also with personal traits (e.g., mindfulness, altruism, etc.) to motivate their engagement with, and persistence in, the cause of sustainability. As Goralnik and Marcus (2020) state, such qualities support "*the development of resilient sustainability learners who are capable of engaging challenging, often emotionally charged, content about socio-ecological resilience*" (p. 84). Classroom contemplative practice has also shown additional benefits, for example, reducing anxiety and increasing positive coping (Penberthy et al., 2016), improving attention and test

performance (Mrazek et al, 2013) and supporting general well-being and stress reduction (Ragoonaden, 2017).

The only study of which we are aware that evaluated CPs use in a sustainability classroom was Goralnik and Marcus (2020). These authors employed a two to five-minute "contemplative pause" (Parks, 2016) at the beginning of two introductory sustainability courses required for departmental majors. Both qualitative and quantitative data suggested that the activity was well-received by and contributed to the focus and engagement of students. However, students did not report any impact on sustainability-specific skills or learning. This study did not include a comparison condition and its results therefore require controlled replication.

The current study tests the hypothesis that utilizing CPs in a sustainability classroom can increase happiness and traits indicative of spiritual development and well-being (e.g., mindfulness, compassion, love, etc.) which in turn are theorized to increase SB. We included measures of SB in our assessment battery but did not expect to find changes here, given that behavior change is a distal result of long-term inner development. Specifically, we hypothesized that our classroom intervention would impact student spiritual development and well-being, reflected on quantitative measures as 1) increased happiness, 2) increased self-compassion, and in student qualitative reports of 3) the emergence of additional spiritual traits. Our research question was the following: What effect do CPs have on happiness, traits of spiritual well-being, and SB?

The objectives of this research were to 1) bridge the gap between sustainability science and spiritual well-being, 2) contribute to a larger body of literature intended to

show the application of CPs in sustainability education and science, 3) foster spiritual well-being in the lives of students using contemplative practices, and 4) add a new voice to the growing discourse that sustainability requires both inner and external interventions to be lasting and beneficial for all, which has the potential to impact sustainability pedagogy and policy.

MATERIALS AND METHODS

To test our research questions above, we conducted an online survey that included three assessment tools and an open-ended questionnaire. We describe these more in detail below.

Participants

Seven participants were recruited from a university class titled Cultivating Inner Sustainability and comprised the intervention arm of the study. Thirty additional students, recruited from a 100-level sustainability class and emails sent to graduate students in the same department, made up the control condition, yielding a total of n = 37 study participants. Sixty-eight percent of all participants identified as female, 29% as male, and 3% chose not to reveal their gender. Fifty-eight percent of participants identified as white, 11% as Asian, 16% as Hispanic/Latin, 13% from multiple races, and 3% as some other race. Sixty-one percent had earned some college credit while 16% had an Associate's degree, 11% a Bachelor's, and 11% had a graduate degree.

Procedure

Intervention participants were drawn from the class Cultivating Inner Sustainability. On the first day of class during week one (T1), a volunteer explained the purpose of the study and consent forms to the students. The study was optional and did not count toward the grade of students enrolled in the class. Students received no incentive to participate. The volunteer collected consent forms and kept them in a secure university locker for the duration of the class. Students who chose to participate in the study filled out the online assessment with an estimated time of 30-40 minutes to complete. The same online assessment was administered on week 15 (T2) and week 25 (T3).

Recruitment for control participants was obtained by teaching assistants from a 100-level course required for all sustainability students and an email sent to sustainability graduate students. Students from the 100-level class were given extra credit for completing assessments at T1 and T2. Informed consent was explained in the online assessment and collected online prior to students completing the assessment.

All participants completed pre- and post-testing, and only intervention participants completed class activities that were part of the experimental intervention.

Experimental Intervention

The class Cultivating Inner Sustainability was designed to create a collaborative effort among students and instructor to explore, practice, and develop skills that promote a process of personal growth through the use of CPs. The class was guided by two main objectives: (1) to engage in activities and practice that promote personal growth, and (2)

to allow themes, conversations, and practices to emerge in the moment. Each class session was composed of three parts: (1) class discussion, (2) contemplative practice (e.g., meditation, yoga), and (3) sharing personal intention for the upcoming week. The homework for each week was to answer reflection questions in writing and fill out a log stating what type of CPs they completed each day and to journal on their experiences with CPs. Class activities, including the CPs practiced each week, can be found in Appendix E.

Assessment tools

Happiness Scale (H) (Lyubormirsky & Lepper, 1999). We used the shorter version modified by Tapia-Fonllem and colleagues (2013). While the original scale has 4 items, the one we used had 3. An example of a statement is, "Compared to most of my peers, I consider myself:" The first two questions went from 1 (not a very happy person) to 7 (a very happy person). The last question went from 1 (not at all) to 7 (a great deal).

Self-Compassion (SC) Scale – Short Form (Raes et al., 2011). This scale is an adaptation of the 26-item Self-Compassion Scale by Neff (2003). The short form scale counts with 12 items and has a near perfect correlation with the original scale. Two examples of statements in the Self-Compassion Scale – Short Form are, "When I fail at something important to me I become consumed by feelings of inadequacy" and " When I'm going through a very hard time, I give myself the caring and tenderness I need." Participants rate how often they behave in the stated manner using a scale of 1 (Almost Never) to 5 (Almost Always). The Self-Compassion Scale – Short Form measures six

dimensions: self-kindness, self-judgement, isolation, common humanity, mindfulness, and over-identification. In our study, we used the total score.

Sustainable Behavior (SB) Scale (Tapia-Fonllem et al., 2013). It assesses frugal and pro-ecological actions, in addition to altruistic and equitable behavior. The scale consists of eight subscales:

(1)   Indignation due to Environmental Damage (IED) with 7 items. An example of a statement is, "When someone cuts down a tree (in the city or in the town)." The scale went from 0 (it doesn't matter to me) to 5 (I feel so bad that I would try to prevent it by all means). The scale was developed by Corral et al. (2008).

(2)   Intention to Act Scale (IA) with 11 items. An example of a statement is, "Collaborate in environmental protection projects." The scale went from 0 (I would never do it) to 3 (I would be willing to always do it). The scale was developed by Corral et al. (2008).

(3)   Affinity Towards Diversity Scale (ATD) with 14 items. An example of a statement is, "I prefer to live around people of my age or generation and not people of other ages." The scale went from 0 (do not agree) to 3 (totally agree). Also developed by Corral-Verdugo et al. (2009).

(4)   Frugality Scale (F) with 10 items. An example of a statement is, "If my car works well, I do not buy a new one, even if I have the money." The scale went from 0 (strongly disagree) to 4 (strongly agree). The scale was also developed by Corral et al. (2008).

(5)   Altruistic Actions Scale (AA) with 10 items. An example of a statement is, "Give clothes to the poor." The scale went from 0 (never) to 3 (always). The scale was developed by Corral et al. (2008).

(6)   Equity Scale (E) with 7 items. An example of a statement is, "My partner has the same right as me to decide on the expenses in the family." The scale went from 0 (strongly disagree) to 4 (strongly agree). The scale was developed by Corral et al. (2008).

(7)   Pro-Ecological Behavior Scale (PEB) with 16 items. An example of a statement is, "Wait until having a full load for laundry." The scale went from 0 (never) to 3 (always). The scale was developed by Kaiser (1998).

Appendix D contains the self-compassion scale – short form, sustainable behavior scales and happiness scale.

Open ended questionnaire. Questions asked participants about their understanding of spirituality, SB, and happiness; their experience with CPs in class; and their personal intention for the class. A complete list of questions can be found in Table 1.
In addition, the class instructor (and first author of this paper) kept a journal of her observations after each class session. This journal was also coded and analyzed to inform the results of the study.

Table 1: Open Ended Questionnaire
Experimental Group
Time 1 (First week of class)
What is spirituality to you? Happiness? Sustainable behavior?
How do you define contemplative practices? Do you see a connection between them and spirituality, sustainability, and happiness?
Do you have any contemplative practice in place? Describe.
Do you practice and/or promote sustainability in your everyday life? Describe.
What is your intention for this class? (e.g., what area in your life you want to work on).
Time 2 (Last week of class) and Time 3 (Two months after semester ended)
What is spirituality to you? Happiness? Sustainable behavior?
How do you define contemplative practices? Do you see a connection between them and spirituality, sustainability, and happiness?

Do you practice and/or promote sustainability in your everyday life? Describe.
Have the contemplative practices in the class been beneficial? Give examples.
Have you used contemplative practices in other situations (class/home/work)? Give examples.
Do you plan to keep any of the contemplative practices learned in class? Describe.
Was your intention for the class met? Describe.
Is there anything else that you would like to add to this class and its impact on your learning?
Control Group
Times 1, 2, and 3
What is spirituality to you? Happiness? Sustainable behavior?
How do you define contemplative practices? Do you see a connection between them and spirituality, sustainability, and happiness?
Do you have any contemplative practice in place? Describe.
Do you practice and/or promote sustainability in your everyday life? Describe.

Data Analysis

Quantitative component

Effects of the classroom intervention were investigated using repeated measures multivariate analysis of variance (RM MANOVA) on all quantitative pre and post assessments. An interaction between experimental condition and time would demonstrate differential improvement due to the class involvement. Assumptions of normality were checked using visual inspection of Q-Q plots. Univariate ANOVAs were then utilized to ascertain how conditions differed from each other for each variable (assessment) studied, with p values of .05 indicating significance for all multivariate and univariate analyses. Effect sizes for correlated designs were computed and are included as gav (Lankin, 2013).

Qualitative component

Answers to the open-ended questionnaire were coded using Holistic coding (Saldaña, 2016), which captures the overall theme of a section. After that, we used Axial coding (Glaser & Strauss, 1967; Strauss & Corbin, 1998; Saldaña, 2016) to reassemble data that were broken apart during Holistic coding. The aim was to connect different

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categories and determine which codes better represented the emerging themes. Finally, we conducted a qualitative content analysis, which is used to analyze humanmade artifacts (Neuendorf, 2002; Lee Abbott & Mckinney, 2013). This method was chosen because CPs were created by humans, so it seemed appropriate to analyze the open-ended questionnaires using this approach. During the process of coding the qualitative data from interviews and class observations, relevant themes emerged. These themes pinpoint how CPs influenced happiness and spiritual traits of SB in students in the experimental intervention.

