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Transitioning organizations for sustainability: exploring the intersection of sustainability, worldview, and organization development

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TRANSITIONING ORGANIZATIONS FOR SUSTAINABILITY: EXPLORING THE INTERSECTION OF SUSTAINABILITY, WORLDVIEW, AND ORGANIZATION DEVELOPMENT

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Abstract

Transitioning Organizations for Sustainability (TOS) is the practice of holistic organizational transformation in response to complex social, ecological, and economic challenges. This study examined the relationship between the worldview of organization development (OD) practitioners and their professional identity, particularly those practicing TOS. The study compared professional data with levels of agreement with the NEP Scale (Dunlap, Van Liere, Mertig & Jones, 2000). Data were collected through a survey of Pepperdine University MSOD affiliates and interviews with TOS practitioners. Current TOS practice, a future desire for TOS practice, a Master's level education, and a future-oriented outlook were shown to have some positive relationship to greater levels of agreement with the NEP Scale. This research substantiated a connection between worldview and the professional identities of OD practitioners in TOS. It also supported proposals in the literature that OD practitioners may be well positioned to lead this type of complex change.

Table of Contents

List of Tables

Chapter 1

Introduction

We are living at a time when business as usual, defined by a singular goal of economic profit, is no longer a viable option for organizations serving a global society. As Yeganeh and Glavas (2008) stated, "A shift is taking place. Organizations are awakening to the reality that green business practices can provide competitive advantages while simultaneously producing world benefit" (p. 6). Though the terms *corporate responsibility*, *green*, and *sustainable* are used interchangeably to suggest business interests beyond pure economics, there currently exists no standardized universal term.

In their article titled "Green Organization Development" (GOD), Yeganeh and Glavas (2008) employed the term *Green OD* to describe the practitioner-led process that facilitates the incorporation of sustainability-based decision-making within an organization. In being named, a specificity is implied that earns the practice a distinguished presence under the umbrella of organization development (OD). This developing faction of OD responds to a new era of business practices necessitated by an unprecedented set of global challenges and opportunities. This practice, furthermore referred to as *transitioning organizations for sustainability* (TOS), is the subject of this thesis.

TOS is generally characterized by a shift from a traditional, single bottom line-based approach recognizing economic capital to a multi-faceted, holistic approach recognizing social, environmental, and economic capital. This shift necessitates basic changes to the operating principles of the system, touching all levels of an organization, group, or community. It may involve, but is not limited to, the facilitation of change

related to individual thought processes, organization culture and strategy, and the structure of reward systems and basic operational functions. While the processes employed in the interest of TOS will vary according to each organization, they are in service of a core belief: in order for humankind's economic constructs to be viable in the long term, they must recognize, respect, and support the social and ecological systems upon which they depend.

Scientist and strategic advisor Chris Martenson stated that the next twenty years are going to look very different than the last twenty due to the simultaneous intersection of global climate change, population growth, peak oil, and economic instability (2011). For decades, initiatives such as The Natural Step business model have operated on the premise that social and environmental sustainability in business is not only possible, but profitable. This idea is not new; however, the emergence of TOS may mark a significant tipping point as awareness, social discourse, and business practices around sustainability have noteably increased in recent years. Associations such as the International Society for Ecological Economics (ISEE) were founded over the last two decades, and most major consulting firms highlight relatively new, but growing, sustainability consulting service areas (Marquardt, 2008).

There is other, significant evidence that this awareness is infiltrating the mainstream consciousness of human society. Newspaper articles and magazines such as *Time* and *Fast Company* have profiled sustainability. While Al Gore's book about ecological vigilance, *Earth in the Balance*, made the *New York Times* Best Seller List in 1992, it was not until the book's companion film, *An Inconvenient Truth*

opened at the Sundance Film Festival in 2006 that the general public took notice. Socially-responsible home products company *Seventh Generation* has been doing business for 20 years, yet it is only recently that their products can be found on many supermarket shelves in the United States, clustered with a handful of other brands cropping up to meet consumer demand. As illustrated in the film *Who Killed the Electric Car*, alternate fuel sources have been commercially available for decades. Only in the past few years has the market mainstreamed hybrid cars, and gas mileage is now a common marketing point. Big-box retailer *Wal-Mart* is included in the growing list of corporations reforming their business practices (Wirtenberg et al., 2009). This reformation follows the 2005 release of the film *Wal-Mart: The High Cost of Low Price,* which exposed a disregard for social and environmental considerations in the name of economic profit. As Yaganeh and Glavas (2008) observed, "green business is practically everywhere around us…the business sector is increasingly called upon to be one of the key drivers of the green movement" (2008, p. 6).

There is also support for this shift among managers and CEOs, particularly in response to social pressure and protecting an organization's reputation. In a study in the McKinsey Quarterly (2006), 84% of roughly 4,000 executives from over 100 countries believed that business should contribute to the public good; yet

> despite the willingness of businesses to become green, most executives do not believe their companies are doing a good job nor even know how to implement green business practices into their strategy and daily company practices. This is specifically where OD can have a major influence. (Yeganeh & Glavas, 2008, p. 6)

Sustainability and Worldview

There is ambiguity around the terminology of sustainability, a key concept in the idea of TOS. This ambiguity, and subsequent lack of a standardized universal definition, is of significance to this study. The lack of standard definition for sustainability, and therefore what it means to transition an organization for sustainability, impacts attempts to further define and understand TOS. Currently, a sustainability initiative may vary significantly from an intervention as discrete as risk management to one as deep as complete restructuring around social and environmental principles. Definitions of sustainability are as varied and individualized as those who subscribe to the concept, such that both the client's and the practitioner's definition of what it means to be sustainable heavily influences the parameters of the work. How one views and defines sustainability is influenced by one's worldview or paradigm. Therefore this thesis considers worldview to be an important factor in the discussion of TOS.

Purpose of the Research

This thesis will attempt to add to the body of knowledge around TOS and, in particular, the roles of OD practitioners in the global movement toward economic, social, and ecological sustainability. It will do this by exploring the concept of sustainability, the process of facilitating TOS, and the significance of worldview in these concepts. The thesis aims to explore the question: Is there any relationship between OD practitioners' worldviews and their professional identity, and specifically, the professional identity of those working within the realm of TOS?

Significance of the Research

Unlike more subtle or isolated trends that have defined the historical trajectory of the field of Organization Development to date, the emergence of TOS represents a multi-faceted force that presents the profession with the most pressing challenges of our time. These challenges are unique in the potential they hold for widespread application of OD principles toward timely issues of global importance. Due to their training, there is both opportunity and responsibility for OD practitioners in this shift. Their expertise may be called upon to help manage the changes—unprecedented in both scale and urgency—that will affect businesses, governments, and communities in the coming decades. Worley and McKloskey (2006) stated, "The trends in the economic, social, political, and technological environment, and trends within OD itself, all contain the seeds of integrative and influential force that is capable of shaping the positive future of our world" (p. 512).

While global imperatives for more holistic business practices support the relevance of TOS, there is little research about TOS as a type of change facilitation under the larger umbrella of OD. This is notable, as OD practitioners may be well positioned to contribute their skills to relevant, timely, values-based work of global significance. As Yeganeh and Glavas (2008) stated, "this is a new area in which our field can innovate" (p.10).

Implicit in the concept of innovation is the expectation of a new solution, born from the juxtaposition of sound knowledge applied to new problems. Also implicit in innovation is the idea that there is no textbook that provides an answer, and no blueprint

that lays out a process. TOS is on the forefront of OD, defining itself as businesses and practitioners test, fail, and succeed. Adams (2006) wrote:

> The OD profession is in a perfect position to ask questions in order to…create more long-term, creative, global, and systems-level change efforts that are focused relatively more toward learning and being, all essential qualities for building a sustainable world (p. 335).

Therefore a better understanding of this work, and the practitioners already working in this arena, are important contributions to the future of the field.

Context

The research question seeks to understand any relationship between OD practitioners' worldviews and their professional identity, and specifically, the professional identity of those working within the realm of TOS. This question was addressed through the collection of demographic and professional data via an anonymous survey distributed to a listserve affiliated with the MSOD program at Pepperdine University's Graziadio School of Business and Management. Phone interviews were conducted with individuals who are known by others or have made themselves known to the researcher as working within the realm of TOS. Interview participants may or may not have an affiliation with the MSOD program at Pepperdine University.

Thesis Outline

Having introduced the topic of TOS, its context in the current business climate, and its significance for the global community and the future of OD, the following chapters continue to describe the topic within the construct of this research question: What is the relationship, if any, between worldview and the professional identity of OD practitioners working within the realm of TOS? Chapter 2 summarizes findings from relevant literature and expounds on the most current findings as a starting point from

which to approach the research question. Chapter 3 outlines the research methodology, specifically defining variables and observations. It includes the kind of data collected, and how it was collected. The data is analyzed and produced as findings in Chapter 4. Finally, Chapter 5 discusses the findings, draws conclusions, highlights limitations to the study, and summarizes opportunities for further research. Any recommendations resulting from the study are included in Chapter 5.

Chapter 2

Literature Review

The purpose of this chapter is to discuss the current literature addressing topics that span the intersection of sustainability, worldview, and organization development. These topics include definitions of the sustainability, managment trends, various frameworks for achieving organization sustainability, and viewpoints of prominant scientists, researchers, and organization development experts on the topic of organizations and sustainability. This chapter also reviews literature that addresses both the individual and organizational qualities, characteristics, and mental models proven crucial to success with transitioning organizations for sustainability. These findings are central to the future and potential role of OD professionals in facilitating this type of change. This chapter supports the research question: What is the relationship between worldview and the professional identity of OD professionals working to transition organizations for sustainability?

The chapter summarizes the major themes and characteristics within the literature as follows: Part I addresses the importance of worldview with regard to organization sustainability and the New Ecological Paradigm-Dominant Social Paradigm worldview continuum; Part II addresses the common characteristics of TOS; Part III addresses the growing trends of transitioning human systems by mimicking the natural world; and Part IV addresses Third Generation OD Approaches and Change Processes for Sustainability.

Part I: NEP – DSP: Contrasting Worldviews

The study of current literature on organizations and sustainability reveals a collection of research, findings, and proposals that may be divided into one of two

categories along a continuum, with each end of the continuum representing a distinct and differing worldview, or mental model. One defines organizational sustainability through a lens that recognizes ecological limits to growth, while another defines organizational sustainability through a lens of a currency-based status quo and continued growth (Ryland, 2000). For the purposes of this thesis, the mental model of sustainability recognizing ecological limits to growth will be identified as the New Ecological Paradigm (NEP) and the mental model of sustainability viewed from within currency-based principles of continued growth will be identified as the Dominant Social Paradigm (DSP) (Dunlap, 2008; Dunlap & Van Liere, 1984; Dunlap & Van Liere, 2008; Dunlap, Van Liere, Mertig, & Jones, 2000).

The meaning of the word sustainable has been diluted by overuse, earning it a reputation as a buzzword characterized in the literature as vague and broad with varied definitions. Distinguishing among these differing worldviews provides a useful subtext for the concept of what a sustainable organization looks like and highlights the significance of mental models in discussions of TOS. Because the NEP and DSP worldviews represent two viewpoints at each end of a continuum, there are likely as many hybridized views resting between the two extremes as there are individuals involved in the discussion (Ryland, 2000). When "in some instances, sustainability is considered to imply the need for the radical reorganization and restructuring of society along ecological principles, in other instances it is considered in terms of incremental reforms to the status quo" (Milne, Kearins, & Walton, 2006, p. 802), the first issue to clarify within the literature can be stated: Through which mental model is this author viewing organizational sustainability?

This literature review discusses a significant and growing trend of ideas related to a paradigm shift, represented in this thesis by the NEP-DSP continuum; therefore, utilizing the NEP-DSP continuum as a framework within which to structure the literature creates a context for understanding and interpreting sustainability relative the worldview of the author discussing it, as best determined by the researcher. Distinguishing between the DSP and NEP worldviews establishes the characteristics of such a paradigm shift. It provides a contextually relative foundation for understanding sustainability and clarifying inconsistencies and ambiguities surrounding the topic. This clarification provides a framework for understanding the term sustainability and furthering dialog around organizational sustainability and the role of the OD professional within this dialog.

Sustainability in the context of a paradigm shift. Though this thesis uses the NEP-DSP terminology to represent the generic dichotomy of Emerging Paradigm –Status Quo, additional comparisons form a choir of illustrations to describe this threshold, outlined in Table 1 below.

Each of these comparisons adds to the paradigm discussion presented by the literature as central to the understanding of sustainability. They are outlined below. In some cases, discussion of each pair begins with the Status Quo (Dominant Social Paradigm) in order to establish a context for comparison.

Ecological economics vs. neoclassical economics. Neoclassical economics represents what might be thought of as a closed system, a constructed reality held separate from the laws of nature, biology, and society. This closed system is not isolated from the social and ecological environment in which it exists, and consequently both uses

Table 1

A Conceptual Dichotomy Regarding Sustainability

NEP	DSP	AUTHORS
Ecological Economics	Neoclassical Economics	Dunphy, Griffeths & Benn, 2007; Nattrass & Altomare, 1999
Survival Stage	Profit Stage	Stead & Stead, 1994
Healthy Living Whole	Machine Paradigm	Porter, 2006; Knowles, 2009; Davis, 2009
Being	Having	Rimanoczy, 2010
Cradle to Cradle	Cradle to Grave	McDonough & Braungart, 2002a
Strong Sustainability	Weak Sustainability	Milne, Kearins & Walton, 2006
Deep Ecology	Shallow Ecology	Naess, 1989; Ryland, 2000
The Next Industrial Revolution		Hawken, Lovins & Lovins, 1999
Life Beyond the Bubble		Senge, 2008

and impacts the resources from these systems. However, they are not accounted for in neoclassical economic theory. This lack of accounting related to the use of and impact upon social and environmental resources commonly produces negative results, typically labeled *externalities*. Many of the world's most critical resources, such as air and water, are taken for granted as free inputs to this closed system, and "accorded no value unless they acquire economic worth in the process of production" (Dunphy, Griffeths, & Benn,

2007, p. 11). Pollution, resource depletion, and health threats to local populations are common examples of externalities. These types of impacts often take longer to become evident, and rarely take precedence over immediate stakeholder interests, short-term profit margins, or productivity. Therefore, they are largely ignored when considering an economic business solution.

Ecological economics, by contrast, operates on the premise that a closed system is a flawed system. Closed systems functioning separately from their environments contradict the laws of nature, of which humans are not exempt. In ecological economics, biological and social resources, as well as the impacts to those resources, are considered integral functioning components of a healthy economic system (Dunphy, Griffeths & Benn, 2007). For example, a forest will provide soil stabilization, prevent desertification, produce topsoil and plant materials for human harvesting, purify water and air, and serve as natural air conditioning. A forest's ability to function properly and provide these valuable ecological services depends upon maintaining and protecting a crucial level of ecosystem functioning. Ecological economics hinges upon valuing biological systems as entities performing work and providing services, valued at trillions of dollars annually, and for which human kind currently has no adequate technological substitute (Nattrass & Altomare, 1999). Therefore the long-term viability of human-constructed economies are wholly reliant upon the long-term viability of these crucial "eco-system services" (p. 4), which authors consider to be generally unaccounted for within the current paradigm of neoclassical economic theory.

Survival stage vs profit stage. Stead and Stead (1994) predicted that as the twenty-first century progresses, human societies will experience at least two shifts in

their approach to business practices. These shifts are viewed as an incremental assimilation of ecological sustainability into their economic systems. The first stage of this process is described by the authors as the profit stage, where the markets reach general consensus that conservation and ecological consideration is good for business, due to cost savings and marketing opportunities to meet the expectations of an increasingly conscientious public concerned about the newest sustainability trend. Thus, the profit stage "fits somewhat comfortably into the current myth of economic wealth. Real change can occur, but within basically the same system of ideas" (Stead & Stead, 1994, pp. 16-17). The broad majority of sustainability change efforts occurring today would be categorized as profit stage initiatives.

Survival stage initiatives are considered truly sustainable (Stead & Stead, 1994) and will follow significant societal and organizational paradigm shifts. These will be prompted by the idea that infinite growth is not plausible; that boundaries may exist that will constrain the current growth-based trajectory of profit. Similar to ecological economics, profit and economic wealth will be reconsidered within their social and environmental context. The survival stage represents a broadened perspective, where the drive for perpetually increasing economic growth and short-term profits is tempered by long-term perspectives and the carrying capacity of the planet.

Healthy living whole vs. machine paradigm. Porter (2006) presented a summary of the progression of systems theory in organizations, beginning with the earliest approach celebrating rational, mechanistic systems separate from their environments. Porter noted that views of systems have evolved over the past century from this rational, Newtonian ideal to one that is increasingly organic and socially responsive. The machine

paradigm (Knowles, 2009) represents a singular and constant flow of energy, from the top down. This energy represents decision making, initiative, and directives originating from a singular point of authority distributed across a workforce. Like a machine, the people who make this system run are considered disposable and interchangeable; many do only what is required, ownership is lacking, creativity and energy are diminished. While the authors acknowledge that this type of leadership may be useful in certain cases, if employed as a long-term strategy over the long run, "it is wasteful, ineffective and inefficient; the organization becomes less sustainable" (p. 27).

Where the machine paradigm represents a command and control organization, a sustainable organization operates like a healthy, living whole (Knowles, 2009). Each part of this whole is engaged in the entire system and plays an important and indispensable role that is integrated into the efficient functioning of the system. A healthy, living whole encourages initiative, creativity, and energy generation at all levels as employees find meaning and purpose in their work. Adaptation and innovation replace resistance and reaction. The machine paradigm and the healthy living whole, while focused on organizational scales, demonstrate a characteristic contrast between an isolated, singular mode of operating versus a broadened, inclusive mode of operating.