RESULTS

Quantitative component

Preliminary Analysis

Pretreatment Equivalence. Analyses of variance (ANOVAs) were run on the pretest scores of all participants who provided posttest data, and no differences were found on any assessment. Participants in each condition were, then, equivalent at the start of the study. Additionally, systematic differences between dropouts and completers were examined within the data set as a whole as well as group conditions, and again, no differences were found. Attrition. Of 74 pre-tested participants, 10 in the experimental intervention completed testing at T1, 6 at T2 and 7 at T3, while 64 students in the control group completed testing at T1, 35 at T2, and 11 at T3.

Table 2
Cronbach's Alpha, Mean Scores and Standard Deviations on Assessments Across Time

	Cronbach's Alpha	Variable			
		Control*		Experiment*	
		M	SD	M	SD
H					
Pretest	0.853	5.10	1.27	4.77	1.14
Posttest		5.08	1.46	5.66	1.19
SC					
Pretest	0.842	3.13	0.74	2.88	0.65
Posttest		3.16	0.73	3.58	0.62
IED					
Pretest	0.848	3.90	0.98	3.59	0.77
Posttest		4.03	0.89	4.12	0.95
IA					
Pretest	0.837	3.18	0.48	3.04	0.48
Posttest		3.23	0.45	3.15	0.33
ATD					
Pretest	0.619	3.18	0.39	3.25	0.23
Posttest		3.10	0.37	3.23	0.27
F					
Pretest	0.79	3.79	0.76	4.09	0.75
Posttest		3.86	0.66	4.06	0.59
AA					
Pretest	0.838	3.31	0.62	2.94	0.6
Posttest		4.19	0.57	3.25	0.55
E					
Pretest	0.674	4.33	0.60	4.61	0.36
Posttest		4.37	0.53	4.54	0.52
PEB					
Pretest	0.735	3.58	0.46	3.61	0.48
Posttest		3.62	0.45	3.79	0.44
*Higher scores reflect a more positive outcome					

Due to a communication error, insufficient incentives were offered for T3, leading to inordinate dropout for this time point. Since responses for T2 and T3 were collected in close proximity and did not vary significantly from one another, scores for T2 and T3 were averaged and the resulting scores referred to as posttest data. In total, 37 students (50%) completed the intervention and post testing with dropout from the experimental condition slightly lower (30%) than from the control (53%).

<u>Internal consistency</u>. We found pre-intervention internal consistencies for all assessments, using all participants, to be good or excellent for all assessments. Cronbach's Alphas can be found in Table 2

Mean scores and standard deviations for assessments at pre and posttest can also be found in Table 2.

Intervention effects

Consistent with this study's hypothesis, we found a condition by time interaction showing differential improvement over time related to class involvement $F(9, 27) = 3.29$, p = .0080. Univariate ANOVAs indicated that the intervention improved happiness, $F(1, 35) = 4.98$, $p = .032$, $g_{av} = .72$ and self-compassion, $F(1, 35) = 5.26$, $p = .028$, $g_{av} = .91$, and did not affect SB. See Table 3.

Table 3
Intervention Effects on Happiness, Self-Compassion, and Sustainable Behavior

Assessment	Effect
H	$F(1, 35) = 4.98$, $p = .032$
SC	$F(1, 35) = 5.26$, $p = .028$
IED	$F(1, 35) = 2.77$, $p = .105$
IA	$F(1, 35) = .22$, $p = .639$
ATD	$F(1, 35) = .27$, $p = .605$
F	$F(1, 35) = .142$, $p = .708$
AA	$F(1, 35) = 3.17$, $p = .084$
E	$F(1, 35) = .29$, $p = .595$
PEB	$F(1, 35) = 1.77$, $p = .19$

Qualitative component

Preliminary Analysis

Of seven students, six (86%) completed the questionnaires for the three interventions, while one student completed only the questionnaire at T1. At T1, three students (43%) reported having a regular practice of contemplation (the student who did not complete T2 or T3 was part of this group). All students reported knowing what CPs

were. We found differences in attitudes and behaviors at all the three time points and dropout was minimal in the intervention condition. Thus, we did not merge qualitative data for T2 and T3 as we did for the quantitative data.

Intervention effects

- **Effects of CPs on views of sustainability**

At T1, students viewed SB primarily from an ethical viewpoint, focusing on their own and others' actions and the harm or benefit these have for the environment. For example, a participant stated:

"*Sustainable behavior involves being conscious of the environment in your daily life and doing the best you can to not bring harm to the environment and other life forms*"

(Participant MMJ016).

As the intervention progressed, participants expressed more holistic views about how their emotional states, and an awareness of these states, impacted their sustainability choices. For example, participant PSD282 at T2 stated:

"*Sustainable behavior to me is about caring - caring about the environment that surrounds me (be it plants, animals, people). Caring about the implications or consequences my actions have and then acting according to that.*"

At T3, students continued to place emphasis on their internal states as determinants of behavior but expanded this perspective to consider how behaviors interact and compound on a global systems level. The following statement is an example of this:

"Sustainable behavior, is letting this peace within yourself reflect in your actions. So for

example, enough of society achieves this peace and decided to let their external

circumstances reflect this. They realize they enjoy eating eggs but no longer feel good

about how these eggs come to them. So they decide to transform the system so it is a

peaceful process for chickens, workers, and consumers" (Participant JBD352).

Further, students attributed this change in their thinking to CPs. For example, a student

stated:

"*Contemplative practice requires that one consider beyond one's self into the realm of*

spiritual relationships" (Participant ESA283).

Another stated:

"*I define contemplative practices as ways of centering myself, being in the moment,*

hyperaware. And I see a connection. I feel when I am in the moment, involved in life,

knowing that everything is interconnected, I cannot behave in an unsustainable way and

be happy at the same time" (Participant PSD282).

- **Effects of CPs on happiness**

None of the students explicitly reported increased happiness as a result of CPs.

However, one student mentioned CPs lead them to a sense of peace and *"setting a good*

tone" for their week (Participant JBD352) and 4 students (67%) talked about being able

to connect within and relax with these practices. Of these 4 students, one stated at T2:

"*it is interesting right now to use journaling as a crisis management method. I haven't*

applied journaling consistently but right now in a personal crisis, it helps me to navigate

through my thoughts, emotions, and actions" (Participant SSA282).

Thus, while happiness was not named in students' responses, CPs appear to have benefitted students' mood, in part by providing coping.

- **Effects of CPs on traits of spirituality**

Students generally reported finding the class CPs beneficial, with 4 students (66%) indicating they were very helpful, and 2 students (33%) suggesting them partly helpful. Students reported benefits stemming from CPs, at T2 as: Becoming more patient toward themselves and their families and learning to see their own life through different lenses (17%), finding self-love and self-compassion (17%), alleviating stress (17%), and being able to focus, be in the present moment (known in the literature as present moment awareness), and calm down (50%). Practices that students reported to be most helpful included meditation, journaling, and breathing exercises. For example, a student said: "*anytime we meditated it set a great tone for my week, lightened my heart and allowed me love myself more deeply*" (Participant JBD352). Another student stated:

"Starting to journal has really enriched my life! It has become so natural, so habitual. I enjoy every word that I write. It helps me be with myself in that very moment. Write down everything that distracts me and eventually be centered in the present moment. It's such a gift :)" (Participant PSD282).

At T3, 3 students (50%) reported continuing to use CPs and derive benefits from them while 3 students (50%) discontinued use. Of the latter group, 1 student reported plans to reinitiate CPs at some point in the future, 1 student reported ceasing CPs due to an unsupportive home environment and the final student provided no additional information. The latter may have been the result of lack of motivation to engage in CPs.

Those who continued engaging in CPs reported continued benefits including heightened awareness of self, relationships, and emotions, and an opportunity for catharsis. For example, 1 student from this group stated "[CPs] *have brought to the forefront of my mind areas of my life and in my relationships that need attention*" (Participant ESA283). Another reported that journaling allows them to "*get thoughts out that I don't want to keep in the system*" (Participant SSA282). In addition to meditation and journaling, 1 student reported finding Feldenkrais "*vital in setting a good tone for my week*" (Participant JBD352).

- **Effects of CPs on SB in daily life**

When students were asked whether they practice SB in their lives at T1, all of them talked only about basic SB (e.g., recycling, eating vegetarian or vegan, reducing consumption and single use plastics, and avoiding toxic materials). Five students (83%) expressed a more holistic view of sustainability in their behavior at T2 as they talked about being mindful, more loving and compassionate, and conscious of their inner sustainability. Yet, two students (33%) went back to basic SB at T3 when they were not in the class anymore.

- **Student experience of the class**

At T2—the final day of the class—5 students (83%) reported finding the class useful while 1 left this question blank. One student mentioned that the class gave her ideas about how to do CPs. This is important for educators to know because not every student has heard of CPs and/or knows how to meditate or engage in related practices.

Other benefits reported included: safe space and space for co-creation and reflection on people's humanity. A student stated:

"*The class gave me a place/time to reflect and have a shared experience with other people, making me realize they are as human as I am*" (Participant VSJ700).

This suggests that having a formal class time where students can engage in CPs is beneficial to them. Finally, one student made a connection between this course and its importance for sustainability:

"*I think it is such an important course for sustainability. Even if you do not know what is going on, being open to this class is incredibly beneficial and key to expanding your understanding of sustainability beyond ecology and project management and governance. It shows what sustainability looks like in the individual. I wish it was advertised more and more people took it. Incredibly powerful!!*" (Participant JBD352)

Students reported finding the same benefits to the class when they completed T3 but added a couple of recommendations to improve the class. One student reported feeling uncomfortable in the classroom and suggested a future class used a different setting. The classroom we used was a seminar room with a big table in the middle that prevented students from seeing one other when laying down on the floor for Feldenkrais or meditation. The space we use affects the outcomes of the class, thus, it is important to select a place that creates a welcoming space for CPs. Another student stated, "*I wish it would have been more research based meaning incorporating literature*" (Participant SSA282). The class did not use any academic literature for the experimental intervention.

DISCUSSION

Summary of Findings

The primary aim of this pilot study was to investigate if CPs in the sustainability classroom can increase happiness and traits indicative of spiritual development and well-being in students. A 15-week class was held using CPs and students had personal intentions set each week. The class created a safe and supportive space for students to have honest and emotional conversations and talk about challenging aspects of their lives. Quantitative and qualitative assessments found an effect on happiness and self-compassion. While the quantitative assessments did not show a significant effect on SB, the qualitative analysis provided positive findings on spiritual traits theorized to increase SB. Students experienced peace, connectedness within, relaxation, and a safe space in the class and recognized these are important for SB. They developed and/or deepened spiritual traits of patience, present moment awareness, compassion, and love. Also, the class and CPs led students to develop a systems' thinking mentality and an awareness of their interconnectedness with other beings. These two are important competencies for sustainability. Finally, the effect of the class on students' SB went back to baseline for two students (33%) after the class ended and 50% of the class stopped engaging in CPs.

Integration of Findings with Past Literature

Our study adds to the body of knowledge of CPs in the sustainability classroom. Goralnik & Marcus (2020) conducted the first study (to our knowledge) incorporating CPs into the sustainability classroom. They looked at learning capacity and resiliency of students to engage in the complex socio-ecological world. Their study, conducted in a

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department required class, found that CPs help students with general classroom learning

and beyond but did not find a significant effect on sustainability learning or skills. Our

study, the second study incorporating CPs in the sustainability classroom to our

knowledge, was conducted in a class that was not required, which meant we had fewer

students, and looked at the individual growth of students throughout the semester. Due to

the personal focus on each student and the safe and supportive space created, we were

able to see growth of spiritual traits hypothesized to lead to SB in most of the

participants. In addition, our study is the first (to our knowledge) to bridge the gap

between sustainability science and spiritual well-being to achieve lasting sustainability.

Implications for Findings

It is interesting to observe that the effect of the class was not permanent for all

students and that half of the class stopped engaging in CPs once the semester ended.

These findings have important implications for sustainability education. First, the class

provided a safe space where students could look within and talk openly about their

feelings, internal processes, and thoughts about sustainability and life in general, which

students perhaps did not have outside of class. The safe space meant that what was

discussed in class was not talked about outside and students respected this expectation.

Once the class ended, students may not have had a supportive group/environment to

further continue the exploration started in class. They may not even have had the time to

continue such exploration as their schedules were filled with other classes. Working on

inner changes is a complex long-term process that requires conversation, silence, and

feelings of safety, as observed in this study, and not having those available makes such

work harder. Also, it is important to welcome emotional perspectives to emerge

(Goralnik & Marcus, 2020). The authors state that these traits (like the ones found in our

study) are essential in the development of students into resilient and active sustainability

learners. This means that having a space for self-reflection, safety, and unconditional

acceptance is necessary for students to develop personal values and spiritual traits that

lead to SB.

A classroom space is a great place to lead students in this direction. Educational

institutions should consider integrating CPs into their curriculum to go hand in hand with

traditional academic curricula. CPs should not take a big portion of the class. For

example, Goralnik & Marcus (2020) introduced five-minute pauses at the beginning

and/or at the end of each class and they found great improvement in students' learning of

content. Sustainability pedagogy should not be limited to only intellectual content and

learning. Students are whole beings, and as Burns (2015) suggests, they have a physical,

intellectual, emotional, and spiritual self. In fact, a focus on the spiritual well-being of

students is largely missing in sustainability education. As the process of inner

development and transformation takes a long time, students would benefit the most by

having access to this type of learning throughout the duration of their programs. Without

access to these deep conversations, real change from the inside out may be hard to take

place. SB and solutions are only the last step in our process for becoming sustainability

champions. The first step to achieving lasting sustainability is to look within and develop

values and traits that foster connection, understanding and compassion (Horlings, 2015).

Diagram 2 shows how these traits should be the first step in the growth of the individual.

The second implication is about the global pandemic of 2020. The pandemic started a few months after the class ended, which led many families to be inside the same house for extended periods of time. A safe space may not have been available for many of the participants. With the pandemic, individuals had to consider new factors that were not prevalent before (e.g., how to make an income when people cannot go outside, the possibility of sickness and death in every corner, loneliness from social disconnection, etc.). We did not follow research participants during the pandemic; thus, we do not know how CPs helped them during this time. We hypothesize, however, that motivated participants may have continued to use these tools to find inner peace amidst the perceived chaos in the world. If CPs were useful during the pandemic, educational institutions should be mindful about incorporating them as part of the official curriculum of every class not just to promote SB, but also to provide students with tools for inner development and spiritual growth and well-being that will be beneficial for their lives in general.
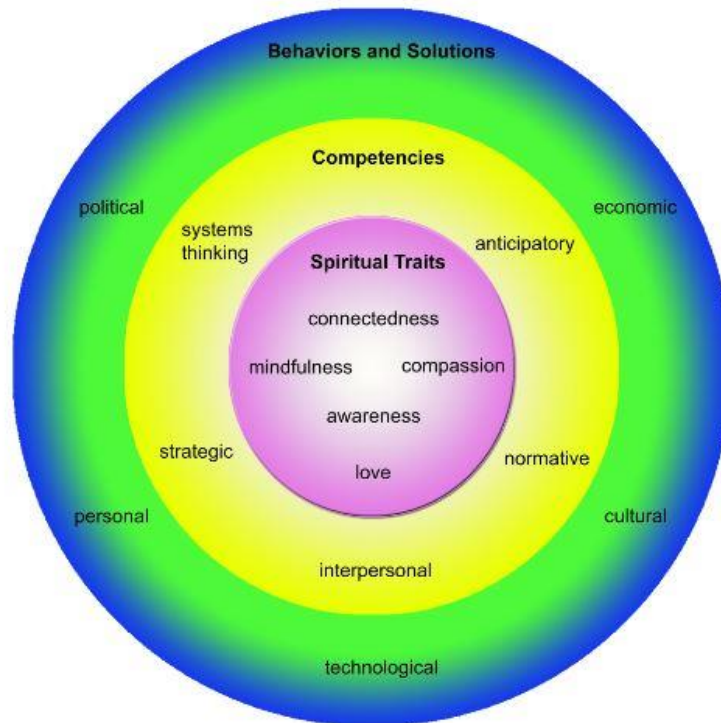
Figure 4: Growth of the Individual from the Inside Out

The final implication is about sustainability at the larger scale. Spiritual traits, such as love, connectedness, compassion, mindfulness, and awareness are necessary components to cultivate competencies that lead to SB (e.g., recycling, eating earth-friendly diets, using reusables) and long-lasting solutions. Sustainability competencies are one example of a framework to guide a collective effort toward a more sustainable world. Yet, we cannot pretend that students will become sustainability champions by only disseminating intellectual content about sustainability and its competencies. As we saw in our results, the format of our class and the use of CPs led students to develop a systems' thinking mentality and awareness of their interconnectedness (known as the interpersonal competency). Our course largely focused on deep conversations, meditations and related

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CPs, reflexivity, and quiet. The course provided the internal space to integrate processes and concepts each person was experiencing and learning into their behaviors. We hypothesize that had the study been longer in time, there would have been more statistical significance in the growth of spiritual traits in students. This is because the process of shifting ideologies (e.g., going from a technological solutions lens to a holistic sustainability space) takes time and consistency.

We need to envision a better world and acquire the tools to get there. Unfortunately, we do not always behave in ideal ways. The primitive part of individuals makes people act in reactive ways. What CPs do is help the person access the unconscious part of themselves and cultivate inner traits that will lead to better behaviors and solutions. For example, what would happen if everybody in the world grew spiritually? We do not know for sure but hypothesize that the way we run our lives would shift completely. Perhaps technological solutions would not be the biggest priority for sustainability scientists because we would no longer need sustainability solutions in the first place. Perhaps people would prioritize the environment more than the economy, and thus, would start operating under the principle that we live on a finite planet. Politicians may promote peace rather than war, and governments' work may involve environmental protection as well as social justice education. People from different cultures may accept differences from one another, and everyone would feel safe and welcome regardless of their skin color, sexual orientation and identity, abilities and different abilities, and ideologies. Interestingly, the spiritual traits discussed in this paper are what many religions promote through their texts and practices (e.g., the bible for Christians, the

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Thripitaka for some lines of Buddhism, the Vedas for Hindus, the Dao de Jing for Taoists, etc.). Perhaps sustainability science and education (or education in general) should start considering the principles from these texts so that students develop and cultivate spiritual well-being. Science and spirituality can – and should – work hand in hand. The integration of the two would validate the importance of the development of individuals' inner worlds for more holistic approaches to sustainability.

The extended literature provided points out the importance of spiritual growth and well-being for the development of happiness and SB. Further, our empirical study confirms that CPs help students find peace and cultivate spiritual traits needed for SB. We suggest that the next step for this line of research is to study how these spiritual traits influence SB. We hypothesize that this study would take more than just a semester as spiritual traits are cultivated over time and throughout the life of the individual. In the meantime, we suggest that sustainability education should incorporate CPs in the curricula alongside the already established sustainability competencies.

LIMITATIONS

There are a number of limitations to this pilot study. First, due to the nature of the class Cultivating Inner Sustainability (i.e., elective class with a topic a small number of students is interested in), we had a small sample size for the experimental intervention. The people in this study may have already been drawn toward contemplative practices for reasons other than the class. For example, students may have taken the class because it

offered a space for spiritual growth that they may have been already pursuing in their

personal lives. Second, the assessments and questionnaires used in this study were not

tested with a sample population of sustainability students due to limited time to run the

study. Also, the time to complete the assessment averaged 30-45 minutes, which seemed

long to many students, and caused many control participants to drop the study. Third, the

current study utilized only self-reported data. Future research could collect data via other

methods (e.g., direct observation of student behavior) and thereby reinforcing findings.

Fourth, the way we ran the class may not be replicable. One of the class'

principles was to allow themes and concepts to emerge naturally, which could be

different every time the class is offered and based on who enrolls in the class. The

instructor was concerned that students may not enjoy the class experience due to the

loose structure. However, that same structure was what allowed students to open up with

each other and explore their inner selves. For example, when we held class outside,

students would often stay in that space even after class finished. They would not talk but

lay on the ground in silence. When students in the control group had class outside, they

would leave as soon as class finished even when they did not have a class afterward. The

structure and content of each week (Appendix A) can serve as a general guide to run a

similar experimental class, but not to create the same atmosphere that emerged from our

experimental group. As a result, replicating the findings might be difficult. Fifth, we did

not integrate academic literature in the class, which would probably have helped to

increase understanding about the variables studied. Finally, the class took place at a time

when it was safe to meet in person. Under current circumstances, we do not know if an

online experience would create the level of trust necessary for students to feel safe to open up to the group and have difficult and honest conversations, which was the atmosphere developed in our class.