Throughout several decades of mechanized organizations, a parallel focus emerged emphasizing the human mind and intellectual capital, referred to as the information knowledge era (Davis, 2009). The author suggested that human society is now in the process of departing this singularly-focused era for one that once again embraces community. Emphasizing collective wisdom and consciousness, Davis described this emerging community, or global wisdom society, as one that learns to

maximize the benefits of diversity while recognizing "universal interconnectedness among all peoples and all life" (p. 38).

Cradle to cradle vs. cradle to grave. The cradle to cradle concept proposes a new way of organizing economies. This innovative biologically-inspired cyclical production process was initiated in the 1980s by a Swiss industry analyst named Walter Stahel (Hawken, Lovins & Lovins, 1999). As opposed to the current, linear system of production inefficiently resulting in excessive waste (generally referred to as a cradle to grave system of production*)*, a cradle to cradle economy would promote a circular system of production. This would involve restructuring current industrial and economic frameworks to produce profit without harmful externalities of waste and pollution.

German chemist Michael Braungart independently developed a similar concept during the same time period. He is now commonly affiliated with American architect William McDonough. The pair co-authored several books and articles outlining their ideas for a new industrial model (McDonough & Branugart, 1998, 2002a, 2002b). One component of McDonough and Branugart's trademarked Cradle to Cradle framework involves the transition from a consumption-based economy to a service-based economy. The current system is based upon the transfer of ownership of a product from manufacturer to consumer. With the transfer of ownership also comes a transfer of responsibility for the product's ongoing functioning, repair, and eventual disposal, including disposal of toxic component parts (plastics, chemicals, batteries, etc). The modern world spends the majority of its time and effort on continual acquisition, yet very little time and effort on the by-products of acquisition. Landfills are the anthropological

monuments erected by the Industrial Era, symbolizing modern-man's preoccupation with having.

In this new economy, manufacturers would retain ownership of the product and sell the service provided by that object. In this way, a computer, television, automobile or dishwasher would be leased to customers, not purchased by customers. The maker of the product retains responsibility for maintenance, and reclaims the product for disassembly and reuse when a customer upgrades. Manufacturers would plan ahead for efficient ways to reclaim their products, dismantle them, and re-purpose their components.

McDonough and Braungart (1998) proposed that there are two types of components, called nutrients, in a sustainable society, which should always stay separate from one another: biological nutrients (naturally occurring and easily returned to the earth) and technical nutrients (man-made complex materials that may be reused and repurposed). In cradle to cradle economies, toxicity and waste would not be externalities that businesses consider someone else's problem; every manufacturer would be accountable for their product and its components. The vision suggests that if a manufacturer is responsible for a product across its entire lifespan and into the next, motivation for long-term strategies would no longer conflict with short-term profit. The incorporation of long-term responsibility into mainstream business practice would become self serving.

Strong sustainability vs weak sustainability. The use of *strong* or *weak* as qualifying adjectives when discussing sustainability is another way to differentiate between two major worldviews: strong sustainability refers to a kind of sustainability that requires fundamental, and therefore radical, changes to the status quo; weak sustainability

refers to a functional, business case approach to sustainability that modifies the status quo to include financially-approved allowances for more responsible business practices (Milne et al., 2006). While some argue that weak sustainability initiatives are preferable to no initiatives, they do implicitly condone the current paradigm of growth and wealth by viewing sustainability from within the contexts of those human-made systems. Milne et al. (2006) suggested that strong sustainability "sees existing and looming crises from the over-exploitation of resources…due to such causes as over development, over consumption, and over population" (p. 806). It views sustainability as growth and wealth set within the limits of nature, and as such, warns that we have reached a critical point in human history where we will exceed, or perhaps have already exceeded, the carrying capacity of the planet.

Deep ecology vs shallow ecology. What humans do to their environment, they do to themselves. If humans damage their ecosystem, they are automatically damaging their own health, well being, and the health and well-being of future generations. This basic concept, or understanding of humankind's intrinsic relationship to the environment, is what author Arne Naess (1989) termed deep ecology. The tenets of deep ecology are based on systems intelligence, or an instinctive understanding that all things are universally interconnected. When one part of this interconnected web is impacted, deep ecology holds that other parts will be impacted as well, in potentially unpredictable ways. While this point of view fosters a humility and respect for the balance of the earth's ecosystems, shallow ecology is a term assigned to a more linear approach to the ecosphere. By contrast, this approach is characterized less by an understanding of interdependency and more by a motivation to protect precious resources for human

interests, especially the interests of those in more affluent, developed societies of power and advantage (Naess, 1989; Ryland, 2000).

The Next Industrial Revolution (life beyond the bubble). The Next Industrial Revolution and life beyond the bubble are forward-looking terms, and yet they refer to the status quo without naming it. They are future states whose characteristics contrast the past and present, namely, the first Industrial Revolution representing the past and the bubble representing the present (Hawken et al., 1999; Senge, 2008). These terms predict the next major shift in human history toward a new age, driven by humankind's relationship to the environment. The waning of the Industrial Age is not due to a lack of opportunity afforded by further industrial expansion, just as the Iron Age did not end do to a lack of iron. We are at the dawn of a new age because individuals, communities, governments, and businesses are beginning to realize that the side effects of the Industrial Age are costly in the long run, and ultimately unsustainable (Senge, 2008). This realization will burst the bubble, or the centuries-old Newtonian construct, that supports the fallacy of limitless growth and prosperity.

The Next Industrial Revolution treats capitalism "as if living systems mattered…the environment is not a minor factor of production but rather is an envelope containing, provisioning, and sustaining the entire economy" (Hawken et al.,1999, pp. 9-10). This represents life beyond the bubble, a new Age, and the Next Industrial Revolution, where economies replace polluting, wasteful systems riddled with restrictions, regulations, and carbon credits with a new system. This new system would introduce no new hazardous materials into the air, soil or water; would operate on universally accepted principles that relieve the need for future generations to maintain

vigilance; would measure progress by the number of non-polluting enterprises and factories; would view prosperity by valuing capital accrued in ways that support life; and would protect and promote biological and cultural diversity and renewable energy sources as sources of income (McDonough & Braungart, 1998).

Summary: Sustainability in the context of a paradigm shift. The NEP-DSP paradigm shift is echoed throughout the literature in a variety of terms and contexts, all of which support a dichotomous view of sustainability. All point to one view, representing the NEP, as being a deeper and more integrated approach to sustainability. Though it is acknowledged as requiring a more drastic shift to the status quo, it is also recognized as necessary by many authors.

The preceding paragraphs outline terminology presented in the literature in reference to the emergence of, and distinction between, two worldviews. The following paragraphs outline the multitude of terms used to describe sustainability in a business context, which may now be understood as originating from the NEP worldview, DSP worldview, or somewhere in between.

The terminology of sustainability. Identifying a clear definition of sustainability is important. Studies cite that one reason organizations struggle with sustainability implementation is because there is a basic lack of commonly agreed-upon terminology, definition, or understanding of what it means to be sustainable (Berns et al., 2009). Companies do not share a common definition or language for discussing sustainability – some have no definitions at all, and those that exist vary from narrow to broad. This lack of universal language has been shown to be a barrier to "decisive corporate action" (p. 24).

The diversity of viewpoints stretching between the two poles of the NEP and DSP help to explain the vague, redundant and elusive nature of the concept of sustainability. An array of terminology and definitions are available to describe it. These include: corporate social responsibility (Bernhart & Maher, 2011; van der Heijden, Driessen, & Cramer, 2010; van Marrewijk, 2004); corporate responsibility and sustainability (Epstein, 2008); greenwashing and eco-efficiency (McDonough & Braungart, 1998); sustainable development (WCED, 1987); triple bottom line (Elkington, 1997); triple top line (McDonough & Braungart, 2002a, 2002b); quadruple bottom line (Borland, 2009); Cradle to Cradle (McDonough & Braungart, 2002a); Green OD (Yaganeh & Glavas, 2008); and sustainable management organization (Lawler & Worley, 2011). All are used to describe the emerging paradigm of diversifying capital to include social and environmental value.

Corporate social responsibility (CSR). CSR is most commonly used in corporate settings today to describe or categorize decisions, investments, or activities addressing socially or ecologically responsible initiatives of various scales. Voluntary CSR guidelines have been developed by a multi-stakeholder group comprised of representatives from over 90 countries. This voluntary guidance standard, ISO 26000, broadly defines an organization's responsibility for all the long-term impacts its decisions and activities have on society. ISO 26000 has identified seven core elements of social responsibility, including human rights, labor practices, organizational governance, consumer issues, fair operating practices, the environment, and community involvement and development (Bernhart and Maher, 2011).

Though CSR is commonly accepted terminology representing the act of working toward sustainability in the business world, it refers to a process of social and environmental integration that often remains separate from the core workings of an organization. CSR often manifests itself through the designation of titles or departments tasked with specifically tending that aspect of the business.

Corporate responsibility and sustainability (CR&S). Corporate responsibility and sustainability (CR&S) may be understood in terms of incorporating social and ecological responsibility via tested measures and calculations. This includes measuring the projected costs of environmental damage before it occurs, calculating costs such as risk to reputation, and using life-cycle assessment to improve performance (Epstein, 2008). Companies follow these measures in order to improve performance in the social and ecological categories, while maintaining a margin of profit. While both CSR and CR&S infuse more responsible business practices into mainstream global commerce, they fall short according to more holistic and future-oriented definitions.

This act of falling short is viewed by those who subscribe to the NEP as working from within the social and economic system that bore the problem in the first place. This may be generalized as a world dominated by the pursuit of economic wealth in the form of profits, originating from the assumption that infinite growth is possible in a finite system. This assumption is flawed, according to the 1972 book *Limits to Growth*, recently republished as *Limits to Growth: The 30-year Update* (Meadows, Randers, & Meadows, 2004). Both publications explained the problematic side effects of a cultural norm that supports continual growth, offering a more sustainable mental model through which to view the world. The literature points to the fallacies perpetuated by the

exclusion of basic scientific concepts in the development of human economic systems. These systems, also called traditional management systems, are highly anthropomorphic, approaching ecological issues with a bias toward financial risk, prioritization of production and consumption, and a "denatured" view of the environment (Driscoll & Starik, 2004). These biases support a paradigm that perpetuates the myth that amidst massive population growth, poverty, and an immense divide between rich and poor, "the economy can grow forever and the natural resources and energy necessary for economic activity will always be there" (Stead & Stead, 1994, p. 23).

On the contrary, several authors have argued that if economic theory were rooted in the laws of science, businesses would recognize that unlimited economic growth on a finite planet is physically impossible (Daly, 1977, 1991). Therefore, those who share the NEP worldview believe that sustainability initiatives originating from within scientifically-deficient DSP worldview are not viable in the long term. This belief has prompted the coining of terms to describe well-intentioned sustainability initiatives that originate from within the DSP, and thus, fall short of the long-term shift that is needed.

Greenwashing and eco-efficiency. One such term is greenwashing, or the use of language or gestures to represent sustainability for economic purposes (Wirtenberg et al., 2009). Another term is eco-efficiency, a concept born from the 1992 Rio de Janeiro Earth Summit where well-meaning participants vowed to do more with less. The critique of simply doing more with less is that, while an admirable thing to attempt, it is not a long-term solution. Using regulations, trade-offs, and punishment, eco-efficiency works within the laws and reasoning that caused the problem in the first place. It misleads and misdirects much needed innovative energy, often suggesting that saving the environment

may be achieved by an act as simple as choosing a certain kind of light bulb. This is how eco-efficiency "presents little more than an illusion of change. Relying on eco-efficiency to save the environment will in fact achieve the opposite–it will let industry finish off everything quietly, persistently, and completely" (McDonough & Braungart, 1998, p.1). Eco-efficiency is also described as "being less bad…but no matter how 'less bad' you are, it will not make you good" (Senge, 2008, p. 297). It is an over-simplified, inherently flawed, and short sighted solution consisting of rules, regulations, and laws that actually work to support the continued devastation of the planet and each other, just more slowly (McDonough & Braungart, 1998).

Sustainable development. One of the most commonly quoted definitions of sustainability originates from the World Commission on Environment and Development's Brundtland Report (WCED). It defines sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). While this definition is widely accepted, some criticize its vagueness and gentle, over-simplified approach to difficult challenges. It could be considered misleading as a global mantra of sustainability, as it does not address problematic assumptions of continued growth and takes for granted that humankind may reconcile continued development within the context of limited resources (Milne et al., 2006).

Therefore, according to those writing from the point of view of the NEP, the official definition of sustainability symbolizes the inherent contradiction in even the most celebrated socially responsible organizations such as The Body Shop, Patagonia, and Ben & Jerry's (Hawken, 1993). The contradiction lies in the premise that a company can

continue to grow while increasing profits by meeting social and ecological needs. Even if all companies behaved as those currently touted as sustainable, the world would "still be moving toward environmental degradation and collapse" (Hawken, 1993 p. 55).

Triple bottom line (TBL). The term triple bottom line, typically comprised of people, profit, planet, is becoming more widely known. It requires a high level of conceptual and logistical commitment from an organization. While CSR represents base-line awareness along the spectrum of sustainable business practices, TBL represents a more thorough integration of that awareness into the value system, so that economic, social, and environmental capital are considered more equally in business decisions (Elkington, 1997).

Triple top line. Closely related is the concept of triple top line (McDonough & Braungart, 2002b), which argues that both economic and social definitions are humanistic are therefore receive disproportionate emphasis in decision making. Triple top line attempts to distinguish the types of capital so that ecological factors, the true costs and benefits of which are much more difficult to quantify, receive equal weight.

Quadruple top line. The concept of quadruple top line (Borland, 2009) incorporates Gaia principle. Gaia principle is underlined by the assumption that the earth is a living, self-sustaining entity capable of enduring with or without the continued existence of the human species (Lovelock, 1988, 1991). Proponents of the quadruple bottom line argue that environment and ecology are separate, resulting in four, not three, types of capital.

The Natural Step and Cradle to Cradle. Holistic views of sustainability integrate business into the world of social, environmental and ecological systems, not vice versa.

Borland (2009) made reference to the current cradle to grave principles, counterparts to McDonough and Braungart's Cradle to Cradle framework that proposes a way of designing, producing, and consuming in such a way that is not linear, but cyclical. Scientific principles of cyclical relationships are also at the foundation of The Natural Step framework, which was founded as an environmental not-for-profit organization in 1989 by Swedish doctor and researcher Karl-Henrik Robert. The organization's influence has since spread internationally through the viability of its foundation in scientific principles and clear definition of what a sustainabile organzization and human society might look like (Nattrass & Altomare, 1999). The Natural Step and Cradle to Cradle business frameworks take cues from the laws of nature, where production cycles loop back to their beginnings, creating a self-supporting system that re-evaluates the concept of waste. These types of business models represent a new paradigm that recalibrates human activity and commerce to align with the limitations and laws of the earth's systems and finite resources (Hawken, 1993; Hawken et al., 1999; McDonough & Braungart, 2002a; Nattrass & Altomare, 1999).

While businesses such as The Home Depot (Epstein, Rejc Buhovac, & Yuthas, 2010) and Patagonia (Casey, 2007) are held up as examples of leaders in the field of sustainability compared to the status quo, Interface, a carpet manufacturing company, is heralded by several authors as an example of the cradle to cradle aspirations of sustainability (Anderson, R., 1998; Hawken, 1999; McDonough & Braungart, 2002a; Nattrass & Altomare, 1999). The late Ray Anderson pioneered sustainability in the carpet business through his leadership as CEO of Interface. Sustainability was incorporated into the organization's core strategy with innovation and change occurring at every aspect of

the business, from facility design to products to customer relations and service. The company's goal is to produce zero waste by the year 2020. Consistent with research supporting the correlation between sustainability and competitive advantage, Interface has been rewarded with millions of dollars in savings and recognition as a leader in the carpet and interior furnishing business (Wirtenberg et al., 2009).

Green OD and sustainable management organizations. Literature related to characteristics and benefits of organization sustainability varies across the broad definitions of sustainable business practices. The skills and strategies required for an OD practitioner to implement CSR initiatives may vary from those required to take an organization from a single bottom line to a triple bottom line, and vary again to take an organization to a cradle to cradle model. This begins to differentiate the many different terms and their meanings relative to the role of the OD practitioner. The terms Green OD (Yageneh & Glavas, 2008) and sustainable management organization (SMO) (Lawler &Worley, 2011) are two terms emerging from the arena of organization development that begin to describe the process by which organizations move toward sustainability, no matter where on the scale they begin. Where on the sliding scale they aspire to set their goals is a more complicated and ambiguous issue.

Summary: the terminology of sustainability. Contrasting the degree, scale, and depth of sustainability initiatives of organizations highlights the wide breadth of possible definitions and terms. These terms and their definitions distinguish themselves along the spectrum of organizational and societal sustainability. Therefore the use of the word sustainable in today's world conveys little unless it is understood in the context of one's worldview. Literature distinguishing DSP from NEP argues that though the term

sustainable may be used to describe a multitude of initiatives, those that address economic systems within the context of the laws of nature may only truly be considered viable, long-term solutions (Dunlap, 2008; Dunlap & Van Liere, 1984, 2008; Hawken, 1993; McDonough & Braungart, 1998; Ryland, 2000).

Part II: TOS: Common Characteristics

The literature reveals several characteristics common to the process of TOS. They are discussed below, and include: paradoxical and often conflicting goals; significant culture change; change across all aspects of the organization; secondary gains of organizational competitive advantage; planning over a longer time horizon; and *soft* systems of leadership, human capacity, and values as crucial for success.