FUTURE DIRECTIONS

Future research could test our hypothesis with a larger sample size in a required department class and test the assessments with a sample population before running the actual experiment. Weller et al. (2018) recommend a sample size of 15-195 participants to reach saturation of themes in open ended questionnaires. The class could integrate literature to the space for CPs to collect data on content learning. Further, future research may explore the use of additional assessments. One such assessment is the Orientation to Happiness and Life Satisfaction scale (Peterson, Park, & Seligman, 2005). This scale looks at the degree to which people find meaning in their lives, ranging from an empty life to a full life. It is applicable to our study because we are interested to see not only the SB of individuals, but also their happiness levels. Other measures to consider include the Five Facet Mindfulness Questionnaire (Baer et al., 2008), Flourishing Scale (Diener et al., 2010), and State Trait Anxiety Inventory (STAI) (Spielberger et al., 1983).

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CHAPTER 4

DANCING THROUGH THE INNER DIMENSION OF SUSTAINABILITY

AN AUTOETHNOGRAPHY

All big things come from small beginnings. The seed of every habit is a single, tiny decision. But as that decision is repeated, a habit sprouts and grows stronger. Roots entrench themselves and branches grow. The task of breaking a bad habit is like uprooting a powerful oak within us. And the task of building a good habit is like cultivating a delicate flower one day at a time.

— James Clear, Atomic Habits: An Easy & Proven Way to Build Good Habits & Break

Bad Ones

By now it should be evident to the reader that I have a strong interest in spirituality and its connection to sustainability. However, that was not the case when I came to the School of Sustainability 4.5 years ago. I have matured, become wiser and more connected within myself (inner sustainability) and with my outer world (outer sustainability). The process of researching sustainability, reflecting on my own life and actions, and having deep conversations with different people and groups (e.g., the Happiness Lab, students) and a desire to get to the core of human behavior brought me to the place where I am today. I am grateful for all the experiences before and during my program at ASU, especially the challenging and painful experiences, because they allowed me to look beyond the status quo and encourage me to grow as a person. The

present chapter is about my journey as a Sustainability PhD student and my growth and transformation during the past 4.5 years.

The method I use in this chapter is autoethnography, a tool that anybody can utilize to draw from their lived experiences to understand their social context (see Holman, 2007; Méndez, 2013). Autoethnographies are evocative and written in narrative. I chose this method because the experiences I lived during my time as a doctoral student require reflection. Also, I wanted this dissertation to include a chapter written in first person, a place where I can tell my sustainability story and connect with my readers at a deeper level than conventional science or numbers can. Sustainability goes beyond the numbers: you can see it at the table with the foods you eat (or do not have), on the streets with people and animals passing by (if you are fortunate to live in a place where you interact with animals outside the home), on your ability to get up from bed each day, or how you treat yourself and others…

Sustainability is a journey we live every day, some conscious, some unconscious. And the sustainability I talk about in this chapter is about the inner world we all have inside, an inner world that deserves to be rich and healthy. I have talked about this inner world with different names throughout the dissertation: inner sustainability, spirituality, and spiritual well-being. They all refer to the inner most part we hold and care about. Sustainability should start talking about that inner world, so that people can learn that loving ourselves is important, that values of connection, mindfulness, compassion, and awareness are necessary not only to cultivate more balanced selves, but to have a long lasting impact on the outer society.

Throughout the days, months, and years, I journaled my thoughts and reflections. It is thanks to these journal entries that I was able to write this piece. The mind may be fragile, but written record stays intact forever. This is my story.

I came to the School of Sustainability with a background in Marketing and Asian Studies. My four years in college had introduced me to sustainability issues and I had become interested in being involved in the sustainability movement. Growing up in a city back in Bolivia where people polluted the land with their discarded resources, I had become obsessed with the topic of zero waste. I wanted the world to stop overconsuming and to achieve zero waste at a global scale. That is what brought me to ASU. My intellect was my best friend, and my emotions were a scary neighbor that I did not visit much. I had been educated to produce and do homework without stopping to reflect because time was valuable, so that is what I did most of the day. To me, that is what a good student researcher did. Unconsciously, I felt disconnected from the universal spirit of life and from people in general. When I came to ASU and joined the Sustainability and Happiness Research Lab (Happy Lab) in the fall of 2016, my mental paradigms suffered from many shocks and disruptions. With that, my journey for radical inner development and transformation started. My time at ASU is divided into three periods that marked my evolution as a sustainability scholar and advocate.

The first two periods happened somewhat in tandem:

1.   I was *becoming aware* of my different selves and the "masks" I put on to protect myself from getting hurt. Thus, I began a process of awareness, mask removal,

and self-integration. I removed a mask of separation between me and the world, a layer of inflexibility, among others. With each passing day, I reconnected more with myself.

2.   A more subtle and quiet process was taking place inside of me. There was a seed of universal love planted in me that I was not aware of. I was becoming more loving and compassionate with each passing day. This seed helped me in the process of removing masks. I reached a deep point where so many masks had been removed that the inner injuries and traumas could no longer be hidden away from my consciousness. This process led the way for the period of depression, or *death*.

The final period was the result of the two formers:

3.   I learned to love myself and love and accept my process of growth. By loving myself, I was able to hold space for other people and communities, and the earth. This is the process of *rebirth* and healing.

The following sections describe these periods and are followed by a final section about lessons learned.

BECOMING AWARE

Zero waste was all I could think of during my first semester at ASU. I believed that most of the problems in the world would go away if we learned to not create waste by changing habits. A lot of the research I conducted agreed with the need for behavior change on the micro and macro level (see Austin, 2013; Simonis, 2013). Zaman and Lehmann (2011) stated that the holistic model of a zero-waste city involves consuming

less resources to transition to a low-carbon world. They also added that the first step is to have a long-term vision because these changes involve a long process to complete and that we need education on behavior change and sustainable consumption. The research indicated people needed to change their behavior, so I went to my academic advisor (Scott) to share all my ideas about the topic. In that meeting, Scott encouraged me to look within myself instead of addressing how I could change others. He encouraged me to look deeper at the root of the challenge. Why were many people unsustainable and at the same time unhappy?

With some reflection on this topic, I came to the conclusion that people may be unsustainable because of their lack of connection from each other. We purchase and consume more than what we need to fill the emptiness we feel from lack of connection with our families, friends, communities, and even from our selves. Studies have shown this, too (Kasser, 2002; Arpin et al., 2015; Mittal & Silvera, 2018; Sullivan & Richardson, 2020). Consuming less resources and having a long-term vision requires that we reconnect at a deeper level than we have been used to.

Was I disconnected?

Indeed, I was, but I was not fully aware of this state. I was good at looking outside of myself and judging what needed to be done and how people needed to reconnect, but I was having a hard time seeing how I needed to reconnect as well. In one of the classes I took on qualitative research, the instructor asked us to reflect on: "how do you know that you do not know what you do not know?" Even though the question sounds complicated,

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and was complicated for me to understand for several days, the question started in me an inner process of awareness…

How do I know what I do not know?

How would I possibly know what I do not know? I was confused every time I sat down to reflect on this question, and eventually, I realized I have to be aware in the first place to *know*. There was a dim light starting to turn on inside of me allowing me to see how little I knew about my unconscious, and how disconnected I was from my inner life. I started to wonder if my own internal disconnection made me feel disconnected from other people. And what if everyone is disconnected within and are not aware of it?

I remember one day at the neighborhood one of my classes was based at, where we worked on sustainability projects to bring happiness to the community. The instructor (also Scott) asked us what the self was and suggested it was a human invention. I wanted to argue that my *self* is real and different from the self of other people. However, he kept pushing me to think deeper than the status quo of the physical world. I went home that night still thinking about the concept of the self and opening up to the possibility that there is no self. Scott would often remind me that we were all connected, that we were all one, yet I did not see it. I saw myself as different and separate from other people. One reason for this type of disconnection is that people withdraw from the group to avoid feeling pain or getting hurt (Buckley, 1986). When there is no/little trust in the group, it is easy to feel different from one another.

Even though I had no problems with being disconnected and having a strong conception of *my self*, a part of me felt intrigued about the concept of no self and started

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to explore this possibility with an open mind. During this period, I learned that the sense of disconnection makes people build up masks, a metaphorical term to refer to disconnecting from our inner selves. The more masks we have, the less transparent we are. A person who wears no masks would be the expression of what is inside, with no filters.

Reflecting on the concept of masks, I realized that my way of being did not reflect who I was inside. I was afraid of judgement and I judged my inner self for being the way it was. I thought that if I were transparent, I would make a lot of mistakes, would be judged by society, and would act like a wild animal, untamed. During my entire life, I had learned to act primarily with my intellectual and physical selves and I had ignored the needs of my emotional and spiritual selves (See Burns, 2015) and I did not know how to integrate them. The idea of integrating all my selves seemed dangerous and scary to me.

I was entering uncharted territory.

In January 2017, I started to become aware of how the values and lifestyle I was raised in made me behave in certain ways. The environment of the Happy Lab, where values of mindfulness, awareness, and love were always present, was food for my soul. I wanted to feel loved and welcome, and I always had that when interacting with lab members. The environment where I was raised did not promote mindfulness or deep emotional reflections, so those two were things I feared and was uncomfortable with. I started to become aware of the difference between these two environments (home vs Happy Lab) and that I felt better in a loving environment where there was no conception

of good vs bad. Everything was welcome, everything had a purpose, and everything made me grow. This spring was also the first time I was the lead instructor of a class (or a section of a class) and I had an important leadership role. I started to realize that I often judged people based on how they performed in the class. From reviewing assignments, I realized that every student (even the ones I mentally labeled as lazy) have important things to say and powerful reflections. Becoming a teacher started to open my eyes to the uniqueness of each person and to accept and love my students in all their ways of being – by extension, this meant that every person in this world were unique and had something to teach me, and I had to learn to being kind to all of them.

Becoming aware was a complex process and there were many themes that came up. The following are the four main themes of my process:

Masks and Disconnection

As a I started to become aware of the masks people put on (and the masks I wore) to be seen in a particular way, I realized I was unhappy wearing those masks all the time. Unconsciously, I wore masks to protect myself from the possibility of getting hurt. This is a common phenomenon in people that originates from the time we are children. Carl Rogers referred to this as conditions of worth, meaning that children's behavior is influenced by positive or negative conditional regard from our parents or other adults (see Rogers, 1959; Proctor, 2017). I had developed masks from my early years as a kid to feel special. For example, in Bolivia, I was the Argentinean girl; in my classes, I was the smart and intellectual student; in the USA, I was the Bolivian girl with an accent. Being different from others was my identify, but also a reason for feeling disconnected. The

masks I wore blinded me from seeing my emotions and spiritual needs and created a wall that prevented me from connecting at a deeper level with other people. Yet, I was unaware of the disconnection I felt. A common mask I used to wear was the intellectual mask. I wanted to be respected and considered smart by my communities. As a result, I got validation from what others thought of me, rather than what I thought of myself. I prioritized having a good reputation and adhering to the norms (even when they were not inclusive of everyone and I was aware of that) over listening to my inner voice (Maslow, 1965, refers to listening to the inner voice as an important part in the process of self-actualization). My ego got fed every time people complemented me while my spiritual well-being remained undernourished.

I started becoming aware I did not like that state of being. I wanted to achieve balance of all my different selves. As I started to listen to my inner voice, I started to make changes in my way of being and remove masks. Teaching classes was teaching me that people appreciate kindness, so I would act with kindness, even when people I interacted with were not kind in return. I started to voice my feelings more and encourage people to do the same. I started to give myself a break when my body or mind were tired, instead of working nonstop until my eyes were bloody red. The process of removing masks and reconnecting with my spiritual well-being led to me connecting spiritually with other people. For example, when I danced tango, I would feel a special connection with the other person, even if I had never seen that person before. The following is a personal journal entry from, Feb. 16th, 2017 about the special connection in tango:

"When I do a close embrace in tango, I feel that the masks that we put on for our daily interactions are removed, there's nothing to hide, nothing to feel uncomfortable with. We are two human beings face to face, listening to each other, without saying any words. We can communicate so clearly, so purely, that words are not necessary. Actually, words are a distraction. This is the most intimate level that two beings can have, not romantic or sexual, but an intimate feeling about the other human that is next to us. It's the feeling of friendship and trust."

Another expression of the increasing connection I felt with people was at the energetic level. The more I worked on understanding myself and became more aware, the more attuned I became to my outer world. This was a fascinating part of the process for me because I could often feel what people needed before they told me anything. For example, one day I entered the graduate lounge at my school and saw a friend working on her laptop with her back facing me. I had a strong urge to place my hands over her head in the position of reiki (I was learning about this healing technique at the time; see Essential Reiki, 1995), so I headed in her direction and did as I intuited. She asked me what I was doing, while still looking at her computer, and I told her I was giving her energy. She instantly pushed her laptop to the side and asked me with a surprised tone how I knew she needed energy. I did not know how I knew it, but I sensed it by connecting with my intuition. After our interaction, she seemed happier when she went back to work.

Being aware of my spiritual connection with other people was new to me, and sometimes overwhelming. I needed to sleep more on days when I had deep and long conversations with people, and for that same reason, I would often hide from my friends on busy days. Occasionally I would feel my heart beating faster than usual and my hands shaking when talking to a friend, later to realize I was feeling their anxiety. The following personal journal entry is from March 1st, 2017, where I talk about my increasing awareness of this connection:

> *"When I'm in a room, my body absorbs the energy of other people. If I sense that somebody is anxious, I absorb it, and then I become anxious. If somebody is sad, I absorb it, and I become sad. The same happens with positive emotions. I feel that my soul is acting as a sucking filter from beings around me. I feel happy to be aware of this, that my sensitivity goes beyond the physical world, and connects with the spiritual. However, it bothers me that I get affected so easily by the negative feelings of others. I want to radiate positive energy, so I need to learn to deflect negative feelings and emit positive ones, especially to the beings who are emanating negative energy."*

I was learning that I needed to set boundaries for self-care so that I could be of most help to those who needed me.

Living in the Past and Future, Rarely in the Present

I was used to doing homework and being busy. After all, I had always been a student and I had always overloaded work to achieve more. The achieving part was a

materialistic desire. I was not used to reflecting deeply on my work. My biggest concern always was to get things ready on time and to do them as perfectly as I could. I did not take time off to reflect on what I was doing. As a result, I often felt stressed. One revelation from this stressful way of being came to me as a shoulder pain: I observed that when I was stressed with all the amount of work I had to do AND was worried about what people would think of me if my work was not perfect, my right shoulder would hurt a lot. One evening in early February of 2017 when I was particularly busier than usual, I was biking home trying to do a *biking meditation* where I would put all my worries away and relax, and yet, I could not stop stressing. Even though I had done all the tasks and homework I had for the day, I was stressing about all I would have to do the next day and the next week. In a moment of insight, I realized that I was being too harsh on myself. Instead of worrying, I should appreciate all the work I accomplished in the day and stop thinking about what I would have to do the next day. I needed to give my brain some rest, some relaxation, instead of more work. This night started the long, and often stressful, process of learning to appreciate each moment and being thankful for what *I am able to* do. Yet, sometimes, it was hard to not think about whether people would judge me or not.

A Chatty Mind

I had never been exposed to meditation or mind contemplation before coming to ASU. I was good at intellectual reasoning and thinking and considered myself a smart person. The first few classes I took at ASU and work I did in the Happy Lab, showed me a different way of using my intelligence, one that I was not used to, which was very uncomfortable (and painful) to me at first.

I was introduced to the art of meditation and quieting my mind, which was a hard concept to grasp. I did not understand how I could quiet my mind. This was an experiential activity that only I could do by myself. People could explain the process to me, but they could not meditate for me. Becoming aware of what is in my mind was uncomfortable because it was a lot of work. My mind was always busy thinking about tasks to do.

I remember that in some classes, the instructor guided us to close our eyes, feel our feet against the ground, and feel our breathing. Those small activities were the door that allowed me to discover the constant noise of my mind. There was never a moment of silence. Those short moments of guided meditation were uncomfortable because I thought I could never stop the chattering of my mind. I thought I was the only person experiencing that, and for that reason, I would often think to myself that meditation was not for me. I considered myself to be in a good place and that mediation was for people who needed help. And I did not need it.

The reason why meditation was painful was that in the few classes where the instructor guided us to follow our breath, I would become aware of my body, of the limitation of my lungs, of my heartbeats, and gradually I would feel like having a panic attack. It was painful to feel trapped in my body and afraid I may die in the process of having a panic attack. Becoming aware of my mind was an uncomfortable and painful process at the beginning – I had too much chatter in my mind and there were periods where I could not eat solid foods because I was hyper aware of how the food moved from my mouth to my throat and I feared choking.

Yet, nothing is permanent. With time and practice, awareness of my mind led me to grow spiritually and to overcome the limiting fears I had at the beginning of this process.

Impermanence

In conversations with my parents about the last few months of life of my paternal grandfather, I started to think about life after death almost every day. I was fascinated about what happens to the soul when it leaves the body and I really wanted to be more aware of the universal spirit of life. I started to read spiritual books that helped me understand my personal process of awareness and what might happen after we leave the physical realm. The following is a journal entry from Feb. 12, 2017:

"Before going to bed last night, I did my nightly reading from a book of

creative non-fiction stories, Well Written Stories, and the story that I read

was "Teaching Death" by Todd May. This philosopher mentioned that

there are very few books addressing death. Usually, books about death

detail what happens when we die, but not so many about confronting

death. When you confront death, according to May, you are speechless,

there's nothing to say. You must confront death by yourself. Nobody will

be with you. Even if you die together with your loved one, in an accident

for example, each one is dealing with their own death, and they are

experiencing it alone. Death is a fascinating concept to talk about, scary

for some, desiring for others. Why are we so attached to life? Why are

we afraid of dying? May mentions that we need death to have meaning

in life, but when we find meaning in life, then we don't want death to come. And this happens with everything, in order to appreciate something, we need to lose that to know how much that something meant to us. Death is exactly the same. Unless we understand that life is temporary, and practice meditation to detach ourselves from our physical body. Buddhist principles teach you to not have attachments in life, because those attachments, or desires, create suffering. When we desire, we suffer. Thus, if we feel detached, we will accept what comes for us. Death is imminent in everybody. We will face it at some point, and it can be scary. Death is the ultimate event where our courage acts. Whether we fear it or not, we will go through it, and will need courage with us. I believe that every single being will be courageous at that point, because when it comes, there is nothing else to fear. Only love."

All the spiritual books I was reading talked about the importance of love in our process of personal growth – inner sustainability – and the impact it has on the society at large. We do not know how long we will live, so what we can do during the time we are alive is share love, kindness, compassion, patience, and understanding.

There was such a strong desire in me to become an expression of love and be of service to the world that I had not realized I had set myself on a course for a radical inner transformation and even to my own spiritual death a year later.

Most of the period of becoming aware happened in private, inside of me. There was discomfort, fear and pain in the process, and I kept it all mostly to myself. I did not

want to be a burden to other people – because I was aware that everyone had problems of their own – so I kept quiet. This silence was heavy for my body and spirit, and as a result, led to the second phase of my development: spiritual death.

DEATH

Death is a natural process of life, and, as Scott used to say, we have cycles of death and rebirth throughout our lives (Volk, 2002). I will call the latter "spiritual death." I believe spiritual death comes when we need to transform in some way, maybe to let go of a part of ourselves that is no longer needed. Often, death is necessary when we need to heal old and intergenerational traumas that prevent the flow of life from taking its natural course (see *Healing Collective Trauma* by Thomas Hübl). I started to die slowly in mid spring of 2017, and I reached a point in the summer of 2018 where I could no longer sustain my old way of being.

In the early months of this process I held a lot of fear inside of me. I did not want to worry people about my internal state, so I kept my process mostly to myself. The hyper sensitivity I had to people's emotional states and awareness of my heartbeats and my body's internal processes led me to go through a difficult period of not being able to eat due to fear of chocking as well as waking up at night unable to breath. The following entry is from March 18, 2019, where I had one of the worst choking episodes in my sleep:

"I was breathing deep and hard and had to constantly turn my face to my left to swallow saliva. I was giving myself reiki to my chest with my left hand and to my solar plexus with my right hand. I felt a knot on my throat that was making me feel too uncomfortable with myself, and suddenly I started to feel dizzy (even with my eyes closed). I felt that my body was going in circles and that I was falling down. My body was sinking deeper and deeper, and my body was heavier and trapping me. I was suffocating in my mind. I thought: 'this is the moment that I was waiting for. My spirit is going to separate from my body. This is it.' I was scared, tense, anxious, and the adrenaline of feeling my body so intensely made me feel desperate. When I couldn't stand that situation anymore, I abruptly sat up and decided to meditate. I sat up with my legs crossed, hands holding each other, and eyes closed. I was breathing deeply, and suddenly, I started to choke. I got really scared, and wanted to scream and cry, and I knew that that night was the climax of the hidden fear I had been building up for the past month."