Paradoxical and often conflicting goals. Traditional business models look to increase their economic value and base decisions upon that singular goal. As organizations operating in the DSP, or status quo, attempt to integrate social and environmental interests with economic interests, additional stakeholder voices add complexity to the decision-making process. Complexity is often accompanied by ambiguity, as most social and environmental impacts and payoffs are more difficult to measure than short-term economic profit. Traditional literature reports that managers often find themselves torn between contradictory demands, trading between stakeholder interests in the attempt to strike a balance amenable to all (Epstein, 2008; Ferdig, 2007; Hall & Vredenburg, 2003).

To help mediate the complexity of sustainability in business practice, managers may benefit from a way to visualize and debate about deeper patterns underlying business issues (Senge, 2008). Because of an historical emphasis on short-term profit margins,

solutions to complex problems are often solved by simply managing short-term symptoms. Instead, leveraging the capability to see the issue within a larger context, or pattern, allows an organization to plan for a long-term resolution and benefit from new opportunities (Wirtenberg et al., 2009). This may be understood as a comparison between *shifting the burden* problem solving versus *pattern thinking* problem solving (Senge, 2008).

An example of this would be a decision the CEO of a manufacturing plant might make when faced with water shortages. Simply relocating operations to a place with more water is an example of *shifting the burden* problem solving. Recognizing that water scarcity will continue, if not increase in severity, is an example of *pattern thinking* problem solving. Solutions that arise from pattern thinking, such as conservation and community management of the watershed, would not only benefit the organization in the short term but position it well for the future (Senge, 2008 p. 47).

Significant culture change. Authors overwhelmingly concur that a most basic characteristic of transitioning to sustainability is that it almost always requires culture change (Dunphy et al., 2007; Ferdig, 2007; Senge, 2008; Sharma & Vredenburg, 1998). Culture is often one of the most difficult things to change in an organization, and is one of the most common reasons why change efforts fail (Schein, 2010). Therefore it is critical for practitioners to understand that sustainability-driven interventions are very closely tied to culture, and culture change may be required.

Given the discussion of the DSP-NEP paradigm shift, culture change will need to occur at both the organizational and societal level. While organizations each have their own unique culture, they have developed that culture within the greater context of shared

societal norms and expectations. Culture shifts within organizations through education and increased understanding of ecological issues may serve to incrementally move society away from the current economic paradigm, but shifting ingrained assumptions and paradigms is challenging. It means adopting new ideological foundations on which the assumptions are based (Stead & Stead, 1994). The science on the phenomenon of paradigm shifts warns that in the face of change, the realities that support the status quo will appear very convincing, while unseen future realities supporting a paradigm shift must be pursued on faith. Communication between new and old paradigm thinkers may be challenging, as old paradigm thinkers may not have the context, language, or experience to understand and embrace the new paradigm. Paradigm shifts require people to step outside their usual ways of looking at their world in order to reap the benefits of objective observation and widened perspective (Kuhn, 1962).

Change across all aspects of an organization. Related to cultural underpinnings, another well-supported characteristic of TOS is that successful initiatives involve change across all aspects of an organization (Dunphy et al., 2007; Ferdig, 2007; Senge, 2008; Sharma & Vredenburg, 1998Wirtenberg, et al., 2009). For sustainability initiatives to take effect, they must be rooted at the core of an organization's change strategy. This type of change is particularly suited to the field of Organization Development, as practitioners are well versed in the types of change strategies required for sustainability (Yaganeh & Glavas, 2008). The innovation required for ecologically sensitive management involves deep-reaching change efforts. These are the processes through which new philosophies, values, structures, and operating principles are adopted as companies navigate ever-changing markets (Post & Altman, 1992).

Secondary gains of organizational competitive advantage. Several sources conclude that a clear correlation exists between organizations that have undertaken significant sustainability initiatives, and organizations that outperform their competitors in the marketplace (Berns et al., 2009; Dunphy et al., 2007; Epstein, 2008; Lee, 2009). Higher-performing organizations are more likely than their counterparts to engage in ecological management principles. Because successful sustainability initiatives require change at all levels of an organization, often including the organization's culture, the task of reaching sustainability success hones the organization's capacity to innovate, respond quickly to challenges, and align itself to rapidly changing markets, all of which require vision and creativity. Hart and Milstein (2003) wrote, "Addressing the full range of sustainability challenges can help create shareholder value and may represent one of the most under-appreciated avenues for profitable growth in the future" (p. 65).

Planning over a longer time horizon. Unlike economic gains, social and environmental investments may be measured over generations, not minutes. Unfortunately, if ecological and social issues are ignored until they reach a level of urgency stringent enough to connote the same legitimacy as economic interests, it may be too late. Such issues are also typically complex, subject to interpretation, and too easily shelved as unfeasible so that the organization may pursue more clear-cut and less ambiguous economic ventures (Bansal, 2003; Driscoll & Starik, 2004).

A recent survey showed that left-brain thinking, short-term time orientation, limited response, and a blaming approach to problem solving were prevalent among executives and managers (Adams, 2009). The pervasiveness of these traits among managers is consistent with the DSP worldview, and may be considered a challenge when

fostering long-term time orientations conducive to sustainability. An organization functioning within the DSP tends to prioritize short-term profits and immediate stakeholder interests, so that longer-term considerations are continually sidelined until they too become urgent. This pattern highlights the destructiveness of a closed, linear economic system where the relentless drive for short-term profitability is pursued at the expense of long-term sustainability (Dunphy et al., 2007 p. 8). Eventual destruction threatens both for the organization itself, and also the social and ecological context upon which it depends (Driscoll & Starik, 2004).

The prevalence of urgency as a prerequisite for action in the DSP is problematic for the successful undertaking of sustainability initiatives. Traditional management paradigms are limited in their responsiveness to ecological risks due to a "denatured view of the environment, a production/consumption bias, a financial risk bias, and excessive anthropomorphism" (Driscoll & Starik, 2004, p. 59). Only when organizations become practiced at subverting one-dimensional economic gain to the greater goal of "a concern for life" will the time frame for decision making "shift away from the nanoseconds of the financial markets to a concern for future generations" (Ryland, 2000, p. 397). Therefore, TOS highlights a characteristic need for new capabilities, including a reassessment of stakeholder interests to include under-represented populations and ecological systems (Driscoll & Starik, 2004; Maak, 2007; Starik, 1995) and the fostering of an organization culture that encourages and rewards long-term thinking (Berns et al., 2009). Organizational shifts toward long-term thinking may begin with strategies of environmental scanning, scenario planning, and forecasting along various timelines (Lawler & Worley, 2011).

***Soft* systems as crucial for success.** Authors describe skills considered *soft* in today's market as crucial to sustainable businesses of the future. Seeing systems, collaborating across boundaries, and creating desired futures must be developed in today's individuals and organizations in order to create networks capable of building and sustaining systemic change (Benn & Baker, 2009; Epstein et al., 2010; Senge, 2008). High organizational intelligence, emotional intelligence (Senge, 2008), the ability to reflect, a high tolerance for uncertainty (van Marrewijk, 2004), and the capacity to "know thyself" (Rimanoczy, 2010, p 237) are also key skills central to success with sustainability. They are also skills highly valued in the field of Organization Development (Cummings & Worley, 2008), indicating that OD practitioners may be ideally situated to lead the challenge of transitioning businesses toward organization sustainability.

A recent DSP-oriented study of several exemplary companies in the field of sustainability conducted by Marc Epstein found that while hard systems such as protocols, regulations, and operations were important for the successful adoption and incorporation of organization sustainability, it was the soft systems, notably leadership, human capital, and values, that were most crucial to success (Epstein et al., 2010). The significance of three qualities is heavily reinforced by the literature. Each is outlined below.

Leadership – qualities and characteristics related to sustainability management. There is strong consensus in the literature that effective leadership is a key component to achieving successful transitions to sustainability (Borland, 2009; Dunphy et al., 2007; Epstein et al., 2010; Ferdig, 2007; Maak, 2007; Rimanoczy, 2010; Senge, 2008; Stead &

Stead, 2008; Twomey, 2006; Wirtenberg et al., 2009). There are two main ideas about leadership, which, taken together, may be debated as contradictory or complementary.

The first idea is that strong leadership from "the top" or the CEO is an essential ingredient for achieving organization-wide sustainability (Anderson, R., 1998; Casey, 2007; Dunphy et al., 2007). Passion and drive, coupled with the power afforded to an individual as CEO, allows organization leaders to forge ahead with the determination needed for change to occur without impediments from above. CEOs have historically been the primary change agents leading the strategizing and institutionalizing of sustainability initiatives (Stead & Stead, 2008). This corresponds to the characteristic importance of an organization's culture in effecting system-wide change for sustainability, as organization culture and identity are often rooted to the founder or CEO (Schein, 1996). Therefore it is logical that the support and involvement of top-level management in the implementation of sustainability initiatives is vitally important (Borland, 2009). Because of this importance, the literature also calls for future research to address leadership for sustainability "in a stakeholder society by clarifying what leadership abilities are needed and how these may be developed" (Maak, 2007, p. 338).

The second view that is expressed in the literature is the importance of a new kind of emergent leadership: one that departs from Industrial Era managerial and governance systems to echo the NEP ideals of context and interconnectivity (Manville & Ober, 2003). This aspect of leadership stresses the importance of possessing particular qualities, as opposed to possessing a particular title or power position. These qualities include awareness of, and capability to operate within, the holistic interconnections of human and natural systems (Ferdig, 2007), the capability for higher order learning, or the infusing of

emotional and intellectual intelligence into the learning processes of organizations (Sharma & Vredenburg, 1998), and the possession of self-awareness and drive for personal learning and growth, which has proven vital to integrative, agile leadership (Joiner & Josephs, 2007; Rimanoczy, 2010). David Twomey places self-awareness at the heart of true leadership, describing it as a "way of being: integrity, mutuality, and sustainability" (p. 29, as cited in Wirtenberg et al., 2009).

This shift parallels ideas in the literature describing a shift from linear, machine metaphor, command and control systems to more complex, web-like systems of influence (Ferdig, 2007; Nattrass & Altomare, 1999; Lawler & Worley, 2011) and softer management styles such as bottom-up networking (Porter, 2006). Instead of leading over others, individuals lead with others. The challenge is to enable "intellectual assets through distributed intelligence and cellular networks rather than relying on limited intelligence of a few brains at the top" (Uhl-Bien, Marion, & McKelvey, 2007, p. 300). This is bottom-up leadership, where anyone may affect leadership by taking responsibility for fostering sustainable conditions in their workplaces and communities. The concept of *bottom-up* is a thread that repeats throughout the literature in relation to sustainability, and is common to leadership as well as the second soft system crucial to organization sustainability: human capital.

Human capacity – bottom-up networks and dialog. Several authors refer to the power and potential latent in the many and the shared, which is often captured by the metaphorical description *bottom-up*. This idea of power at the bottom as a resource and force for change is reverberated at numerous scales, including grassroots conservation movements and their relationship to commerce (Hart, 2005; Porter, 2006), the potential

for solutions to emerge from the historically underserved developing world and their populations (Borland, 2009), and the potential for untapped passion and creativity to emerge from an inspired workforce (Epstein et al., 2010). While leadership is important, if a workforce is not motivated, dedicated and well trained, strategic sustainability will fail (Borland, 2009). Both leadership and engagement across the organization are necessary for a sustainability mindset to become integrated into the natural rhythms of day-to-day processes and decision making (Epstein et al., 2010). One author expresses this interdependence by putting leadership in the context of community: "Leadership, however it is defined, only exists in, and is a function of, interaction" (Uhl-Bien et al., 2007 p. 302).

The concept of interaction and its importance within strategic sustainability surfaces numerous times in the literature. Interaction is proposed as a strategy for affecting change via increased understanding. This proposal is based upon information-sharing patterns that exist naturally both in nature and in society, which are difficult to quantify. One example of this is the use of dialectical processes, or forces of mutual influence, where seemingly small or simple contestations between "actors" generate innovation and change (Benn & Baker, 2009 p. 390). Another example is the process of meaning-making for those grappling with sustainability changes, and the importance of social interaction in the creation of common understandings upon which employees may relate to and act upon (van der Heijden et al., 2009).

Several authors share sustainability success stories achieved through the use of dialog, often overcoming such seemingly preventative obstacles as entrenched special interests, competing stakeholders, and a diversity of global United Nations

representatives (Benn & Baker, 2009; Porter, 2006; Yaganeh & Glavas, 2008). Therefore dialog is an important asset embedded within human capital. Taken for granted as a part of our everyday experience, this process goes largely unnoticed. The ability to harness the potential of these naturally occurring patterns begins with developing the capability to see them and the language to talk about them. Therefore, much of the potential within human capital lies in honing our natural systems intelligence to purposefully direct strategic sustainability through language and meaningful dialog (Senge, 2008).

Values–sustainability, coherence between organization and worker values, and identity. At the organization scale, "clearly defining and developing an identity and a purpose is particularly critical to the performance and success of SMOs (sustainable management organizations) (Lawler & Worley, 2011). Companies who enjoy success with sustainability initiatives share a common characteristic of deeply-engrained values related to sustainability issues, often embedded by the founders (Wirtenberg et al., 2009). One study (Bansal, 2003) found that individual concerns and organizational values were two factors critical to the scope, speed, and scale of organizational response to environmental issues. Additionally, organizations with closely aligned organizational and individual agendas were more likely to respond than those with a more disparate relationship between concerns. This highlights the importance of values as a key player in sustainability success, as well as the alignment of those values between the organization and its workforce.

Beyond the importance of values alignment, the literature outlines the values characteristic of sustainable organizations and their workforce. These include: openness to change (Jamali, 2006); an introspective attitude, entrepreneurial passion, solution-

minded outlook (as opposed to blaming or questioning whether the problem is real), optimism, and respect and appreciation for nature (Rimanoczy, 2010); holistic integration and the importance of placing sustainability at the core of business strategy (Wirtenberg et al., 2009); drive for synergy, insight, long-term orientation, ability to reflect, and tolerance for uncertainty and paradox (van Marrewijk, 2004); and eight values proposed as essential to sustainable corporate strategy, which are wholeness, posterity, community, appropriate scale, diversity, quality, dialog, and spiritual fulfillment (Stead & Stead, 2008).

The concept of identity and values is intertwined in the stories, experiences, and accounts of authors, managers, and CEOs throughout the literature. Many CEOs and managers who have had success with sustainability in their organizations have had watershed personal experiences, either with nature or with their friends, family or community, that shaped their perspectives, helping them see the bigger picture and feel a greater responsibility for others (Rimanoczy, 2010). This capacity for a feeling of interconnectedness, belonging, and responsibility is a common quality among those who champion for ecological and social issues.

Rimanoczy (2010) also reports on helpful mindsets for business sustainability. A recurrent theme shared among CEO's who have achieved success with organization sustainability is a similar "being orientation" (p. 172). Being orientation describes a values-based sliding scale from being to having. This may be explained by an individual or societal tendency toward the accumulation of experiences (being) versus the accumulation of objects (having). The CEOs Rimanoczy surveyed showed a clear tendency toward a being orientation. This orientation was represented by a desire for self-

learning, an openness to change, and inspiration and energy derived from family, friends and most notably, nature. This mindset has shown to be a key characteristic of those who have been successful at championing sustainability initiatives.

Values, beliefs, and identity are all highly relevant to the discussion of sustainability. This is a potentially difficult area to debate and to teach, as values and beliefs are individual qualities. If these are to be integrated into an organization's strategic processes, it will have to work to develop a shared concept of its unique values and purpose. This work must hinge on the universally accepted assumption that its image of the future has a direct and co-evolving relationship to the natural and social systems on which it relies.

Summary: TOS: common characteristics. The literature shows that several characteristics are common to TOS, such as paradoxical or conflicting goals; whole-system change, typically including cultural shifts; secondary gains of improved organizational performance; emphasis on a longer time horizon; and the importance of soft systems such as leadership, bottom-up networks, dialog, identity, and values.

Part III: Transition Human Systems by Mimicking Nature

> We must draw our standards from the natural world.
> We must honor with the humility of the wise the bounds of that
> natural world and the mystery which lies behind them, admitting that there
> is something in the order of being which evidently exceeds all our competence.
> ~ Vaclav Havel, president of the Czech Repulic

One of the most consistent themes within NEP literature addresses studying, learning from, and mimicking nature and natural processes as necessary for the full integration of economic, human, and biological systems (Benn & Baker, 2009; Borland, 2009; Capra, 1997, 2002, 2007; Daly, 1977, 1991; Ferdig, 2007; Hart, 2005; Knowles,

2009; Odum, 1994; Porter, 2006; Twomey, 2006). With that understanding, Capra (2007) argued, "we can design processes of organizational change accordingly, and create human organizations that mirror life's adaptability, diversity, and creativity" (p. 1). Sustainability literature includes decades of writing on the evolving discussion of systems theory related to environmental contexts since World War II (Porter, 2006). Contemporary texts such as *Limits to Growth: The 30 Year Update* (Meadows et al., 2004) support the premise that "unlimited expansion in a finite environment can lead only to disaster" (Capra, 1983 p. 213), while *Steady State Economics* (Daly, 1977) warns that ecological inputs of energy and materials are not taken into account in economic theory, and therefore humankind's economic activity continues to blaze forward, perilously ignorant of the risks involved in surpassing the carrying capacity of the planet.

Recent sustainability literature builds upon the ecological reality put forth by Rachel Carson in her seminal book *Silent Spring* (1962), a scientifically-based cautionary tale painting a desolate picture of the effects of human activity on ecological systems. Grounded by the foundation put in place by their literary predecessors, today's authors have directed the sustainability discussion toward biologically coherent strategies intended to empower organizations to make necessary changes. This trend of addressing issues of commerce and business is two fold: first, business's quest for economic growth represents the man-made system that has contributed most heavily to our current predicament; second, it is these same organizations that have the power, human capital, and resources to make the largest positive impact on our future (Hawken et al., 1999; McDonough & Braungart ,1998, 2002a, 2002b; Senge, 2008; Shrivastava, 1995).