This experience was very scary and physically and mentally overwhelming to me. I feared going to bed because of the possibility of choking. I feared eating in public because I could easily choke. I feared people being aware of my fear. I could not get up from bed because my body felt excruciatingly heavy. As a result, I saw the need to open up a little bit to close family and my academic mentor about my internal state that was starting to affect my academic life. I needed support during this process, which I had

been too stubborn (and proud) to recognize before. One particular conversation with Scott helped me to realize that this struggle was part of my internal transformation. As the guest of this body, I was only aware of what was happening to me in the scary moments, and unable to look at the big picture. I had not realized that the process of becoming aware, although challenging at times, was transforming me from the inside out. This is exactly what Horlings (2015) suggests needs to happen to transition to a sustainable society. We need to transform from the inside out and develop values that foster sustainability. Mindfulness, awareness, compassion, connection, and love are important values for fostering and maintaining a sustainable society. For some people, like me, the process of internal transformation may be rockier than for others, but it is a journey well worth taking.

I was keeping inside the fears I had, which led to anxiety of what people would think of me. This occurred because I did not allow the stuck energy I had inside to flow outside and regenerate into new (and healthy) energy. I was aware of all the themes I explored in the previous section (Becoming Aware), but a part of me kept holding onto some sense of disconnection, fear of not being smart enough, and external validation in academics. I did not allow the natural flow of energy and creativity to move through me. I was keeping the stress and anxiety I felt inside, and gradually, it started to flow outside of me. For example, one day while teaching one of my favorite topics to my students, I suddenly questioned inside of me whether I was good enough and what my students would if I was not smart enough. While still talking about the lesson, I felt as if my spirit were leaving my body and I could see myself from where students were seated. I thought

I would faint and immediately ran to the bathroom. Experiences like this, where people could see me anxious were painful. I wanted people to think I was perfect and acts of vulnerability from my part would put me down.

As a result, by late Spring of 2018, I started to feel unable to sustain my own body and spirit. Happiness had vanished from my being, and I tried to grasp it with my hands every day or force it to come at will, but it did not come. I did not understand at the time that just like you cannot force a plant to grow faster, you cannot force yourself to be happy. You need to let it come naturally.

Episodes where I felt my spirit leaving my body started to come more frequently and the anxiety became crippling. There were days when I could not hold one-on-one conversations even with close ones, such as my own mom, because I feared having a panic attack. I began questioning myself every day how I could be studying sustainability when I could not even sustain my own being. I was starting to become desperate. The following entry, written on May 19, 2018, describes my inner process:

"I wish to know where the inner agony that accompanies me every day comes from. Why do I feel anxious when being around people? What is happening to my soul, to my mind, to my being? Is this normal? I know I'm not crazy, I think I have a qi unbalance. My spiritual energy is in tremendous unbalance and I do not know why it is so. Maybe it is because of too many years of putting on masks and hiding my insecurities that I have reached the end of the glass. My glass may be full and now my body may not be able to take this any longer— or should I say my soul? I feel

trapped in this body. My mind wants to escape, be free, be alone. but I

can't be alone. There are too many people around me. I want to cry in

the comfort of solitude, but cries do not come— maybe they will come as

I write this entry. I feel depleted of energy, my life force, and without that

energy, I can't do much. I feel like a defenseless child who can't protect

herself. I am not in a position to lead in this state, in fact, I can barely

follow. My life energy is leaving me with every step I take, with every

word I say, with every individual I interact with. I do not want to be afraid

of this state. But the thought that I am running out of time climbs up to

my consciousness when I start getting stressed, and then I am powerless,

and my depressed mind starts taking control."

Fortunately for me, the darkest months of depression happened when I visited

home in Bolivia, where I could rest and fully explore this unpleasant and new experience

devoid of happiness. On June 2018, I had the thought that my experience with depression

would be helpful in my dissertation, so I wrote the following entry that describes what it

is like to have a panic attack:

"I am sitting alone or with friends or surrounded by strangers. Suddenly,

I start feeling trapped in my mind and in my body. I start having negative

thoughts (that could potentially lead to depression) that spiral into

bigger ones. I start losing hope for a beautiful future and cannot avoid

thinking that I'm going to remain stuck in this state forever. And then,

the fear of time comes in. I am a PhD student, I should be doing my

research. I can't afford to waste time being anxious. And with that

thought, my anxiety starts getting worse and I can't calm down. My entire

body and heart feel in despair. I feel that I'm going to have a heart attack

because there are too many stimuli to bear both mentally and physically.

I try to tell myself that I'll be OK, that this state is temporary, but my

mind has taken complete control over me. My anxious mind rules over

me. I think the latter is the scariest thing of a panic attack. The lack of

control over my own mind is terrifying. I want to be able to feel beauty

around me, to smile easily at kids running around, or to feel random

bursts of love coming from my heart. But all of that is gone and I don't

seem to find their source anymore. Where did beauty go? Why can't I see

it anymore?."

This period was accompanied by tears every day and with a lot of mental questioning. Am I good enough? Will I inspire people one day? Is my experience normal? What will my friends say? Even though death was the darkest and most painful period of my life, it became one of the biggest gifts I have received. All the tears I shed, all the anxiety I experienced, all the emptiness I felt inside did not last forever. My being was going through a traumatic process of integrating all my selves – mental, physical, emotional, and spiritual, into a balanced and healthy person.

In order to let new life take place, it is important to let the old ways of being die. When we say goodbye to what is no longer useful in the process of growth, there is space for new beginnings.

Finally, one day, I surrendered to my process. I stopped fighting and hiding the anxiety, depression, and panic attacks and, instead, decided to love myself fully.

REBIRTH

Healing does not happen overnight. It takes a process of loving yourself and healing wounds. One day at a time. My rebirth, and healing process, was marked profoundly by a cold night in June of 2018 in my bedroom back in Bolivia. I had started to count back the days from the start of the semester and I was concerned that I would not be well enough to return. Thoughts of dropping out from the PhD program started to climb up my mind. However, the thought hurt me because I wanted to finish what I had started. Besides, I had created a community of friends in Tempe, and the thought of not seeing them again was heartbreaking. I took a deep breath and remembered that I could use meditation. I personally did not enjoy meditating because I was too impatient sitting quietly in a place. However, I remembered some research I had done the year before about meditation being helpful with depression. I had been introduced to loving-kindness meditation in one of my classes, and since I wanted to love myself deeply, I went with that. I remember sitting on my bed breathing in and out slowly and repeating to myself over and over:

May I be loved

May I be well

May I be safe and happy

For the first time since the period of depression started, I was able to completely empty my mind, to surrender to the peace of the moment. I meditated for 20 minutes and then turned off my lights and went to bed tucked under my thick blankets. I felt relaxed and peaceful. About 10 minutes later, I started to feel immense joy and love coming from everywhere…

Peace…

Quiet…

Happiness…

I had never felt so much love and sense of freedom in my life! Tears started to roll through my face, and I felt gratitude for the deep love I was experiencing. I felt connected with a higher source that reminded me that I was going to heal. This experience lasted many hours, for which I stayed fully awake soaking in the happiness I had not experienced for a long time.

When I woke up the next day, groggy and tired, I went back to the depressed state I had been for months. However, the experience I had had the night before gave me hope that I was going to be OK. I felt that the experience from the night before had come to me to remind me what it felt to be happy again and to trust the process of healing. Even though I could not measure this process, I trusted that gradually I would start getting better.

The healing process to feel whole and integrate all parts of myself came with ups and downs, because those are necessary for reintegration. There were days where the

darkness and fear I had experienced in my darkest months threatened to come back and some other days where I saw the light at the end of the tunnel.

Another powerful experience that helped me to heal and connect with other human beings at a deeper level happened in the class Cultivating Inner Sustainability, a year before I taught the class from chapter three. My classmates and I were talking about the importance of being vulnerable and transparent in our communities and somebody brought up the topic of anxiety. Everyone in class shared stories of times in their lives where they had been anxious. I was shocked to hear that all of them experienced anxiety in the past and present, and that they accepted it as part of who they were and were open about it. Up to that point in my life, I always covered up the moments where I felt anxious because I thought I was the only one experiencing it. To my surprise, everyone experienced it. We are all imperfectly perfectly made, and anxiety is part of our experience as humans. I took a leap of faith and shared that I experienced anxiety too. The class was supportive and loving and I felt safe. To my surprise, I suddenly felt that a flame was lit inside of me and made me feel confident and well-grounded to the earth. I did not know what that was at the time, but later I realized that acknowledging openly to the class that I experienced anxiety gave way for trust to develop inside of me. I started to trust people at a deeper level and accept anxiety as a normal and healthy phenomenon in human beings.

I was excited about my growth and relieved to feel stronger physically, mentally, emotionally, and spiritually. The following is a poem I wrote on August 30, 2018, describing the experience of healing, which had its ups and downs:

Ready to Live
I spent the night reading poems I had written, and letters I had sent.
And the intense feelings I had felt during those times reappeared in my mind
My body could not feel them, they were something from the past,
But my mind believed they were real.
My mind was confused because the intense feelings had not been with me for some weeks
Or was it months?
I don't know.
My mind was confused and tried to reach out to them
To that safe space it knew even though it hurt to be there
I tried soothing my mind by removing those memories from the past
Yet, my mind brought back the intense emotions.
Those beautiful and painful emotions I had felt.
Those beautiful and painful emotions that had kept me trapped.
The mind is slow to understand change.
The heart is faster and wiser.
Dear mind,
Don't you see I'm happy now?
I feel peace.
I feel happiness.
I feel complete.
I'm cleansing my soul and mental connections of suffering.
There is no need to suffer anymore.
I let go of attachments.
Dear mind,
Feel the joy of my heart.
Feel the music of love.
Feel the soft touch of someone who loves my soul.
I am ready to grow and detach from what has kept me a prisoner.
And at the same time,
I extend gratitude to those experiences.
I would not have been able to see the light
Had I not been tied to the darkest places where love does not reach.
I am ready to live a life of love.
And I let go of fear and attachments.
I feel happy.
I am happy.
I feel loved.
I am loved.
I feel complete.
I am on the path to being complete.
I feel alive.
I am alive.

I was living a process of deeper trust in the unknown, respect for all life, and deeper awareness of how my actions influence the state of the world. By becoming whole again, the 2.0 version of myself, I was more able than ever before to create space for other people. Feeling grounded and accepting all of my feelings allowed me to hold spaces of sadness and grief for people in my life. There were times where students would come to me in private with a deep struggle and in search for help, and because of the process I had been through, I was in a position to help them. When Scott suggested I run the class Cultivating Inner Sustainability for chapter 3, I have to admit I was terrified to be the one creating space for a whole class where people can share their emotions and unbury old traumas. Yet, the process of becoming aware, death, and later rebirth had put me in a position where I could hold grief, without falling into depression, and extend unconditional love at the same time. Not only was I better able to hold space for other people, but also take better care of the earth and be more intentional with the work I do. An increasing number of scholars are now agreeing with the importance of mindfulness practices for facing climate change and sustainability issues (Panno et al., 2017; Wamsler et al., 2017; Anālayo, 2019).

Figure 5: Ensō Symbol Representing my Coming Full Circle

COMING FULL CIRCLE

One day in late 2019 I was thinking about zero waste while meditating and I had a profound realization: "waste" starts within me. Back then, before starting my meditation in the morning, I would do a cleansing prayer for the space I was in. In a split second of awareness, I thought to myself, "*where will those unclean energies go? Are they going to my neighbor's house or to somebody else's house*?" I realized I did not want to create more waste in the world, whether it be physical or spiritual. I, then, decided to focus more on "cleansing" what was inside of me as part of my daily spiritual practices, instead of asking those dark parts to go away. The solution was not in moving things away where they did not bother me, but to heal and extend love.

I realized I had come full circle where I had begun. I had been very excited to research zero waste and work in projects toward it, and throughout my academic journey I had learned to see the spiritual parts of waste and acknowledge that I need to work on myself first to set the example for other people. Only when we all act with mindfulness – meaning that we are aware of the world within and outside ourselves (Ericson et al., 2014), and have a deeper respect for life, we will be able to have real sustainable societies. The answer to what needs to be done is have a change of values, heal our lives, and start appreciating life more. Each person has a unique and powerful story that needs to be valued. In the same way, each creature and life form on earth has a powerful story and we should respect that life. Sustainability itself is a spiritual journey on our path to create a better world for everyone.

LESSONS LEARNED DURING MY JOURNEY AS A SUSTAINABILITY PHD STUDENT

- Sustainability literally means "the ability to be maintained at a certain rate or level" (Oxford Dictionary, 2020). I cannot sustain the world or my community if I am unable to sustain my inner peace and happiness. Self-healing of the physical, emotional, mental and spiritual bodies (Burns, 2015) is important for sustainability. Sustainability starts at the individual level, one person at a time.

- I cannot ignore my mental or spiritual health while I prioritize academics. I need to find a balance between all areas of my life. Balance will allow me to be a better researcher, teacher, friend, and human being.

- We store trauma in the body. We can heal it by using movement and contemplative practice.

- Circles of conversation are powerful. When the circle is combined with intentionality, unconditional support, and a safe space, people can heal traumas by talking to each other and knowing that their information is safe with the group.

- Incorporating silence and meditation in the class makes students be more present.

- It takes courage, intention, and practice to be vulnerable with another person, but when I am vulnerable with people, deep conversations can emerge. If I want radical change to happen around me, I have to take the radical step to be vulnerable and act with love. Love will engender love. This applies to teaching sustainability classes.

- True sustainability is an act of love. It takes courage to see beyond the status quo and make the decision to work for the common good. Working for a sustainable world requires stepping out of your comfort zone and looking at yourself deeply to become aware of the areas in your life that prevent or go against sustainability. It takes love to accept yourself and make a commitment to do better. True sustainability requires a process of personal growth (which I refer to as spiritual growth in chapter 3) to work for sustainability of everyone across time and space.
- Sustainability is a spiritual journey.

FINAL WORDS

Life is constantly evolving, and so are humans. This chapter reflects my understanding of my process and its relationship to sustainability at the time I wrote the chapter (fall 2020). The previous four years contributed to my understanding of my own growth and explanation for such growth. I may see my life from a different lens later in life, and that is OK, too.

The message I want to leave you with is that…

People matter.

Emotions matter.

Healing is important.

Life is a complex phenomenon with suffering and happiness, and we cannot feel whole with just one or the other.

Integration of the spirit with the intellect makes healthier people, and healthier

people make better sustainability decisions.

Healthier people are, simply, happier.

CHAPTER 4 REFERENCES

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CHAPTER 5

CONCLUSION AND SUMMARY

This dissertation explored the spiritual dimensions of sustainability as an opportunity to address the unsustainability the world is currently experiencing. We need to bring to the forefront the inner component of individuals' lives, which not only shapes views of the external environment, but also presents an opportunity to mitigate the problem (unsustainability). Measures to cultivate the inner world of individuals are as important as external measures. This dissertation consisted of three studies considering the impact of spirituality on sustainability at different scales. The first study posited a theoretical framework for holistic human development at the personal and community level. Study two tested the theoretical framework in the classroom to assess its effect on sustainability university students. Study three was the study of my personal spiritual journey applying the framework and tools utilized in studies one and two.

Study one consisted of an extended literature review from the fields of spirituality, sustainability, and happiness where spirituality was identified as the missing link between sustainability and happiness. We provided a scientific explanation of spirituality, and its difference from religion, and pointed out how spiritual growth leads individuals to become intrinsically happier and behave in sustainable ways. Community well-being can be enhanced when promoting happiness and sustainability, with spirituality as their source. Based on this research, we developed a theoretical framework for holistic development at the personal and community level. In the framework, we addressed the need to overcome (1) inner separateness with activities that create a mind-

body connection by engaging in meditation, mindfulness, and gratitude practices, and facilities to develop spiritual knowledge and understanding; and (2) outer separateness by forming community organizations, holding community dialogs, providing more opportunities for individuals to meet and interact with one another and with nature, and identifying income-generating opportunities which promote and do not conflict with outer and inner connectedness.

Study two addressed spirituality in the form of spiritual well-being and its role in sustainability pedagogy. This study is the first (to our knowledge) to bridge the gap between sustainability science and spiritual well-being to achieve lasting sustainability. We argued that sustainability science focuses predominantly on technological and external solutions to environmental problems, and as a result, sustainability students' education is centered primarily around these external solutions. The opportunity we found is that traditional interventions are not enough to ensure lasting sustainability, and spiritual well-being should be integrated into traditional sustainability pedagogy. We identified contemplative practices (CP) as pathways for spiritual growth (which included practices suggested in the theoretical framework). We conducted a study in a sustainability classroom lasting 15 weeks and compared student outcomes with unenrolled peers. The class promoted a safe and collaborative space, and each week was composed of class discussions, CP, and personal intention for the upcoming week. We used quantitative measures of happiness, self-compassion, and sustainable behavior, and qualitative open-ended questions about the spiritual growth of students. Assessments took place on weeks 1, 15, and 25. Quantitative data indicated that happiness and self-

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compassion increased, while sustainable behavior was unaffected. Qualitative reports indicated that students developed and/or deepened spiritual traits of patience, present moment awareness, compassion, and love. Data also indicated that students developed deeper sustainability competencies of systems' thinking and interconnectedness. We also found that half of the class stopped engaging in CP after the class finished on week 15. Implications of these findings were addressed in the chapter.

Study three was an autoethnography exploring my personal growth over the past four years. The process of studying sustainability and researching spirituality led me to have a radical inner transformation. I divided this process into three marked phases of development: (1) becoming aware, which was the exploration of my inner world and realizing I was disconnected from my own self and from my outer world. I became aware of masks I wore to protect myself and how to remove them one at a time, of my rushed lifestyle that prevented me from appreciating the present moment, of my chatty mind, and of life's impermanence. The process of becoming aware and removing masks led to the second phase, (2) spiritual death, where I struggled physically, mentally, emotionally, and spiritually. I held on to old ways of being which did not serve me anymore, and I had to learn to surrender to the process of healing and integrating all parts of my being. Finally, I experienced a (3) rebirth, which was the process of healing and becoming whole again. This process allowed me to love myself fully and be able to create space for other humans and living creatures. I started my journey studying zero waste, and throughout the years, I worked through the spiritual components of waste and sustainability, and

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ended the process by coming full circle with being the positive change I wish to see in the world. Change starts with one being at a time.

While personal transformation from the inside out is helpful in one individual at a time, we are in urgent need of a large-scale value change. The current climate crisis requires that individuals take action now toward a healthier climate. Educational institutions provide a great place to educate students on values that promote holistic sustainability that acknowledge the spiritual dimension of life. In addition to enlisting the help of educational institutions, other measures for large scale value change include media campaigns, virtual reality where one can experience the distress from natural disasters and the opportunity we have for restoration, and policies that support the environment, among others.

There is great potential to bridge spirituality and sustainability to humanely address challenges to sustainability. Spirituality acknowledges both the inner world and external reality of individuals, both of which play a role when striving to enhance sustainable behavior and happiness. A spirituality approach manifests as a connection with all beings on the planet across spatial and temporal scales and reminds us that our purpose as human beings is to care for others (Ulluwishewa, 2016). With a mindful heart and mind, we can support powerful change in the world as we integrate the five facets of spirituality into our lives. On a larger scale, a spiritual approach may impact changes in traditional educational system and laws. Traditional educational systems maintain the status quo, encouraging competition, which leads to a sense of separation (van der Leeuw et al., 2014). This separation creates a sense of I vs them. Similarly, laws tend to create

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division rather than open a conversation for extending love to our neighbors. When we change our mindset from separation to connection and love, we can create lasting sustainable change.