NEP sustainability authors agree that an understanding of natural processes is a prerequisite to establishing lasting change in the world's organizations. They form a consensus around the assumption that in order for successful, lasting transformations to take effect, human-made systems must begin to reflect the complexities of the natural world (Wirtenberg et al., 2009). There are several biological concepts the authors urge organizations to learn from, including but not limited to: biomimicry; complexity science and complex adaptive systems (CAS); thermodynamics; co-evolution; the crisis-oriented human brain; and tragedy of the commons. Each is described below.

Biomimicry. A concept taken from the book by the same name, biomimicry is described by author Janine Benyus (1997) as "the conscious emulation of life's genius" (p. 2). It is the umbrella term that classifies the discussion of how human systems may learn from, and replicate, the efficiency and intelligence of biological systems. The concept of biomimcry is rooted in Gaia theory, which argues that humans are one species among many, and have much to learn from those species that have enjoyed success on the planet for much longer than humans (Lovelock, 1998, 1991). These plant and animal species have much to teach, as they have lived for millions of years without depleting their abundance of ecological capital. The laws and behaviors of these systems may be replicated to apply to human systems, products, and networks. The application of this knowledge is the process of biomimicry, or innovation inspired by nature (Benyus, 1997).

Complexity science and complex adaptive systems (CAS). Complexity science is provided as a framework for a new brand of leadership, one that is suited to a rapidly changing environment that demands agility and innovation (Uhl-Bien et al., 2007). It

suggests that a system must possess a level of complexity equal to that of its environment if it is to function effectively. Therefore, organizations attempting to simplify and rationalize rigid structures amid an increasingly fluid and interconnected global economy are working against the laws of nature.

Complex adaptive systems (CAS) are the basic units of analysis that make up a larger system, forming networks of information sharing and open communication that allow entities to respond rapidly to changing environments (Uhl-Bien et al., 2007). They are

> neural-like networks of interacting, interdependent agents who are bonded in a cooperative dynamic by a common goal. . . .They are changeable structures with multiple, overlapping hierarchies, and like the individuals that comprise them, CAS are linked with one another in a dynamic, interactive network (p. 299).

The agents, events, and ideas in CAS influence, disrupt, or engage one another via an ever-evolving dynamic process that creates incremental, and often unpredictable, changes (Marion & Uhl-Bien, 2001). This interwoven response-based decision-making framework provides a useful model for the future of leadership within the NEP, a crucial requirement for sustainability success. It also provides support for the strategic use of dialog and mutual influence in creating system-wide change.

Thermodynamics. Thermodynamics is subject to two laws pertaining to the use and transformation of all energy in the universe: conservation law and entropy law. Conservation law is commonly understood by the idea that the amount of energy in the universe remains constant; it can be transformed but never created or destroyed. Entropy law addresses the act of energy transformation, ruling that every time a transformation occurs, the quality of energy decreases in order and usefulness. Degraded energy becomes waste (Stead & Stead, 1994). Authors argue that the current human-made

systems, also subject to the laws of thermodynamics, are rapidly degrading powerful energy sources, creating a precipitously higher waste-to-useful-energy ratio than any other species in the history of the planet. This has led to the balance sheet facing current generations, a bleak report coupling rapid resource depletion with rampant waste generation (Borland, 2009; Daly, 1977, 1991; Stead & Stead, 1994).

Applying the laws of thermodynamics to the DSP economic myth of infinite growth would provide a vastly different, and more realistic, framework for human development. It would guide organizational efforts to increase efficiency and decrease waste. McDonough and Braungart's (2002a) Cradle to Cradle framework engages the laws of thermodynamics by stressing the urgent need to design for more efficient energy capture and improved retention of energy quality through eco-intelligent product and service design. This type of shift requires transformation at all levels of the organization, an effort that would be well suited to those OD practitioners steeped in the requirements and challenges of strategic sustainability.

Co-evolution. Authors propose that the current relationship between human systems and ecological systems may be reconceptualized in terms of co-evolution, and specifically, co-evolution toward sustainability (Benn & Baker, 2009 p. 388). Co-evolution "encompasses the twin notions of interdependency and mutual adaptation, with the idea that species or organizations evolve in relation to their environments, while at the same time these environments evolve in relation to them" (Porter, 2006, p. 479). This corresponds to the idea that human systems such as organizations are living social systems (Capra, 2007), beings sensitive to the dynamics of the environment with which they interact. As such they cannot be directed, only disturbed (Capra, 2007). This ties

back to the power of dialog and individual actions of organizational agents to act as disturbances working to direct and shape change in the organization. As agents affect their environment, their environment changes. This in turn affects the agents. This interactive cycle of co-evolution requires specificity, reciprocity, and simultaneity. When applied to organizations, co-evolution cannot be a deliberate or induced strategy; it must arise organically as adaptive and responsive process within a learning organization (Porter, 2006).

One tenet of co-evolution is particularly timely, as it demonstrates time-tested feedback laws between expanding populations and their environment. When populations expand, the environment exerts forces to push back on the expanding population as it reaches its carrying capacity. We see this in communities, markets, and ecological systems (Porter, 2006). The global economy is currently modeling this aspect of co-evolution, such that ballooning spending and bloated investments surpassed the carrying capacity of the markets. The markets pushed back with shrinking capacities, bankruptcies, and economic recessions in the process of re-establishing a balanced relationship. Perceptions, fears and seemingly isolated disturbances create ripple effects in the markets, illustrating how human systems exhibit the laws of co-evolution. Assessing an organization's ability to respond, or testing its reflexes with relation to its immediate and related contexts, offers a strategic process through which human systems may learn to harness the positive effects of reciprocal disturbance.

The crisis-oriented human brain. Aquatic animals perish daily from over-hunting, pollution of the earth's oceans, degradation of habitat, and collisions in ever-expanding shipping territories. This is momentarily disturbing for most who hear these

stories, yet in many cases, no action ensues. In contrast, when a whale beaches itself in a coastal community, hundreds leave their offices and homes to do anything in their power to eleviate the crisis and save the life of the animal. This disparity is not a result of humanity's indifference, but more likely, a brain that evolved to respond to immediate, urgent threats and dangers (Stead & Stead, 1994).

Humans are hard-wired to act swiftly in the face of catastrophe but not to prevent catastrophe in the first place with long-term planning. Unfortunately, humans have developed their societies to such a degree that several authors suggest a correlation between human proliferation and patterns of cancer cell growth (Lovelock, 1991; Lowenstein, 1992). Humans now appear capable of creating long-term changes in their own environment faster than they can react to them, and are biologically unprepared for the cognitive processes required to recognize and respond to long-term impacts of their short-term, crises-oriented thought processes. The human mind is effectively out of sync with its own environment, and urgently needs to teach itself to engage in context-based systems thinking (Ornstein & Ehrlich, 1990). One way this is evident in organizations is the current concept of a stakeholder as a anthropomorphic party directly and immediately impacted by the decisions of the organization. Authors argue that the currently held concept of a stakeholder must be reconceptualized to include long-term, big-picture interests, and that non-human nature must be considered a primary stakeholder in organizations (Driscoll & Starik, 2004; Hall & Vredenburg, 2003; Starik, 1995; Stead & Stead, 2008).

Tragedy of the commons. The literature holds that as modeled in nature, the success of a healthy system is marked by competition and cooperation, as well as

collaboration (Borland, 2006; Senge, 2008; Uhl-Bien et al., 2007; Wirtenberg et al., 2009; Worley, Feyerherm & Knudsen, 2010). Where the current economic mentality has traditionally been a win-lose mentality, sustainability is a matter of win-win or lose-lose, requiring former competitors to recognize their interdependency (Senge, 2008) and that "the productive well-being of one agent is dependent on the productive well-being of the others. Moreover, they must experience tension to elaborate" (Uhl-Bien et al., p. 303). This tension has been termed *coopetition,* or partnering to build the socio-economic ecosystem, so that the planet's ability to create value for all is protected (Wirtenberg, et al., 2007). This may require the ability for organizations to collaborate both internally and externally in the quest for knowledge, wherever it may exist in the system (Worley et al., 2010). Invaluable learning often occurs through the process of collaboration itself.

The tragedy of the commons refers to the human phenomenon of the individual pursuits of expansion, profit and growth among members of a community leading to the eventual degradation and collapse of a shared ecosystem. A computer simulation called Fish Banks, described by Peter Senge (2008) in *The Necessary Revolution*, captured two decades of data from hundreds of groups, teams, and organizations who participated in the game, which simulates the reality of the competitive fishing industry. Teams watched their competitors add boats and grow staff, with all following suit to retain competitiveness and grow individual profits. Almost every game, including those played by employees of environmental protection agencies, resulted in catastrophic over-fishing and system collapse. While this occurred with alarming consistency, there was one exception.

One game that avoided the trappings of the tragedy of the commons was played by a group of employees from Harley Davidson, who did not begin the game until every team involved was in agreement about sharing detailed catch information (Senge, 2008). Because of this collaboration, the industry provided itself with a means of collecting information about the ecological systems it relied upon. Therefore it knew to adjust operations across the industry if their catch began to decline. As a result, Harley Davidson's fishery never collapsed. Even more notable, and in support of the argument for the link between sustainability and competitive advantage, profits and total assets for all teams were higher than for any other game, and the fish stocks present at the beginning of the game were not only still there at the end, but "they had increased to the full carrying capacity of the fishery" (Senge, 2008, p. 171).

Senge attributed this anomalous success to Harley Davidson's culture, one that "has long valued organizational learning, systems thinking, and conversation between and among groups as core business practices" (p. 171). This example illustrates the potential for OD to play a significant role in sustainability initiatives. It is noteworthy that even those participants representing environmental groups, who presumably possess ecological values and passion for sustainability, still fell victim to the tragedy of the commons. Values and intention were not enough. They lacked the systems-thinking skills and experience present in a learning organization, one where "the sharing of basic information ensures that all players know the health of the commons upon which all ultimately depend, the essential condition for healthy competition" (p. 172). In fact, learning dynamics is considered the most important factor enabling organizations to move towards sustainability, greater in importance than both cultural dynamics and

organizational values (Dunphy et al., 2007). This highlights the potential for the field of OD to play a pivotal role in the paradigm shift that will move human and ecological systems toward long-term viability.

Summary: transition human systems by mimicking nature. In the decades following Rachel Carson's *Silent Spring*, authors have directed the sustainability discussion toward biologically coherent strategies intended to empower organizations to make necessary changes. These include biomimicry, complex adaptive systems (CAS) and principles of thermodynamics. These arguments suggest that the only way to secure a sustainable quality of life for humankind is to engage with the environment in a way that is in line with the basic laws of nature and physics.

Part IV: OD Strategies Demonstrate Coherence with Sustainability

There is strong consensus in the literature that OD approaches, especially trends such as learning organizations and Appreciative Inquiry, have the potential to address organizational sustainability issues (Adams, 2006; Benn & Baker, 2009; Bradbury Robson & Waage, 2005; Capra, 2007; Dunphy et al., 2007; Hopkins et al., 2009; Jamali, 2006; Lawler & Worley, 2011; Post & Altman, 1992; Senge, 2008; Shrivastava, 1994; Stead & Stead, 2008; Wirtenberg, et al., 2007; Yaganeh & Glavas, 2008). Spontaneous, internally driven initiatives can be of value, but lasting, system-wide progress toward sustainability requires the skills and experience of professional change agents (Dunphy et al., 2007). While The Natural Step framework currently showcases a diversity of success stories from Nike to the European PVC industry, an earlier critique of the framework reported that while it was found to be an excellent source of education, it left organizations "lacking implementations strategies, tactics and tools" and "frequently

expressing a desire for implemenation expertise" (Natrass & Altomare, 1999, p. 164-5). While it may not reflect the current offerings of The Natural Step today, this critique supports the general demand for expert facilitation throughout implementation stages of TOS.

OD services may be in great demand in the future, as recent surveys indicate that CEOs repeatedly report that organizational change efforts for sustainability result in change defined by new unwanted side effects, as opposed to a new organization with promised results (Capra, 2007). This is likely due to a lack of understanding of the complexities of transitioning to sustainability, many of which may be navigated via OD approaches to organizational change. For OD practitioners, organization change for sustainability is one clear and natural next development (Bradbury et al., 2005).

Learning organizations. Sustainability leaders and OD practitioners fostering organizational learning efforts are beginning to recognize similarities between the two endeavors. Both set out to enable fundamental changes to an organization, intending to enable it to challenge its own mental models and core assumptions about its values and purpose. They do this by developing the organization's capability to engage in inquiry, collaboration, and healthy dialog (Jamali, 2006). By doing this, organizations can make sense of who they are, what they stand for, and what sustainability means to them at each stage in the process (van der Heijden et al., 2009). As with the example of Harley Davidson, teams may reap the benefits of continuous learning and accumulated experience by funneling the characteristics of a learning organization through a "sustainability focused organizational learning (SFOL) process" (Jamali, 2006 p. 810). The concept of learning is crucial to sustainability, as it has been shown that those who

have had greater knowledge and experience with sustainability tend to see more possibilities and opportunities than those with less exposure to the concept (Hopkins et al., 2009). This, in turn, links directly to reports of competitive advantage afforded by competence in sustainability efforts (Berns et al., 2009; Lee, 2009).

Appreciative and generative inquiry. Two threads on the topic of inquiry support the alignment of this OD process with effective achievement of organization sustainability. First, the basic premise of this thesis outlines the divide in the literature between the DSP (Dominant Social Paradigm) and the NEP (New Ecological Paradigm). Debates between the two worldviews are likely to be passionate, challenging the believer's deeply held values and assumptions about the world. The use of advocacy as a tool to inspire others toward change is not advisable, as sustainability values are highly individualistic and potentially alienating (Senge, 2008). Asking questions for understanding brings much needed perspective and balance to the debate, and recognizes that issues of sustainability are complex, with no one person possessing the full picture. As Senge purports, "Can anyone dispassionately present the risks and uncertainties in a way that makes the underlying complexity clearer? Yes, and developing that capability is essential to progress" (p. 145). One of the most important qualities in effective sustainability leadership is the skill to foster honest, engaging conversations between groups of stakeholders (Senge, 2008), one that builds relationships and the ability to work together to create a self-directed context for understanding and action.

The second basic premise is the use of the process of Appreciative Inquiry (AI) to breach the restraints of the current economic paradigm and imagine a hopeful future. It may be a particularly effective OD strategy for the task, as it avoids downward spirals of

pessimism and blame around complex issues by focusing on strengths, positive examples, and shared futures (Yaganeh & Glavas, 2008). An example of AI's effectiveness regarding progress with sustainability efforts is a one-day UN meeting facilitated by David Cooperrider, who created an open, participatory environment that took full advantage of the human capacity present. Instead of delivering speeches, participants interacted with each other through a process of inquiry, an approach so successful that "collective action was mobilized in one day" (Yaganeh & Glavas 2008, p. 8). This is an example of the effectiveness of dialog. When a community gets together, either formally or informally, it seeks to change the behavior for which its members claim responsibility (Bradbury et al., 2005, p. 24).

Education and awareness. Several authors note that the human resources function plays a crucial role in sustainability as a system-wide change, but professionals are unprepared with little knowledge on the topic (Wirtenberg et al., 2007). One study pointed to "a lack of understanding of what sustainability is and means to an enterprise" as a major barrier impeding decisive corporate action (Hopkins et al., 2009, p. 20). Where knowledge does exist, the degree of knowledge affects the degree of change and opportunity for the organization. Novice sustainability practitioners place their efforts in the context of regulatory actions, hoping to reap benefits around branding and marketing. More experienced and knowledgeable practitioners consider the possibilities within a broadened economic, social, ecological, and even personal context as they relate to the wider business landscape (Hopkins et al., 2009). If knowledge and experience are crucial to successful sustainability initiatives, then education must also be central to the topic.

Environmental awareness training programs play a basic role in fostering a culture responsive to environmental innovations (Bradbury, 2003; Lee, 2009). Another way to infuse sustainability knowledge into the workforce is to pair traditional economic theory with concepts like ecological economics in business schools. Young business minds, especially those who operate either consciously or subconsciously from an exclusive business perspective, may be exposed to broader context that includes on ecological interconnectedness (Bradbury, 2003). Exposure lays the groundwork for the new skill sets required for leading strategies within the NEP (Hart, 2005), including commitment to a diversity of perspectives, knowledge related to connectedness and the development of strategic relationships, the ability to self-reflect, and the capability to regularly challenge one's own perceptions of the world (Rimanoczy, 2010). Another strategy includes exposing teams of executives to wild nature for an extended period of time in order to provide physical and sensory exposure to the ecosystems affected by their day-to-day decisions. This strategy has proven to be highly effective in shifting mindsets and layering the types of experiences required for individuals to more closely identify with the essence of sustainability (Rimanoczy, 2010; Senge, 2008).

Summary: OD strategies demonstrate coherence with sustainability. There is much evidence in the literature supporing the relevance of OD principles to the process of TOS. Appreciative inquiry and the facilitation of learning organizations have a reciprocal relationship to the success of sustainabiltiy initatives. Education about sustainability is also noted as crucial.

Summary

The literature may be organized so that it spans a continuum achored at each end by two divergent worldviews, the DSP and the NEP, each of which view sustainability through a lens specific to laws that govern that paradigm. Traditional economic theory and the focus on profit and growth prevail in the DSP, where as the NEP recognizes human economies as co-evolving living systems set within the limits of a finite planet. Recent research highlights common characteristics of sustainability, including the skills and capabilities required for successful engagement, innovation, and progress toward sustainability goals.

Each of the capabilities necessary for achieving organizational sustainability is also characteristic of the field of OD. But leading this type of change requires an understanding of complex issues, including the dynamics related to the psychology of paradigm change (Stead & Stead, 1994) as well as a pervasive social resistance to accepting the devastation our economies have wreaked on the planet (Macy, 1995; Sewall, 1995), a resistance so deeply embedded in the culture of mainstream global society that it has been identified as a social complex (Ryland, 2000).

These issues will require further specialization and skill development on the part of OD practitioners as the world's organizations begin to shift their orientations toward a sustainable future within the New Ecological Paradigm (NEP). However, the literature outlines TOS as a highly suitable context for those trained in OD. Some OD practitioners have chosen to focus their careers on this work. The goal of this thesis is to better understand the relationship, if any, between mental models and professional identities of OD practitioners, and in particular, those working in TOS.

Chapter 3

Research Methodology

The purpose of conducting this research was to develop a better understanding of TOS (Transitioning Organizations for Sustainability) as a type of organization development practice by studying the relationship between the mental models of OD practitioners and their professional identity, and in particular the identities of those working in the arena of TOS.

This chapter describes the methods used in this study, including an outline of the research design, description of participants, procedures of confidentiality and participant consent, survey and interview content and protocol, and an overview of data collection and analysis.

Research Design

The literature shows that the dichotomy between the DSP and the NEP mental models is significant when discussing the facilitation of sustainability initiatives in organizations. Therefore, survey and interview questions were developed to seek information about relationships between the level of alignment with the NEP and the professional identity of OD practitioners. To better understand the relationship between an OD practitioner's mental model and a professional identity, the research study was designed using both quantitative and qualitative methods of data collection utilizing surveys and interviews. Mental models were defined by the measurement of endorsement of the NEP using the NEP Scale developed and revised by Dunlap et al. (2000).

Research Sample

The survey was distributed using a listserve available to affiliates of Pepperdine University's Master of Science in Organization Development (MSOD) program at the Graziadio School of Business and Management. Affiliates include MSOD faculty, students, and alumni. The listserve mailing list consisted of roughly 400 MSOD affiliates at the time of the study. This group is likely to share a baseline similarity regarding their educational understanding of OD as a result of their affiliation with Pepperdine University; yet, they represent a geographically and professionally diverse group of professionals. The purpose of the survey was to collect data about the professional identity of a broad range of professionals working within the field of OD, and in particular, those who spend part or all of their time working in TOS. The goal of the study was to determine any patterns or relationships between professional identity of those working in TOS and level of endorsement of the NEP Scale. Therefore, a large pool of diverse professionals who share a similar educational understanding of OD was ideal for data collection.

Interviews were conducted with six OD professionals identified as working within the OD arena of TOS. These individuals may or may not be affiliated with Pepperdine University's MSOD program. The qualitative data collected from these interviews was used to provide illustration, stories, and additional information regarding professional identity and how it relates to one's worldview.

Confidentiality and Consent Procedures

Approval to conduct the proposed research study was obtained from Pepperdine University's Institutional Review Board on October 28, 2011. The researcher also

completed the training course, "Protecting Human Research Participants" through the National Institute of Health Office of Extramural Research prior to commencement of the study. All participation was voluntary and all responses and data were kept and reported confidentially. Only aggregate data has been reported in this study. Surveys were distributed and submitted anonymously via electronic means and no names were attached to the data.

An e-mail invitation to participate in the study was sent to both potential survey participants (see Appendix C) and interview participants (see Appendix D and E). These e-mails clearly stated that participation in the survey or the interview was strictly voluntary and participation could be discontinued at any time without penalty or consequence. The e-mails introduced the study, the researcher, and the purpose of the research, and outlined what voluntary participation would entail. The e-mails stated that by selecting the link to fill out the survey or by replying affirmatively to the invitation to interview, the participant demonstrated that they understood and consented to the conditions detailing their voluntary participation in the study.

There was minimal risk involved for participants in this study. Survey participants remained completely anonymous and could discontinue participation at any time. Interview participants had the opportunity to accept or decline the invitation to be interviewed based on the details of their participation and the interview topic. They also could decline to participate or discontinue participation at any time. Interview topics dealt with professional matters consistent with day-to-day activities, and therefore posed no more than minimal risk of harm to subjects and involved no procedures for which written consent is normally required.

Survey and Interview Protocol

The survey for the study consisted of two parts. The first part of the survey was developed by the researcher to collect data about the professional identity of the participant. This included questions regarding the participant's demographics and professional life intended to characterize preferences around types of work, roles, and clients. The second part of the survey consisted of the NEP Scale developed by Dunphy et al. (2000). This included questions intended to measure the participant's level of endorsement of an emergent worldview called the New Ecological Paradigm. See Parts I and II of 'Appendix A: Survey Questionnaire' to view the two-part survey.

The interview questions were structured to collect data consistent in content to data collected in the surveys, including questions focused on professional identity and level of endorsement of the NEP using the NEP Scale. The NEP Scale was completed by the participant in one of two ways. The participant either completed the NEP Scale prior to the interview and relayed the results to the researcher during the interview, or the participant completed the NEP Scale with the researcher during the interview. The participant determined the method by which the Scale was completed. The interview process allowed for the collection of specific and anecdotal information relating to the participant's ideas of sustainability, and in particular, how these relate to both their worldview as determined by the NEP Scale and the work they do in TOS. Questions included inquiries about the interviewees personal definition of sustainability, how important it is to them that sustainability be part of their work, the path that led them to TOS, and how they view opportunities for OD professionals emerging in the future. See

'Appendix B: Structural Points for Conversational Interview' to view the interview protocol.

Both the survey and the interview protocol were piloted with several volunteers outside the survey sample. The volunteers were educated in or practicing in fields related to either sustainability or OD. Clarifications arising from the piloting process were incorporated into the final survey and interview questions prior to inviting volunteers to participate in the study.

The NEP Scale

The NEP Scale, as classified by Dunlap and Van Liere (2008), focuses on "beliefs about humanity's ability to upset the balance of nature, the existence of limits to growth for human societies, and humanity's right to rule over the rest of nature" (Dunlap et al., 2000, p. 427). Originally published in 1978 as the New Environmental Paradigm Scale, Dunlap and Van Liere's NEP Scale has been used by researchers, social psychologists, and political scientists as a valid and reliable method to determine proenvironmental worldview orientation in various populations. Some of these include Albrecht, Bultena, Hoiberg, and Nowak (1982), published in *Journal of Environmental Education,* Pierce, Lovrich, Tsurutani, and Takematsu (1987), published in *Political Behavior*, and Noe and Hammitt (1992), published in *Journal of Environmental Management* (1992).

In addition to serving as a method for determining endorsement of the New Environmental (now Ecological) Paradigm, a study by Dunlap and Van Liere found that endorsement of the NEP was negatively related to endorsement of the DSP, or Dominant Social Paradigm (1984). Over the past decades, the Scale has been shown to have high levels of known-group validity, with strong content validity. For instance, "though there

have been some exceptions, most studies have continued to find support for the NEP to be negatively related to age and positively related to education and liberalism" (Dunlap et al., 2000).

The original 12 item NEP Scale has since been expanded to include 15 items. Modified by Dunlap et al. (2000) and used in this research study, the Revised NEP Scale modernized language to reflect the status quo and corrected an imbalance in the original scale between pro- and anti-NEP statements. The 15 items represent three (3) items per each of the five (5) hypothetical facets of an ecological worldview. These five include: "the reality of limits to growth; antianthropocentrism; the fragility of nature's balance; rejection of exemptionalism; and the possibility of an ecocrisis" (Dunlap et al., 2000, p. 432). Initial testing of the 15 item set has found that the Revised NEP Scale "can be treated as constituting an internally consistent measuring instrument" (p. 434).

The scale was scored by asking the participant to choose a level of agreement with each of the 15 statements comprising the NEP Scale. Previous administrations of the scale had included at least two configurations of participant choices for level of agreement (Dunlap et al., 2000). One consisted of a 4-point Likert scale where 1=Strongly Disagree, 2=Mildly Disagree, 3=Mildly Agree, and 4=Strongly Agree. Another consisted of a 5-point Likert scale with the addition of the choice of "unsure" in order to "cut down on item nonresponse" (Dunlap et al., 2000, p. 432). For the purposes of this thesis, "unsure" was not utilized in order to ask the participant to commit to some level of agreement or disagreement with the statement. Given the intent behind adjustments to past iterations of the scale and for the purposes of this thesis, the researcher employed a 6-point Likert scale, where: 1=Strongly Disagree, 2=Disagree,

3=Somewhat Disagree, 4=Somewhat Agree, 5=Agree, and 6=Strongly Agree. Odd-numbered items represent pro-NEP statements and even-numbered items represent anti-NEP statements. Per the author's instructions, even numbered statements were reverse-calculated. See Part II of 'Appendix A: Survey Questionnaire' to view the NEP Scale.

Data Collection

Survey questions were distributed to a 400 person online sample population via an e-mail invitation to participate through Pepperdine's MSOD listserve. Two weeks after the initial e-mail invitation was broadcast, a reminder e-mail was broadcast in an attempt to increase the number of respondents. The survey took approximately 10 minutes to complete. A total of 54 anonymous responses were received electronically via Qualtrics. The response rate for the online survey was 14%.

Invitations to interviewees were distributed via e-mail to twelve individuals identified as working within the arena of TOS. This invitation included an outline of the research study, a description of the kinds of topics to be covered in the interview, and the NEP Scale. A total of eight individuals consented to be interviewed by responding affirmatively via e-mail, and of those, six interviews were successfully scheduled.

The six interviewees perform a diversity of work consistent with principles of TOS. Their work includes: business consultation for energy conservation and efficiency; for-profit, non-profit, writing, and educational work focused on people, profit, and planet; fundraising and OD consultation for organizations with a mission for social good; entrepreneurial trans-organizational development for alternative energy sources; teaching, research, and establishment of sustainability principles as a core component of MBA education at an accredited business school; and systems-based consultation for

organization wholeness and performance through the facilitation of social, ecological, and spiritual integrity of human organizations.

Interviews were audio-recorded using the iPhone application *Recorder*. Interviews were transcribed verbatim by the researcher to ensure accurate data capture and to be accessed for later analysis. Interview duration was approximately 30 to 45 minutes.

Data Analysis

The data from surveys and interviews were analyzed to determine any relationships between an OD practitioner's mental model and their professional identity within the context of TOS. For the survey data, demographic and professional data were correlated against NEP scores. For the interviews, a content analysis method was employed which consisted of reading the data, coding the data, setting the coded data to themes, the use of a second coder, and the calculation of frequency of themes.

The surveys were analyzed using correlation analysis, unequal variance T-Tests, and descriptive statistics. This involved calculating the scores of each complete NEP Scale according to the scoring instructions specified by the authors. Data from the demographic portion of the survey and professional identity questions were then correlated to NEP scores and averages.

Once interview data collection was completed, the transcripts were read. Responses were then coded in preparation for organizing the data into themes. Once the data had been coded and organized into themes, a second coder analyzed the data to determine the rate of correspondence between the codes and themes. Once the themes were verified, their frequency was determined. This provided information regarding

thematic relationships between an individual's level of endorsement of the NEP and their professional identity, as presented by the data.

Summary

This chapter provided an overview of the research methodology consisting of an outline of the research design, description of participants, procedures of confidentiality and participant consent, survey and interview content and protocol, and an overview of data collection and analysis. Chapter 4 provides an analysis of the collected data.

Chapter 4

Results

This chapter summarizes the quantitative and qualitative results of the study. It supports the endeavor to better understand the relationship, if any, between mental models and professional identities of OD practitioners, and in particular, those working in TOS. The chapter first reviews results and findings of the survey, and then reports results and findings from the interview sample.

Survey Sample Demographics

The survey consisted of two parts. Part I collected demographic and professional information about the participant. Part II recorded the participant's level of agreement with the NEP Scale. Out of the 54 people who participated in the voluntary survey, 52 successfully completed Part II. This established the survey sample size at N=52. Of this number, 67% were female. Ages ranged from 25 to 74, with the average age of 45, and over half of the sample (54%) reported a Master's degree or above as their highest level of completed education. The average NEP Score was 64.38 within a range of 6 to 90, where 90 indicates complete agreement with the NEP Scale. Any score less than 42 would indicate some level of disagreement with the NEP Scale (and therefore, some level of agreement with the Dominant Social Paradigm). Though degree of participant agreement with the NEP Scale varied, all but one of the participants (98%) scored above 42, indicating a restriction of range due to asymmetrical level of agreement with the NEP within this sample.

Results of the Survey

This section describes the results of the survey data regarding professional identity and agreement with the NEP Scale via correlations, T-tests, and descriptive statistics.

Continuous variable correlations and level of agreement with the NEP Scale. The survey reported several continuous variables regarding the professional identities of the participants. These included: estimated percentage of work currently involving TOS; estimated percentage of work involving TOS desired in the future; age; and the number of years practicing in the field of OD. These variables were correlated to levels of agreement with the NEP Scale.

Percentage of time currently in TOS. There was a correlation of .315 between the current percentage of TOS work and level of agreement with the NEP Scale (N=50). The level of significance for this correlation is <.05 at .026, indicating that there is an acceptable level of non-directional probability that the correlation between the current percentage of work involving TOS and level of agreement with the NEP Scale is significant.

Percentage of time desired in TOS in future. There was a correlation of .321 between the future desired percentatge of TOS work and level of agreement with the NEP scale (N=48). The level of significance for this correlation is <.05 at .026, indicating that there is an acceptable level of non-directional probability that the correlation between the desired percentage of work involving TOS and level of agreement with the NEP Scale is significant.

Age. The correlation between age and level of agreement with the NEP Scale was .202 (N=50) with a level of significance >.05 at .16, indicating that there is no significant correlation between age and level of agreement with the NEP Scale within this survey sample.

Years in OD. The correlation between number of years practicing OD and level of agreement with the NEP Scale is also shown to be insignificant within this survey sample at .141 (N=52) and a level of significance >.05 at .32.

Unequal Variance T-Tests. Once the data analysis had established a correlation between current and desired percentage of work in TOS and agreement with the NEP Scale, other sets of data were paired to seek additional significance between a practitioner's professional identity and level of agreement with the NEP Scale. These included level of education, time orientation (present vs future), type of thinker (detail vs. context), role (internal vs external) and gender.

Level of completed education. All participants fell into one of four categories of completed education: some college (N=2), Bachelor degree (N=22), Master degree (N=25), and doctoral degree (N=3). Some college and doctoral degree were removed from the comparison due to small numbers. A T-Test was conducted comparing level of NEP agreement of the Bachelor degree sample with that of the Master degree sample. The average NEP score for Bachelor degree was 61.00 (sd=9.00) while the average NEP score for Master degree was 66.76 (sd=10.20). The T-Test resulted in a significance level of <.05 at .023, indicating that level of education had a significant relationship to level of NEP agreement within this sample.

Time orientation. Participants were asked to choose one of the following statements they most identified with: "the present is most important—deal with immediate issues at hand to get things working well now; take on future issues as they arise" (N=13) or "the future is most important—deal with getting things working well long-term; immediate issues may be worked out in the process" (N=39).The average NEP score for those who favored the present was 60.85 (sd= 5.60) while the average NEP score for those who favored the furture was 65.56 (sd=10.98). The T-Test resulted in a level of significance <.05 at .025, indicating that time orientation has a significant relationship to level of NEP agreement within this sample.

Type of thinker. In order to assess whether detail thinking versus context thinking holds any relationship to level of agreement with the NEP scale, participants were asked to choose one of the following that best describes them: "I am a detail oriented, tactical thinker" (N=5), "I am a context oriented, systems thinker" (N=23), and "I do both equally" (N=24). The average NEP score for detail-oriented thinkers was 64.40 (sd=7.50), the average NEP score for context-oriented thinkers was 64.38 (sd=10.76) and the average NEP score for those who feel they do both equally was 64.39 (sd=10.19). Given that the averages of these sample groups are all within .02 of one another, it follows that T-Tests pairing each of these samples shows no significant relationship between type of thinking and greater level of agreement with the NEP Scale within this sample.

Role within OD. Participants were asked to provide a text response indicating the role they most identify with as OD practitioners. Responses resulted in the following categories: internal (N=12), external (N=23), coach (N=3), HR (N=3), strategic (N=3),

educational (N=1), facilitative (N=1), and consultant (N=3). The largest samples of internal (N=12) and external (N=23) were compared. The average NEP score of those who identified themselves as internal was 61.25 (sd=12.60) while the average NEP score of those who identified themselves as external was 66.43 (sd=9.10). The T-Test resulted in a level of significance >.05 at .11, indicating that identifying with a role as an internal versus external consultant does not have a significant relationship to level of agreement with the NEP Scale.

Gender. Gender was compared to determine any relationship to the level of agreement with the NEP Scale. The average NEP score for males (N=17) was 65.26 (sd=13.13), while the average NEP score for females (N=35) was 63.97 (sd=8.40). The T-Test resulted in a level of significance >.05 at .36, indicating that gender does not have a significant relationship to the level of agreement with the NEP scale in this sample.

Descriptive statistics. Participants provided information about the type of client they most identify with, the type of work they do, their reasons for entering the field of OD, and impactful factors shaping their worldview. See analysis and tables below for results.

Client type. Survey participants were asked to select up to 3 client types that they most closely identify with. Data was the organized according to client type, such that each client type yielded an average NEP Score representative of those participants claiming affiliation with it. The most popular client types were non-profit (N=22), medium-small (N=22), large international (N=21), and large domestic (N=19).

While youth (N=2) received the highest average NEP Score at 75, the number of participants reporting affiliation with this group was small (sd= 8.49). Also producing

high average NEP scores were government (N=3) and communities (N=5). Faith-based (N=6) produced the lowest average NEP score at 57.67 (sd=7.55). Also falling below the sample average NEP Score of 64.38 were trans-organizations (N=6), and large international (N=21). Standard deviations for this data set are generally high, ranging from 7.55 (faith-based) to 15.65 (health) with the exception of start-ups, which reports a relatively low standard deviation of 3.9.