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APPENDIX A

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I declare that I have obtained permission from the relevant co-authors for including two chapters as sections in this dissertation. They are:

Rohana Ulluwishewa (Chapter 2)

Scott Cloutier (Chapters 2 and 3)

Leah Gibbons (Chapter 2)

Susana Puga (Chapter 2)

Anura Uthumange (Chapter 2)

David Messer (Chapter 3)

APPENDIX B

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APPENDIX C

IRB EXEMPT LETTER FOR CHAPTER 3

ASU Knowledge Enterprise Development

EXEMPTION GRANTED

Scott Cloutier
GIOS: Sustainability, School of
-
Scott.Cloutier@asu.edu

Dear Scott Cloutier:

On 8/22/2019 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Cultivating Inner Sustainability: Applied work in the classroom
Investigator:	Scott Cloutier
IRB ID:	STUDY00010529
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Demographic Information.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Study Questionnaire.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Form-Social-Behavioral-Protocol_Classroom study 2.docx, Category: IRB Protocol; • Consent Form 2.pdf, Category: Consent Form; • Study Survey.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (1) Educational settings, (2) Tests, surveys, interviews, or observation on 8/22/2019.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Erica Berejnoi Bejarano
        Mayan Eartheart
        Erica Berejnoi Bejarano

APPENDIX D

QUANTITATIVE ASSESSMENT TOOLS FOR CHAPTER 3

SELF-COMPASSION SCALE – SHORT FORM

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost
never

Almost
always

1　　　　**2**　　　　**3**　　　　**4**　　　　**5**

_____1. When I fail at something important to me I become consumed by feelings of inadequacy.

_____2. I try to be understanding and patient towards those aspects of my personality I don't like.

_____3. When something painful happens I try to take a balanced view of the situation.

_____4. When I'm feeling down, I tend to feel like most other people are probably happier than I

am.

_____5. I try to see my failings as part of the human condition.

_____6. When I'm going through a very hard time, I give myself the caring and tenderness I need.

_____7. When something upsets me I try to keep my emotions in balance.

_____8. When I fail at something that's important to me, I tend to feel alone in my failure

_____9. When I'm feeling down I tend to obsess and fixate on everything that's wrong.

_____10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy

are shared by most people.

_____11. I'm disapproving and judgmental about my own flaws and inadequacies.

_____12. I'm intolerant and impatient towards those aspects of my personality I don't like.

SUSTAINABLE BEHAVIOR SCALE

Indignation due to environmental damage

Instructions: Please choose the answer that applies best to you:

1=It does not matter to me

2=I feel slightly bad (I think it's inevitable)

3=It hurts me (sadness)

4=I feel so bad that it infuriates me

5=I feel so bad that I would try to avoid it (telling the person not to do it)

6=I feel so bad that that I would prevent it by all means (stop the person)

1. When someone cuts down a tree (in the city or in the town)   _____

2. When someone throws their cigarette butts on the floor   _____

3. When someone throws their trash on public roads   _____

4. When someone harms an animal, person or plant   _____

5. When observing factories that throw waste into rivers/sewage   _____

6. When seeing streets full of traffic and filled with smoke   _____

7. When observing that neighbors waste water   _____

Intention to act

Instructions: Please indicate how often you would do the following:

1=I would never do it.

2= I would be willing to do it sometimes.

3=I would be willing to do it almost always.

4=I would be willing to always do it.

1. Participate in pro-ecological rallies.   ____

2. Donate money to environmental campaigns.   ____

3. Volunteer in environmental conservation activities. ____

4. Collaborate in environmental protection projects. ____

5. Sign a petition against harming the environment. ____

6. Buy environmentally friendly products. ____

7. Use energy efficient technology. ____

8. Walk or use a bike instead of a car. ____

9. Recycle paper. ____

10. Recycle glass. ____

11. Conserve wáter. ____

Affinity towards diversity

Instructions: Please choose the extent to which you agree with the following statements:

1=Do not agree

2=Mostly disagree

3=Mostly agree

4=Totally agree

1. It seems good that there are many religions, since they all teach good things. ____

2. I would like to live around people of different ethnicities: indigenous, black, Asian, white, mestizo, etc. ____

3. I do not think it is bad that there are different sexual orientations (homosexuality, lesbianism, preference for the opposite sex). ____

4. I like to live around people of all socioeconomic classes (poor, rich, middle class). ____

5. I prefer to live around people of my age or generation and not people of other ages. ____

6. I like that there are people with different political orientations (left, right, center). ____

7. I do not like living with people who are not of my sex. ____

8. I like many types of animals. ____

9. I like that my garden has only a few varieties of plants. _____

10. I like to visit places where there are many types of animals. _____

11. For me, the more variety of plants there are, the better. _____

12. I only like some types of pets. _____

13. I much prefer living in one particular type of climate. _____

14. I could live at ease in any place (forest, desert, beach, valley, jungle). _____

Frugality

Instructions: Please choose the extent to which you agree with the following statements:

1=Strongly disagree

2=Partly disagree

3=Neither agree nor disagree

4=Partly agree

5=Strongly agree

1. If my car works well, I do not buy a new one, even if I have the money. _____

2. I wear the same clothes from last season, even if I can buy new ones. _____

3. Even if I have money, I do not use it to buy jewelry. _____

4. I buy many shoes to match all my clothes. _____

5. I buy more food than needed for me and my family. _____

6. I use a large portion of my money to buy clothes. _____

7. I almost always eat at my house instead of going to restaurants. _____

8. If I go to a place that is not far away, I prefer to walk rather than using

my car. _____

9. I reuse notebooks and sheets of paper that are left over at the end of

the school year. _____

10. I prefer to live without luxuries, even though I could afford them. _____

Altruistic actions

Instructions: Please indicate how often you carry out the following actions, when the opportunity arises:

1=Never

2=Almost Never

3=Sometimes

4=Almost always

5=Always

1. Give clothes to the poor.   _____
2. Assist people who fall or get hurt   _____
3. Contribute financially to relief efforts   _____
4. Visit the sick at hospitals/homes   _____
5. Help elders or handicapped people crossing the street   _____
6. Guide people asking for direction   _____
7. Provide some money to homeless people   _____
8. Participate in fund-collection campaigns for nonprofit organizations

like The Red Cross, etc.   _____
9. Donate blood in response to campaigns   _____
10. Help work or school colleagues with projects they don't understand.   _____

Equity

Instructions: Please indicate the extent to which you agree with the following statements:

1=Strongly disagree

2=Partly disagree

3=Neither agree nor disagree

4=Partly agree

5=Strongly agree

1. My partner has the same right as me to decide on the expenses in the family.   _____

2. At work, I treat all of my colleagues as peers, regardless of whether they are my subordinates. _____

3. At home, children have the same right as adults to make important decisions for the family. _____

4. In my family, men and women have the same obligations in cleaning the house. _____

5. People from native communities are equally capable of running a business as white people. _____

6. I treat rich and poor people equally. _____

7. I believe that girls and boys should have the same educational opportunities _____

Proecological behavior

Instructions: Please indicate how often you carry out the following actions:

1=Never

2=Almost Never

3=Sometimes

4=Almost always

5=Always

1. Wait until having a full load for laundry. _____

2. Drive no faster than 10 miles per hour above the speed limit on freeways. _____

3. Collect discarded paper and recycle it. _____

4. Bring empty bottles to a recycling bin. _____

5. Point out non-ecological behavior. _____

6. Buy pre-made foods. _____

7. Buy products in reusable packages. _____

8. Buy seasonal products. _____

9. Use a clothes dryer. _____

10. Read about environmental issues. _____

11. Talk to friends about environmental problems. _____

12. Kill insects with chemical insecticides. ____

13. Turn off air conditioning when leaving a place. ____

14. Look for ways to reuse things. ____

15. Encourage friends and family to recycle. ____

16. Conserve gasoline by walking or bicycling. ____

Happiness scale

Please choose the answer that applies best to you:

1. In general, I consider myself:

Not very happy   **Very happy**

      1   2   3   4   5   6   7

2. Compared to most of my peers, I consider myself:

Not very happy   **Very happy**

      1   2   3   4   5   6   7

3. I enjoy life, regardless of what's going on:

Strongly disagree   **Strongly agree**

      1   2   3   4   5   6   7

APPENDIX E

SUMMARY OF CLASS SESSIONS AND CONTEMPLATIVE PRACTICE EACH

WEEK

#	In-session activities	Theme of discussion	Stage of group	Space	Reflection questions for the week
1	completing survey (T1)			classroom	
2	no class - Labor Day				Where and when is it most difficult for you to focus your attention, to be present? And why do you think this is the case? How do you cope or handle stress in your life now?
3	check in class discussion guided meditation	personal intention	tentativeness from the group	classroom	What is happiness to you? Do you consider yourself happy? Please describe. Do you extend love to yourself? Think about happy, sad, stressful and difficult times in your life. Please describe.
4	check in class discussion soul Gazing activity	vulnerability	forming identities	classroom	Do you give yourself a mental break from stress and worries? Why or why not? How do you do it? Often, our bodies give us signals when we need to slow down in our busy lives. Do you listen to these signals? Do you give your body the break it needs?
5	check in psycho-synthesis activity	emotions		classroom	What identity do you choose to show in this class? What about outside of class? Why do you hold these identities?
6	meditation	identities	comfort with each other	outdoors: green space	What is masculinity to you? Femininity? How does it affect you? (Feel your feelings and talk about them)
7	check in yoga	pain	vulnerability	outdoors: green space	What do you love about yourself? What makes you special? Do you choose to show this love for yourself around people? (e.g., classes, friends, work, family)

	class discussion			
8	**Fall Break**			
9	check in semester review guided imagery and Feldenkrais	personal growth		classroom	On a scale from 0 (least) to 10 (most) rate how vulnerable/open you have been in the class and reflect on why. What has helped you to open up so far? What would you need from people in the class to open up more? Is being vulnerable important to you?
10	check in movie: "The Way Out"		more vulnerability	classroom	Sit in with your emotional energy from this morning and reflect on how 'the way out' (referring to the message of the movie, not just the title) affects/influences you. What message did you get from the movie? How can it impact your overall life?
11	check in class discussion	personal growth	connection	outdoors: green space	Thinking and feeling about your inner exploration in this class, what was your original intention at the beginning of the semester? How has it evolved? What is your intention now? What do you need from the class to fulfill that intention? (Think about activities, discussions, etc., you'd like to do in the last 2 remaining classes we have).
12	no class - Veterans Day				
13	check in loving kindness meditation class discussion	feelings	connection	classroom	What's your love language? Do you give it to yourself? How do you extend love to people, animals, plants, etc. around you?
14	check in	class	connection	classroom	

	potluck - mindful eating & prayer				
15	completing survey (T2)				