Table 2

NEP Scores According to Affiliation With Client Type

CLIENT TYPE	AVE NEP	SD	NUMBER
Faith-based	57.67	7.55	6
Trans-organizations	60.67	14.77	6
Large International	63.38	12.09	21
Non-Profit	64.68	10.46	22
Medium/Small	64.91	8.78	22
Start-Ups	64.91	3.9	12
Health	65.25	15.65	4
Large Domestic	65.47	11.75	19
Communities	68.2	9.47	5
Government	69.67	10.01	3
Youth	75	8.49	2

Work type. Participant-entered text describing the type of work done most often was processed by the researcher to produce 15 themes. Each theme yielded an average NEP Score representative of those participants claiming an affiliation with it. The most popular work types were leadership training and development (N=27), coaching (N=24), and strategy (N=20).

Culture change (N=5) received the highest average NEP score at 69 (sd=10.86). recruiting (N=2) and teaching (N=4) also produced high average NEP scores. Facilitation (N=9), produced the lowest average NEP score at 60.89 (sd=8.7). Also falling below the sample average NEP Score of 64.38 were change management (N=8), strategy (N=20), team-building (N=8), and event planning (N=2). Standard deviations for

Table 3

NEP Scores According to Affiliation With Work Type

WORK TYPE	AVE NEP	SD	NUMBER
Facilitation	60.89	8.7	9
Change Management	61.38	10.43	8
Strategy	63.75	6.94	20
Team Building	64	12.35	8
Event Planning	64	2.32	2
Employee Training & Development	64.6	9.47	10
Coaching	65.25	11.1	24
Leadership Training & Development	65.41	10.01	27
Process Design	65.5	9.81	8
Human Resources	65.83	9.62	6
Performance Management	65.83	10.12	6
Teaching	67.25	14.13	4
Recruiting	67.5	3.53	2
Culture Change	69	10.86	5

this data set are also high, with the two relatively low standard deviations of 2.32 and 3.53 belonging to themes with the least number of participants (N=2), event planning and recruiting, respectively.

Attractors to the field of OD. From a selection of 17 options, participants were asked to choose up to five reasons they were drawn to the field of OD. Data were organized according to the 17 reasons, such that each reason for being drawn to OD yielded an average NEP Score representative of those participants claiming affiliation with it. The most popular reasons were "I love working with people to help them be at their best" (N=35) and "human potential interests me" (N=34).

"Opportunities to achieve desired compensation or status" (N=3) produced the smallest number of participants but the highest average NEP score at 67.67 (sd=8.73). Also producing high scores were "I can customize my own career path" (N=5), "it's not about me, but about helping others help themselves" (N=11) and "I want to make a difference in the world" (N=20). "I want to make a difference in my community" (N=13) produced the lowest average NEP score of 61.54 (sd=7.52). Also falling below the sample average NEP Score of 64.38 was "I enjoy helping systems run more efficiently" (N=17), "business interests me" (N=11), "I fell into it based on previous experience" (N=12), "psychology interests me" (N=12), and "the community of people involved in OD" (N=12).

Though the motivation of making a difference is conceptually shared between two of the options, there is a marked difference between the average NEP Score for "I want to make a difference in my community" (N=13), producing the lowest average NEP score at 61.54, and "I want to make a difference in the world" (N=20), producing one of the highest average NEP scores at 66.25. Standard deviations for both of these, as well as the entire set, is high, ranging from 6.26 ("business interests me") to 17.6 ("I can customize my own career path").

Table 4

NEP Scores According to Reasons for Being Drawn to OD

WHAT DREW YOU TO OD?	AVE NEP	SD	NUMBER
I want to make a difference in my community	61.54	7.52	13
I enjoy helping systems to run more efficiently	61.76	9.95	17
Business interests me	62.18	6.26	11
I fell into it based on my previous experience	63.08	9.7	12
Psychology interests me	63.08	11.19	12
The community of people involved in OD	63.25	12.78	12
I love working with people to help them be at their best	64.46	9.87	35
I've always had the ability to see how things could work better	64.93	10.11	15
I love working with organizations to help them be at their best	65.21	8.52	23
Human potential interests me	65.24	11.43	34
I value personal development as an aspect of my work	65.3	9.11	23
I want to make a difference in the world	66.25	11.83	20
It is not about me, but about helping others help themselves	66.54	8.01	11
I can customize my own career path	66.6	17.6	5
Opportunities to achieve desired compensation or status	67.67	8.73	3

Factors most impacting worldview. Survey participants were asked to select up to two factors that most impacted their worldview from a selection of 10 options. Data were organized according to option, such that each option yielded an average NEP Score representative of those participants claiming affiliation with it. The most popular factor was ‘my own observations of the world’ (N=31). The two other most popular factors were “the culture I grew up in” (N=21) and “profound experiences related to loved ones” (N= 17).

Growing up in a rural environment (N=4) produced the highest average NEP score at 71.75 (sd= 10.21). Profound experiences related to nature (N=7) also produced a high average NEP score of 68.86 (sd=10.28). Financial hardship (N=2) produced the lowest average NEP score at 53 (sd=7.07). Along with financial hardship, financial ease (N=2), the culture I grew up in (N=21), inspirational role model or teacher (N=12) and profound experiences related to loved ones (N=17) produced average NEP scores falling below the sample average of 64.38. Consistent with the other descriptive data sets, standard deviation was generally high. Standard deviation for worldview ranged from 4.24 (growing up in an urban environment) to 13.44 (financial ease).

Table 5

NEP Scores According to Factors Impacting worldview

FACTORS MOST IMPACTING WORLDVIEW	AVE NEP	SD	NUMBER
Financial hardship	53	7.07	2
Financial ease	58.5	13.44	2
The culture I grew up in	62.19	10.99	21
Inspirational role model or teacher	62.25	12.02	12
Profound experiences related to loved ones	63.47	9.82	17
My own observations of the world	66	8.99	31
Hardship related to loved ones	66.5	7.94	4
Growing up in an urban environment	67	4.24	2
Profound experiences related to nature	68.86	10.28	7
Growing up in a rural environment	71.75	10.21	4

Results of the Interviews

Phone interviews were conducted with six individuals currently doing work they consider to be TOS. The interview consisted of responses to the NEP Scale as well as a series of open-ended questions aimed at collecting information regarding any relationship between professional identity as a TOS practitioner and worldview.

The average level of agreement with the NEP Scale for interviewees was 75.75. This is higher than the average reflected by the survey sample at 64.38. Three interviewees objected to at least one of the NEP Scale statements, citing poor or vague wording or over-simplification of concepts. One interviewee chose the closest, most neutral response to the objectionable statement for the sake of technical completion of the scale. Two interviewees chose not to designate a response to the statements they found objectionable, resulting in an incomplete NEP Scale data set.

In an attempt to calculate a representative average level of agreement with the NEP Scale, incomplete interviewee data sets were re-scaled according to the number of completed statements. For example, in four complete data sets, total agreement with NEP Scale indicates a score of 90 with each of the 15 statements weighing a potential of 6 points. In the first incomplete set, total agreement was indicated by a score of 84 (one statement unanswered). In the second incomplete set, total agreement was indicated by a score of 72 (three statements unanswered). The total scores for the incomplete data sets were then weighted via a simple ratio equation to attain a level of consistency among data sets. See Table 6. Interviewee objections to the NEP Scale will be discussed further in Chapter 5.

Table 6

Weighted Interviewee Levels of Agreement With the NEP Scale

DATA SET	NEP QUESTION															TOTAL	
INTERVIEWEE	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	UNWEIGHTED	WEIGHTED
1	4	4	4	2	5	3	6	6	6	6	4	5	3	5	5	68	68
2	_	2	5	5	5	2	5	6	6	5	5	6	5	6	6	69	**74**
3	5	4	5	6	6	4	6	5	5	6	5	5	5	6	6	79	79
4	6	_	6	_	6	1	6	_	6	6	1	6	6	6	6	62	**77.5**
5	5	5	5	3	6	2	5	5	6	6	5	6	5	6	6	76	76
6	6	3	5	6	6	2	6	6	6	6	6	6	6	5	5	80	80

The interview questions resulted in several categories of data, reported below. These include: definitions of sustainability; significance of worldview; where responsibility lies for achieving sustainability; characteristics of TOS; characteristics of those practicing TOS; approach to conflict; practitioner relationship to TOS; and future of OD and TOS.

Definitions of sustainability. Consistent with the findings from the literature, each of the six interviewees provided their own unique definitions of sustainability. One termed it as "a way for us to use our resources without impacting the future generation's ability to use their resources." Another worded their interpretation of sustainability as "over time, its living with means." A third said "for me, it is helping social chage organizations...be successful" while another defined it as "a vision of moving towards a state of great integration and wholeness." Another interviewee explained it as focusing "on the triple bottom line, people, planet, and profits" while the last described themselves

as “hedging a definition,” saying that sustainability is the idea of “making life worth living and liveable for as many as possible for a long period of time.”

While definitions vary, three people specifically mentioned that current popular definitions of sustainability fall short, with one saying “a lot of people talk about sustainability like survivability, like you’re going to just continue, you know, sustaining yourself.” Another questioned the parameters of current concept, stating “the idea of moving towards what they refer to as sustainability, which I personally think is a horrible word....you can sustain crap...” and “when you’re in the world of sustainabiliy everyone is always talking about the carrying capacity of the planet. The planet will do fine without us.” A third states “it is not entirely clear what there is to be sustained.”

Significance of worldview. Two people expressed the innateness of their worldview such that it had “always been a part of my personality” or that they were “wired this way.” One stated that “going all the way back to childhood, I have always been this kind of person where I’ve felt the need to do something about injustices in the world.” Five people directly related their worldview to their childhood experiences. Of the five, three credited their connection to sustainability to relationships with parents, three mentioned profound experiences in nature, one mentioned financial hardship, one mentioned an urban upbringing, and one mentioned a rural upbringing. One person recalled, “as I think about my childhood, I’m sure there were many moments that I can recall where I was just, what’s the word, mesmerized, amazed, blown away, in love with nature. I guess that would be the moments when I saw possibilities from nature that just welled me up emotionally.”

Five people expressed that the worldview begun in childhood has had an influential and reciprocal relationship with their adult academic and professional choices. One stated that "there's a real connection" while another stated "there's a pre-wiring in that....you are drawn to the fields that tend to focus on that" and a third stated that the decision to pursue a career at the intersection of business and the natural environment "certainly was tapping back into those old impressions that had sort of been there, but dormant all that time."

Four people told stories linking their exposure to environmental or social data in adulthood to the re-committment to, and evolution of, their current worldview on sustainability. To describe their feelings, they use terms such as "a shaping event," "sickening," "awakening to the horrors," "knocked the props out from under me" and "a lightbulb going off."

Where responsiblity lies for achieving sustainability. Three people stated that they believed that responsibility for achieving sustainability lies with the individual. Four people told stories in support of the idea that TOS can begin with small things. One said "there are so many things people can do. Everyone thinks that it is political activism, but it doesn't have to be. It can be as simple as just being mindful of where you spend your money." Two people believe that TOS must happen simultaneously at all intersections of society: "I don't feel that there is any one area that can do all this work alone, because I think its a mindset that needs to be part and parcel of really, all our decision making."

Characteristics of TOS. Five people consider education to be an important part of the work they do as TOS practitioners. One stated that "education is paramount" while another said "[educating others] is most of what I do." Five people indicated that bumping up against the status quo–or Dominant Social Paradigm–is characteristic of TOS. One person stated:

> I believe there are some structural, systemic barriers to sustainability that go beyond even the organization's capability to improve....there are some incentives for companies to be very short term, and to do a lot of exploitation because the externalities are not included...So the economic incentives are exploit-based on the old paradigm of exploiting the earth, destroying. Until some of those things are resolved, we're in an uphill battle. We can do only so much in organizations.

Three people felt that effective communication was characteristic of TOS. For example, "it's when you're able to share a pattern or articulate something in a way that, it may be the first time they are hearing something that way, but it is absolutely inherently and intrinsically recognizable as true." Three people mentioned innovation as a characteristic of TOS. They use phrases such as "we have to do things differently," "approach a problem in an entirely different way that no one has ever thought of before," and "completely reframe the question."

All six of the interviewees felt that basic OD principles are important characteristics of TOS, using phrases such as "sustainability is focused on OD kinds of things: culture change, mind sets, employee engagement, leadership development, talent management, all that stuff" and "your work is often times just creating conditions for them to be able to see what their work is, and to support them in organizating effectively around taking action and being able to sustain that action" and "its about vision, its about collaboration, its about creating the space for people to do that, its about facilitating it."

Other statements included: “at the core of it, its been OD work”; “those are fundamentally OD kind of undertakings”; and “so not that [OD and sustainability] go hand in hand, but I think that the principles are interwoven.”

Four people felt that trans-organziational development was characteristic of TOS. One stated “people who are concerned with...all these different issues...they’ve all come together because they realize these issues are all linked to a common problem that they want to address.” Another felt that

> one of the things [clients] immediately begin to realize is, I can’t do this, working solely within my own boundaries as a system...the only way I can do this is to engage with others that are a part of this larger system. To me the work is trans-organizational development and design.

Three people indicated that they believed that TOS involves shifts in awareness, stating that “people are just quick to criticize and not want to grab onto the ideas because...its different than what we we are used to.” Others used statements like “how do we as organizational development professionals in sustainability...create conditions for people, individually and collectively, to have this shift” and “what we do is sort of work with them to shift their perspective” and “often its some of the best work we do because it allows shifts to happen.” One describes the physical change in a client as they gain understanding of sustainability as visually evident: “and you can watch, its like the whole body just kind of, its almost like it just readjusts around that.”

Characteristics of those practicing TOS. Three people reported that a belief in working for the greater good is a characteristic that is important for success in TOS, using phrases such as “make a positive difference in the world,” “something bigger out there than ourselves” and “be willing to let go of your own personal agenda and help a group of people find what they collectively are going to get behind.” One stated that

"businesses do have a responsibility to their shareholders...but if they achieve that responsibility at the expense of others then that is not a sustainable model."

Two indicated the importance of systems thinking, stating that an important skill for the practitioner in TOS is "the ability to think in and visualize systems...not just being able to see what exists, but to see and sense...emergent systems." Another believes that "having an understanding of our global systems and the enbededness of social and human ecosystems in the broader...biosphere, its certainly a big backdrop to all of it...it anchors things."

Three people mentioned comfort with ambiguity as an important characteristic of those practicing TOS, using statements such as "there is a lot of trust involved, you can't keep score every day" and "be absolutely comfortable with the ambiguity, and not forcing answers" and the importance of "not trying to look good as the consultant and like you have all the right answers...the ambiguity, the discomfort, the not knowing, thats the brave stuff." Another stated that "to travel through all those different levels and find ways to connect them, even when...often they are riddled with paradoxes...and the combination of equal level of frustration and successes....that probably points to a fair amount of tolerance for ambiguity."

Three people mentioned the ability to work at different levels simultaneously as an important skill in TOS. Statements include: "I think its the ability to work at a meta-system level and sub-system level simultaneously" and "we're kind of doing OD at a global economic macro level, at the same time we are doing it in organizations." Another expressed the shifts in scale as the ability to "go out into that divergent exploration of, what is this larger thing that we are really a part of...what is this that we are starting to co-

create, and then bring that back in" and "I think it is absolutely necessary to be able to switch from individual task thinking to very big picture thinking."

Four people talked about an awareness of interconnectivity and impacts on others as a key capability with TOS work, such that organziations must "begin to think of themselves as a system...continually impacted by and continuing to have an impact on." Another said a key to the work is "being able to support individuals in community...it's harder and harder to say that I can do what I want to do without having to rely on you or consider your point of view." At the ecosystem scale, another person states that "we are – every life form is – part of a larger system that is inherently connected." Another reflects on what makes them successful at what they do as seeking to be "conscious of my own thoughts and my own actions and how they impact other people. I think its an important skill to have."

Other characteristics that were mentioned by at least one person include optimism, resiliance, altruism, openmindedness, big-picture thinking, and a belief that sustainability is vitally important.

Navigating conflict around sustainability. Five people talk about the importance of meeting conflict around sustainability with inquiry and respect. Statements supporting this belief include: "it starts with listening, with inquiry," "moving to a deeper level of understanding, it comes from respect," "having dialog, inquiry, its a whole different way of being," "what is your resistance? what is holding you back from making these changes?" and "approach that with curiosity instead of defensiveness." Another says that "the discourse we have now is never going to get anywhere. Because its talking at each other, over eachother, not listening, advocating, being right, and its all the wrong

kind of conversation." Two of these five indicated that disagreement can be constructive, stating that spending time "with people whose views are completely different and who you may not agree with" can be an act of social change, and that even if there is disagreement around an organization's methods of activism, one person still thinks that "the work they are doing is important. That may sound contradictory, but I still see a place for them, even as I disagree with them."

Practitioner relationship to TOS. All six people have made purposeful and proactive career shifts towards TOS for their own fulfillment at least once. Some shifts involved various levels of risk, such as leaving other jobs (two people) and starting business ventures (five people). Statements supporting this pattern include: "and then the politics changed, and again, my values were not consistent with the values that were going to be imposed, so I decided to leave"; "I decided at that point...I was going to write a book and form a business and leave my job"; "I needed to have an anchor, something that was of deep interest to me personally"; "for better or worse, I decided I actually wanted to get in and do something about it"; "I had my epiphany and decided to move on"; "I think its just been part of how I've operated, which is why I'm so happy. That [work in sustainability] is becoming more focal." Reflecting on the reason for leaving traditional fundraising, one person said "I didn't feel that same sense of satisfaction that I felt when I was working on that project [with a social change organization]" Another stated that "what I wanted to do with this work is go into organizations...so that these companies can see that there is a better way of doing something."

Four people describe the importance of their work involving TOS as paramount to them personally. They used statements such as: "It's why I'm here," "it is very critical,"

"it is more than essential! Its all I do. Its what gets me up in the morning...its what gets me motivated" and "for me this is a personal calling...this is what I'm meant to be doing with my life."

Four people also alluded to issues of sustainability as values-based. One shared that in a position they later left, they were "being told to do things that were against my values, frankly, and I just couldn't bear it...it was tearing me apart." Another states that sustainability is "a huge ethical and morality issue" and a third stated that "I've always had this very strong sense of what's right and what's wrong, and for me its always been important to follow that." Connecting more deeply to values and the approach to TOS, two people indicated that sustainability cannot be relayed through dollars and sense alone: "Sustainability is not a head sell. You will never convince anyone to pursue a sustainability agenda in a meaningful way through a business case." Another says that

> there are some people in our industry who have little fundamental attachment to the underlying sustainability of the industry and for whom this looks like just another good business opportunity. A person who is doing this because its just a good a way to make a buck...with them....it just doesn't resonate.

While the business case is important "to legitimize and strategize....it is not what transforms."

Two people indicated that their relationship to TOS is made more satisfying by the ability to enable others to succeed within it. One shared that "that experience had a tremendous impact on me because the non-proft continues to exist...and is expanding its work" and "I had a positive impact on other people and thats something tangible I felt like I could point to in my career." Another said that "what also is extremely satisfying and provides impetus to carry on is the students are finding meaning and purpose in this....there seems to be some broader purpose there that is also very rewarding."

What the future holds for OD from the point of view of TOS practitioners.

Five people indicated that sustainability is becoming a business reality for today's organizations. They use statements like "I think that it's catching on," "there's a bandwidth for it, there seems to be an appetite," "as long as they expand their general per view of understanding sustainability as part and parcel of today's decision making," "my sense is that the demand for [business sustainability] will only expand," "the B corporations that are doing well by doing good.....there's a lot of organizations that are committed to that," "I think you don't always have to work for a non-profit in order to do social change...I believe that business can be a source of good in the world," and "it will behoove firms to not only...reduce contributions to climate change but also start thinking about...how they might be affected."

Five people explicitly mention TOS as a significant opportunity for OD practitioners. One states that "it is a huge missing and a huge opportunity....OD people are desperately needed in this field, but they need to school themselves about what is going on with sustainability first." Another states that "I think there's definitely a ground floor opportunity for OD practitioners to get into green consulting." A third states that "there is tremendous opportunity for organization development practitioners to get involved with social change issues." One person comments on the interconnectivity of our world, stating that "if you really want to affect change then you're going to have to become better and better...working organization to organization, group to group. That's where its going."

Summary

This chapter presented findings from the analysis of quantitative survey data collected via demographic and professional questions and the NEP Scale. It also presented findings from the analysis of qualitative data collected via interview questions.

Significant findings from the survey data include a correlation between the percentage of time survey respondents currently spend on TOS and level of agreement with the NEP Scale, as well as a correlation between the percentage of time survey respondents would like to spend on TOS in the future and level of agreement with the NEP Scale. There was also shown to be a greater level of agreement with the NEP Scale in those who claim an education level of Master's degree, as well as a relationship between time orientation and agreement with the NEP Scale; those who are future-oriented report greater levels of agreement than those who are oriented to the present.

Results from the interviews support findings in the literature with respect to characteristics of TOS and those working within TOS. Analysis of the interview data also shows that worldview is directly related to work in TOS, most importantly in influencing professional choices and shaping professional identities over time. Interview data also supports the survey data in that those who either currently spend, or would like to spend, greater amounts of their professional life practicing TOS tend to have a higher level of agreement with the NEP Scale.

The following chapter discusses these findings in more detail, describes limitations to the study, reports interviewee feedback related to the NEP Scale as a measure of an ecological paradigm, outlines implications, and provides suggestions for future research.

Chapter 5

Discussion, Limitations, and Recommendations

The purpose of this research was to explore the relationship between an ecological worldview and professional identity, in particular those OD practitioners working in TOS. This chapter concludes the study by discussing the findings, including interpretations of results for both the survey and interview data. Commentary on the NEP Scale, study limitations, and recommendations for future research are also included in this chapter.

Discussion

Global imperatives for more holistic business practices support the relevance of TOS, yet the literature draws a wide and often conflicting picture of the practice. This may be due in part to the diverging and individualized understanding of business sustainability relative to each researcher, client, and practitioner. The literature shows that this divergence may be due to a difference of worldviews, or paradigms, established by Dunlap et al. (2000) as the Dominant Social Paradigm and the New Ecological Paradigm. Therefore the purpose of this study was to develop a better understanding of the relationship worldview has on the professional life of OD practitioners, who are, according to the testimony of this study's interviewees, well poised to lead businesses through this type of transition. The following paragraphs discuss significant findings.

Relationship between TOS and agreement with the NEP. The survey sample demonstrated a small but significanct relationship between the professional identity of OD practitioners and worldview as shown by a positive relationship between increased desired to practice TOS now and in the future and increased level of agreement with the

NEP. While this establishes a relationship between worldview of OD practitioners and tendency toward practicing TOS, several observations generated from the data are of interest, and serve to place this correlation within the complex context of sustainability and worldview.

One noteable result of the study is a general expression of interest in doing TOS work within this sample population of OD practitioners. Within this sample, 44 of 50 respondents indicated they would like to increase the amount of time they spend doing TOS, while one (1) respondent said they'd like to continue doing the same amount (50%), and five (5) respondents claim they already spend 100% of their time in TOS and would like to continue doing so. Therefore 98% of respondents already do TOS exclusively or would like to do more TOS. No respondent indicated that they would like to do less TOS. This shows an asymmetry regarding interest in practicing TOS that may be consistent with the asymmetry shown in the sample's general agreement with the NEP Scale, such that 51 of 52 respondents leaned toward agreement with the NEP (as opposed to leaning toward the DSP). Asymmetrical agreement with the scale and asymmetrical interest in TOS may or may not have contributed to the level of the correlation between NEP score and percent of time spent in TOS.

Another factor defining the relative strength of this correlation may be individualized respondent interpretations of TOS, and specifically, whether or not the practitioner views social sustainability as embedded within ecological sustainability. For the purposes of this study, TOS was defined within the survey as the process by which a change agent facilitates the capacity of any human organization to expand their objectives beyond economic capital to include social and ecological capital. However, one survey

respondent and one interviewee specifically identified their practice of TOS as working for social sustainability, not necessarily ecological sustainability. For example, Respondent 7 indicated that she would like to spend 100% of her time on TOS and scored slightly below the sample average on the NEP Scale (64.38) at 64. Qualifying this was her desire to practice "social sustainability," as noted in her survey response.

Similarly, one interviewee recognized many different versions of sustainability, yet defined sustainability in their professional life as "helping social change organizations...address the fundamental underlying causes of social inequality, economic inequality, human rights issues, environmental injustice, those kinds of things." This intereviewee had the lowest level of agreement with the NEP Scale (68) among the other interviewees working in TOS, the remaining five of whom spoke about social sustainability as intertwined with and dependent upon ecological sustainability.

While only one survey respondent made note of their interpretation of 100% TOS as a committment to social but not necessarily ecological sustainability, this calls attention to the possibility of a variety of interpretations of sustainability, despite a definition provided for the purposes of the study. If true, there could be evidence of this in the respective levels of agreement with the NEP scale. However, the examination of TOS for social sustainability in addition to TOS for both ecological and social sustainability was beyond the scope of this study. Those who specified social versus ecological sustainability did so proactively, as this distinction was not part of definition of TOS provided in the survey design.

Therefore, the unknown number of socially-minded respondents reporting high dedication to TOS but relatively lower levels of agreement with the NEP may have

resulted in a weakened statistical correlation. This is due to the fact that this study tested for a relationship based on correlations between high levels of agreement with the NEP Scale and increased tendancy to work in TOS, without applying absolute parameters that TOS must include an ecological component. Despite a potentially weakened statistical correlation, a lower level of agreement with the NEP Scale for socially-focused individuals may in fact strengthen the findings that there is a relationship between level of agreement with the NEP Scale and professional identity. These examples may be interpreted as supporting the integrity of the NEP Scale, which specifically tests for agreement with an ecologically-based paradigm.

A third factor for discussion is the context around drawing connections between level of agreement with the NEP scale and behavior, in this case, professional choices. Dunlap et al. (2000) cautioned against expecting a strong NEP-behavior relationship (p. 428). By looking at whether or not a relationship exists between NEP scores and professional identity, this study was, in essense, exploring a behavioral relationship by comparing the professional affinities of OD practitioners and their worldview. While there was shown to be a correlation, there were also anomolies. Respondent 27, who displayed the highest level of agreement with the NEP Scale at 84, self-reported that he wished to spend only 5-10% of his professional life working in TOS. While his level of agreement was high, this did not appear to translate behaviorally via professional choices, or as termed in this study, professional identity.

By contrast, several interviewees possessing deep passion and knowledge about social and ecological issues felt they were put on the planet to do this work, yet technically they scored lower on the NEP than Respondent 27. Another stated that while

sustainability is a significant part of their life, they did not necessarily feel they needed to do TOS for work. From general observation both within this sample and in the working populace at large, one could claim that the strength of connection between values and work life is highly individualized. In addition, discussion exists around sustainability and the discrepancy between people's values and their actions. This study sought to understand the relationship, now begun to be established by the research, between agreement with the NEP Scale and professional identity. Exporing the motivational factors around the translation of an OD practitioner's values into professional choices and pursuits, or lack thereof, was outside the scope of the study.

Relationship between education and agreement with the NEP. The study showed that there was a statistically significant difference in the level of agreement with the NEP scale in those holding a Master's degree as compared with those holding a Bachelor's degree. This supports Dunlap et al. in their original findings, supported by most subsequent studies, that NEP agreement tends to be positively related to education (2000). However, while the highest score of 84 belonged to a respondent holding a Master's degree, it may be noted that the lowest score of 40 did as well.

From within the total sample (N=52), the bulk of respondents held either Bachelor degrees or Master Degrees as their highest level of completed education (total N=47). Though a positive correlation exists when comparing levels of NEP agreement of those who hold a Master degree versus a Bachelor degree (<.05 at .023), the correlation is weakened to a probability of significance >.05 at .06 when peripheral responses are included (two participants completed "some college" and three participants held doctorates). Scores of three peripheral respondents particularly disagree with the general

finding that increased education yields greater agreement with the NEP Scale. The two respondents with the least amount of formal education scored levels of agreement that were well above average for the entire sample (73 and 75 versus sample average of 64.38) and that were equal to or higher than the levels of agreement of those holding a doctorate (47, 69, and 73). Due to the lack of sample size for the peripheral categories of some college and doctorate degree, it is unclear whether these respondent's scores indicate potential disagreement with the overall correlation between education level and greater level of NEP agreement within this OD population, or if they are anomolies.

Relationship between time orientation and agreement with the NEP. The results of the study support findings in the literature that one of the distinguishing factors of the DSP-NEP worldviews is a differing perception of time. Those who approach daily challenges and decisions from the NEP worldview tend to have a more long-term, future-oriented outlook. Consistent with this characteristic, there was a correlation between greater levels of agreement with the NEP Scale and a future-oriented time orientation.

The study also found that the number of respondents who selected a future-oriented time orientation as their default orientation outnumbered those who selected a present-oriented time orientation by 3:1 (N=39 and N=13, respectively). This is another example of asymmetry of response for this sample, along with previously mentioned leans toward NEP agreement as well as desire to work in TOS. A considertation of the future is also consistent with the core tenants of OD, which is to facilitate long-term, lasting change as opposed to quick fixes.

Systems thinking is another characteristic the literature claims as central to the NEP worldview. While the positive relationship between future-oriented time orientation

and greater agreement with the NEP was supported in this research study, a positive relationship between context-oriented system's thinking as opposed to detail-oriented thinking was not. The results of the survey item related to type of thinker resulted in near equal average levels of agreement between "I am a detail-oriented, tactical thinker," "I am a context oriented, systems thinker," and "I do both equally" (64.4, 64.38, and 64.39 respectively). It is interesting to note that the most popular response was "I do both equally" (N=24) closely followed by "I am a context oriented, systems thinker" (N=23) with only a handful reporting themselves as detail oriented tactical thinkers (N=5). This appears to reflect characteristics of OD practitioners, while any indication of a particular affiliation toward greater agreement with the NEP Scale is unsubstantiated.

Though there does not appear to be a relationship between type of thinker and NEP agreement within this data set, there is one potential connection between type of thinker and characteristics of TOS as described by the interview data. While the importance of systems thinking was established in the literature and reiterated in the interview data, even more frequently mentioned by interviewees as crucial to success in TOS was the ability to operate at both big-picture meta levels and more detailed sub-system levels simultaneously. Given this, it may be worth noting that all five of the survey respondents who currently claim to spend 100% of their time doing TOS work reported themselves as "I do both equally." Beyond producing mutually-supportive data between survey and interview results, this question may or may not have been successful at measuring the variable of type of thinker as relates to sustainability and level of agreement with the NEP Scale.

Commentary on the NEP Scale

While the NEP Scale is shown to have validity, it was revised in 1992 to adjust dated wording and concepts (Dunlap et al., 2000). Still, several of the interviewees claimed objections to the wording or implied meaning behind select items on the 15-item NEP Scale. These are noted below.

Two interviewees commented on NEP Item b: *Humans have the right to modify the natural environment to suit their needs*. One responded: "That's what we do, period. I have a fundamental problem with the question itself: I simply don't see it as a 'right' or a moral issue, I see it as part of the human condition. As survey questions go, this one just isn't subject to agreement / disagreement for me logically." The other stated a similar objection: "I guess the statement to me is not a statement I even think is important or relevant to pose at this point. If we are still arguing about whether we have the right to modify the natural environment to suit their needs we are still not having the right conversation. It depends upon how / from what context you are defining 'right' … Is it moral right, ethical right, legal right? It isn't about whether we have the right; it is about whether we have the individual wisdom that can enable collective wisdom to make intelligent whole systems choices."

One interviewee took issue with NEP Item d: *Human integrity will insure that we do NOT make the world unlivable*. The interviewee stated:

> I think the question is poor. It depends on how you define integrity. Ultimately, I believe humans are naturally wired with the necessary integrity…and that natural integrity has been "educated / socialized" out of us. The question is how long will it take us individually to create sufficient critical mass to act with the integrity that will insure we do not make the earth unlivable.

One interviewee objected to NEP item h: *The balance of nature is strong enough to cope with the impacts of modern industrial nations*. The interviewee shared:

> The question leaves too much open. It depends on what outcome the question is assuming. I don't think it is about nature being strong enough–talk about an ego-centric statement. Just look at the disasters around us–who is strong there? Maybe the statement should be reversed to something like…*Modern industrial nations are [strong enough /resilient enough] to cope with the impacts of natural systems*. The way I see it, nature will remain no matter what happens to us as one species. The dinosaurs became extinct, but natural systems continued. In Biomimicry, a founding premise is that life creates conditions conducive to life…I have added to this statement to say that life creates conditions conducive to life OF THE SYSTEM. Nature is a natural system made up of countless natural sub-systems, and humans are part of that natural system. We could go away and nature would continue. Nature as a system does not need us. We as a sub-system of a larger natural system need the larger natural system to survive.

One interviewee qualified their response to NEP item o: *If things continue on their present course, we will soon experience a major ecological catastrophe*. Though the interviewee selected 'Strongly Agree' as the level of agreement with the statement, the qualification was as follows: "I look at 'soon' in a geological context–next 100 years–and what constitutes 'major'"?

These comments could indicate any number of factors with relation to the NEP Scale. One possibility is the potential for outdated wording and concepts in the scale since its last update 20 years ago. Another related factor could be the rapidly increasing fluency of NEP concepts among the population in general and in those who already subscribe to the paradigm in particular, so that NEP agreement of some participants is beyond the capacity of the scale to accurately measure. A third factor could be the potential for lack of clarity around intended meaning of certain items in the scale, such that clarity or appropriateness of the statement decreases as one's literacy around the reciprocity of humankind's relationship to ecological systems increases.

It could also indicate that the scale is not intended to measure those who are on the cutting edge of the paradigm themselves. Rather, its intended use is to test for agreement among general populations, such that those on the front lines of the ecological paradigm constitute an inappropriate audience for a more generalized assessment of NEP agreement. However, this explanation suggesting inappropriate audience is not strong, as the scale has been shown in the past to positively correlate to known pro-environment groups and advocates (Dunlap et al., 2000). In addition, it was not the entire scale, but rather certain statements that invited comment or objection.

Though it did not receive comment, one item on the scale stands out as anomolous in terms of the low levels of agreement across the interview sample. It is incongruent not only in light of high levels of agreement to the other NEP items, but also in the context of the qualitative data, which shows that the interview sample demonstrates high levels of alignment with the principles defining an ecological paradigm. The incongruent responses were in response to NEP item f: *The earth has plenty of natural resources if we just learn how to develop them*.

This item is meant to address the respondents' acceptance of the "reality of limits to growth" (Dunlap et al., 2000, p. 432) and is worded so that agreement with the statement indicates agreement with the DSP, and therefore disagreement with the NEP. Of the six interviewees, five responded with some level of agreement with the statement. The single interviewee who expressed disagreement did so only slightly. However, given the sample, it is unlikely that agreement with this statement suggests denial of limits to growth given the consistently anomoulous nature of the responses.

A conclusion of denial of limits to growth is also unlikely given that this sample consisted of individuals who work to facilitate the adoption of clean, alternative fuels and subscribe to the scientific principles of Biomimicry and other ecosystem-based models of energy production such as wind and solar power. From this point of view, agreement with this statement may not indicated a pro-DSP stance and would require qualification from the respondents. There is a liklihood that the intention behind the response is in line with more consistent agreement with the NEP. Therefore, this statement may not be worded in such a way that measures this particular sample's acceptance of limits to growth accurately. Whether or not this is the case, anomolous responses to "NEP item f" resulted in a lower overall NEP score, and therefore a lower, and potentially inaccurate, level of agreement with the NEP for this interview sample.

Limitations

Given the disclosure of the topic of study and chosen method of anonymous survey distribution, a random sample could not be guaranteed. This is due to that fact that despite the follow-up e-mail redistributing the survey specified that all types of OD practitioners were sought for the survey data, not just those working in sustainability, there is a possibility that those personally interested in sustainability issues may have been more motivated to contribute their time to research on the subject.

A second limitation is related to the ambiguity of the definition of sustainability both conceptually and professionally, which was a significant factor in the motivation for the study. For this study in particular, the limitation is related to multi-facted qualifications of TOS by respondents despite the inclusion in the survey of the definition of TOS as containing economic, social and ecological considerations. For some, one text

response indicates TOS was interpreted as social sustainability. For others, TOS may have been interpreted as ecological sustainability. For others, it may have been both. Similar to various interpretations of TOS, levels of agreement with the NEP Scale varied as well. This is acceptable, and supports the study's basic finding that professional identity and worldview did have a relationship within this sample population.

However, given the definition provided in the survey as TOS including both social *and* ecological sustainability, there was no data point included to determine whether the respondent saw TOS as social *or* ecological sustainability. As a result, both interpretations were correlated together. Therefore the correlation may have been affected given the design of the study, which related current and desired levels of TOS to agreement with a scale designed to test an ecological paradigm. While this still provided data supporting a desire for TOS in work life and agreement with the NEP Scale, it did not distinguish between social or ecological priorities in the data collection.

A third limitation is the inclusion of text responses which provided survey data requiring interpretation by the researcher. The purpose of the text responses for the survey questions "What professional role within OD do you most identify with?" and "Briefly list the types of work you do most often" was to collect as much data as possible by allowing the respondent to use their own words, especially where responses may vary greatly. The consequence of this was diminished ability to compare data points to determine relationships to the NEP Scale. For example, while many respondents specified that they were an internal or external consultant, some used only the term "consultant," which was too ambiguous to be included in the data set. For both text response questions, multiple choice selections with the option of an additional text

response for clarification would have provided a more consistent and useful set of data for these variables.

Recommendations for Further Research

While global imperatives for more holistic business practices support the relevance of TOS, there is relatively little research about TOS as a type of change facilitation under the larger umbrella of OD. In addition, the lack of standard definition for sustainability, and therefore what it means to transition an organization for sustainability, impacts attempts to further define and understand TOS. Previous research about the significance of worldview related to discussions of, and progress around, sustainability issues were supported by the findings of this study (Adams, 2000; Berns et al., 2009; Dunlap et al., 2000). Also supported by the findings of this study was the high degree of relevance of the field of OD to the miriad of global challenges we currently face in our communities and organizations (Yaganeh & Glavas, 2008; Worley & McKloskey, 2006).

The study showed that within this sample, there was a correlation between greater average levels of agreement with the NEP Scale and those OD professionals who currently work in TOS or express a desire to work in TOS. However, potential for further study may be on the scale itself, such that the scale, or perhaps certain items on the scale, be tested and recalibrated given any shifts in general consciousness within the past two decades. In addition, the scale, or certain items on the scale, could be recalibrated for clarity of wording and intent.

Another potential area of study given the general lean toward agreement with the NEP Scale of this particular sample of OD practitioners is to conduct comparative studies

with other populations of relevance. To better understand the role of OD practitioners in this arena, one might conduct a broader study of OD practitioners, beyond the population affilitated with Pepperdine University. This could include comparisons between other MSOD graduate programs. It would also be possible to conduct a study comparing OD pracititoners with other business professionals such as MBAs or to understand how OD practitioners fall on the scale as compared to the general populace. Additional comparative studies would provide relevant context to the overall relationship between practice of TOS and level of agreement with the NEP of this particular sample.

Also of relevance would be to conduct a study aimed at determining the formulation of an NEP worldview, as it has been shown to be a factor in TOS. For example, what causes one person to adopt principles of an ecological paradigm while another does not? While education has been shown to be an important part of TOS, one interviewee specified that in their experience, sustainability is a "heart case, not a head case." Stories in the interviews as well as the literature talk about epiphanies, or something "clicking" (Anderson, 1998). This shift is something that one interviewee talks about as a visual phenomenon, when the person's "whole body just kind of, its almost like it just readjusts around that." While the interviewee states that in their experience this moment is brought about by something different for each person, several factors influencing worldview reoccur in the literature, the survey sample, and the interviews. The most heavily cited include profound experiences with loved ones and with nature, as well as a strong visceral response to injustice. A better understanding of worldview, its roots, and the moment when a person experiences a shift in heartfelt understanding of the principles of sustainability would be a relevant intersection to study.

Related to this, another opportunity for greater study is the exploration of OD practitioners who report high levels of agreement with the NEP Scale. One facet to explore might be their decision making process around whether to proactively pursue OD work related to those values. Given the involvement of OD practioners in the sustainability movement as "a huge missing, and a huge opportunity," as stated by one interviewee, understsanding why some OD professionals choose to follow this line of work and others do not, even given high levels of agreement with the NEP Scale, would be of significance to the field.

Other areas for future study were several factors that were outside the scope of this study, but were shown to be relevant to the outcome. One might be to test for a relationship between level of agreement with the NEP Scale and TOS practitioners predetermined to consider ecological principles, not solely social principles, to be central to their work. Another might be to include a data point that represents the respondent's view of sustainbility in the context of the work they are doing. This would provide information about whether their work considers mainly social issues or if their work considers social issues as set within the broader context of ecological issues.

Another area for future study is the exploration of certain characteristics of TOS that distinguish it from other forms of OD practice. One question that was raised by the study is the importance of the TOS pracitioner to be able to skillfully navigate multiple scales of thought at once from the meta level to the sub-system level. While this is also required of general OD practice, working on sustainability issues within the field of OD necessitates that this skill be honed to go beyond the organization, and include the

complexities of human societies and natural ecologies. The apparent centrality of this capability to the practice of TOS makes it worthy of further exploration.

Another significant area for future study is an investigation of interviewee reports of heavy incorporation of trans-organizational principles in TOS. A study exploring the relationship, if any, between skills and characteristics required for TOS and those required for trans-org work would add to the understanding of both practices. This would be significant, as both are generally more complex and less understood than some other OD practices. They are also viewed as becoming more and more relevant in an inter-connected world.

Also of relevance could be a qualitative exploration of what transitioning organizations for sustainability looks like to OD practitioners today. Each of the six interviewees considered themselves to be working in TOS, and each had a unique professional profile. Beginning to collect this information would give a broader understanding of the career options within TOS, as well as the academic and professional skills and education required for the diversity of work opportunities it offers.

Implications for OD Practitioners

While not everyone agrees with concepts around business sustainability, the reality of today's interconnected world increasingly necessitates that sustainabaility issues be part of an organization's decision making process. Yet, "despite the willingness of businesses to become green, most executives do not believe their companies are doing a good job nor even know how to implement green business practices" (Yeganeh & Glavas, 2008, p. 6). This study supports evidence in the literature that OD practitioners are well-situated to lead and facilitate change for sustainabilty within organizations, as

well as lead and facilitate the discussion of factors within larger economic and social systems that limit organization progress with sustainability. OD practitioners have an immense opportunity in TOS. The opportunity lies in meaningful work, in contributing to the social and ecological well-being of the world's communities, and to the scripting of a relevant and impactful future of a once contested field.

The question for OD practitioners, elders, and particularly, educational programs, is how best to prepare themselves and younger generations of OD practitioners for the opportunity. While certain degree programs tout sustainability principles as one of their core educational offerings, a more common treatment is to introduce sustainability issues in brief overviews or make faculty research available to proactive students already versed on the topic. This may be due to the fact that sustainabilty is still thought of as a controversial issue, with much debate over the truth behind peak oil, climate change, and other complex issues. Views around sustainability are often thought of as values-based. The findings of this study support the conclusion in the literature that this is true. However, research points to developments in the business climate that necessitate that practitioners entering the OD workforce be versed in sustainability issues. As one interviewee expressed, not every student must agree. But they must at least be educated on the current business realities facing organizations today, including sustainability. So while sustainability is a values-based issue, the existence of diverse worldviews provides a constructive platform to inform and educate around the complexities of sustainability as it relates to OD.

The implication of this study on OD Practitioners and OD educators is one of responsibility and opportunity. First, it is important to continue to develop a greater

understanding of the OD practice of TOS. While this study established a relationship between the professional identity of TOS practitioners and greater agreement with an ecological worldview, there is still much more to be understood about the characteristics of the work and those who have success with it. It is also important that students receiving degrees in OD be versed on issues of sustainability. This would carry forward the knowledge, skills, and values we hold as a professional community in light of this significant and emerging form of organization development.

Conclusion

While global imperatives for more holistic business practices support the relevance of TOS, relatively little is known about the practice. The significance of an ecological worldview when discussing success of sustainabiliy initiatives was prevalent in the literature. Greater agreement with the NEP Scale, developed to measure an individual's level of agreement with an ecological worldview (Dunlap et al., 2000), was found to have a positive relationship to OD practitioners who consider TOS to be a part of their professional identity. This research substantiated the connection between worldview and sustainability regarding the professional identities of OD practitioners, and also reinforced proposals in the literature suggesting that OD practitioners are well positioned to lead this type of complex change in organizations and communities. This study has begun to explore a vast and significant topic that invites further research with respect to the intersection of sustainability, worldview, and OD.

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Appendix A: Survey Questionnaire

PART I: DEMOGRAPHIC AND PROFESSIONAL QUESTIONS

Q1 What is your gender?

- ❍ Male (1)
- ❍ Female (2)

Q2 What is your age?

Q3 What is your highest level of completed education?

- ❍ Some High School (1)
- ❍ High School Diploma (2)
- ❍ Some College (3)
- ❍ Bachelors Degree (4)
- ❍ Masters Degree (5)
- ❍ Doctoral Degree (6)

Q4 How many years have you worked in the field of Organization Development?

Q5 What professional role within OD do you most identify with? This may be different than your current position. Some examples include Internal Consultant, Human Resources, External Consultant, Teacher, etc.

Q6 What drew you to Organization Development? Select up to 5 that most apply.

- ❑ I love working with people to help them be at their best (1)
- ❑ I love working with organizations to help them be at their best (2)
- ❑ I fell into it based on my previous experience (3)
- ❑ Psychology interests me (4)
- ❑ Business interests me (5)
- ❑ Human potential interests me (6)
- ❑ It is not about me, but about helping others help themselves (7)
- ❑ I want to make a difference in the world (8)
- ❑ I want to make a difference in my community (9)
- ❑ I enjoy helping systems to run more efficiently (10)
- ❑ I value personal development as an aspect of my work (11)
- ❑ I've always had the ability to see how things could work better (12)
- ❑ Opportunities to achieve desired compensation or status (13)
- ❑ Job opportunities are diverse (14)
- ❑ Job opportunities are plentiful (15)
- ❑ I can customize my own career path (16)
- ❑ The community of people involved in OD (17)

Q7 What type of client do you most often align with? Select up to 3 that most apply.

- ❑ Trans-organizational Networks (1)
- ❑ Large domestic organizations (2)
- ❑ Large international organizations (3)
- ❑ Medium to small organizations (4)
- ❑ Start-ups (5)
- ❑ Communities (6)
- ❑ Non-Profits (7)
- ❑ Faith-based groups (8)
- ❑ Youth groups (9)
- ❑ Health and Medical organizations (10)
- ❑ Domestic or local governments/boards (11)
- ❑ International governments/boards (12)

Q8 What percentage of your work currently involves transitioning organizations for social or ecological sustainability? For the purposes of this research project, transitioning organizations for sustainability is the process by which a change agent facilitates the capacity of any human organization to expand their objectives beyond economic capital to include social and ecological capital.

Q9 What percentage of your work would you like to involve transitioning organizations for social or ecological sustainability?

Q10 Briefly list the type(s) of work you do most often. For example, Leadership training, HR functions, Coaching, Corporate strategy, etc.

Q11 To what degree to you consider yourself an educator of others?

- ❍ I am full-time faculty at an accredited university
- ❍ I split my time between practice and teaching at an accredited university
- ❍ I regularly give lectures and presentations in addition to regular practice
- ❍ I contribute to the literature on OD with books and/or articles that I have written
- ❍ Internal education and professional development is a part of my job
- ❍ I try to teach by example
- ❍ Teaching is not my forte

Q12 What experiences have most shaped your worldview? Select up to 2.

- ❑ Profound experiences with loved ones
- ❑ Hardship related to loved ones
- ❑ Profound experiences in nature
- ❑ My own observations of the world
- ❑ An inspirational role model or teacher
- ❑ Ease related to finances
- ❑ Hardship related to finances
- ❑ Growing up in a rural environment
- ❑ Growing up in an urban environment
- ❑ The culture I grew up in

Q13 Which best describes you:

- ❍ I am a detail oriented, tactical thinker
- ❍ I am a context oriented, systems thinker
- ❍ I do both equally

Q14 Which statement do you most identify with?

- ❍ The present is most important. Deal with immediate issues at hand to get things working well now; take on future issues as they arise.
- ❍ The future is most important. Deal with getting things working well long term; immediate issues may be worked out in the process.

PART II: NEP SCALE This scalemeasures endorsement of the New Ecological Paradigm. It provides important information about your view of how human society relates to the environment. To complete this part of the questionnaire, select your level of agreement with each of the 15 statements below. Source: Dunlap R. E., Van Liere K. D., Mertig, A. G., and Jones R. E.. (2000). Measuring Endorsement of the New Ecological Paradigm: A Revised NEP Scale. Journal of Social Issues. 56, 425-442.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
We are approaching the limit of the number of people the earth can support.	❍	❍	❍	❍	❍	❍
Humans have the right to modify the natural environment to suit their needs.	❍	❍	❍	❍	❍	❍
When humans interfere with nature it often produces disastrous consequences.	❍	❍	❍	❍	❍	❍
Human integrity will insure that we do NOT make the earth unlivable.	❍	❍	❍	❍	❍	❍
Humans are severely abusing the environment.	❍	❍	❍	❍	❍	❍
The earth has plenty of natural resources if we just learn how to develop them.	❍	❍	❍	❍	❍	❍
Plants and animals have as much right as humans to exist.	❍	❍	❍	❍	❍	❍
The balance of nature is strong enough to cope with the impacts of modern industrial nations.	❍	❍	❍	❍	❍	❍
Despite our special abilities humans are still subject to the laws of nature.	❍	❍	❍	❍	❍	❍
The so-called "ecological crisis" facing humankind has been greatly exaggerated.	❍	❍	❍	❍	❍	❍
The earth is like a spaceship with very limited room and resources.	❍	❍	❍	❍	❍	❍
Humans were meant to rule over the rest of nature.	❍	❍	❍	❍	❍	❍
The balance of nature is very delicate and easily upset.	❍	❍	❍	❍	❍	❍
Humans will eventually learn enough about how nature	❍	❍	❍	❍	❍	❍

works to be able to control it. If things continue on their present course, we will soon experience a major ecological catastrophe.	❍	❍	❍	❍	❍	❍

This concludes the questionnaire. A space is provided below should you wish to make any additional comments. Please e-mail at Jessica.Bartenhagen@pepperdine.edu with any questions. Thank you!

Appendix B: Structural Points for Conversational Interview

1. How would you define sustainability?
2. How did you get involved with OD?
3. Was there anything in your past or childhood that you attribute to influencing your work now?
4. Where do you feel the responsibility lies for this work?
5. How do you approach conversations with people who disagree with you or disagree with sustainability?
6. To what degree to you consider yourself an educator?
7. How much of your work involves sustainability?
8. How important is it to you that sustainability be a part of your work?
9. What innate or learned skills or qualities do you have that are important for success with this particular kind of OD work?
10. What do you see as the future of OD?

Appendix C:

Email to MSOD Listserv: Invitation to Participate in Survey

Greetings MSODers!

I am writing to extend a request for the community's input.

As a member of NuPrime class at Pepperdine University's Master of Science in Organization Development, I am seeking your participation in a research project exploring the worldviews within our OD community. This study addresses the question: **What is the significance of mental models with regard to the professional identity of OD practitioners?** Knowledge gained from this study will help determine any links between mental models and professional identity, and in particular, mental models correlating with professional identities defined by transitioning organizations for social and ecological sustainability.

How to participate in this study
Participation involves the completion of an anonymous 10-minute online questionnaire consisting of two parts. Part 1 is intended to create a portrait of your professional life. Part 2 is intended to locate your personal worldview somewhere along the NEP (New Ecological Paradigm) Scale. The NEP Scale is an instrument that has maintained reliability since the 1970s. Its purpose is to describe an individual's point of view of how humans relate to their environment. If you are interested in participating, please read on!

What is meant by 'transitioning organizations for sustainability'?
For the purposes of this research project, 'transitioning organizations for sustainability' is the process by which a change agent facilitates the capacity of any human organization to expand their objectives beyond economic capital to include social and ecological capital.

Why it matters
Today's climate of challenging economic, social, and ecological opportunities necessitate that organizations renegotiate how they interact with their environment across all of these contexts. Mental models, or 'worldviews', have garnered attention as significant factors at play in this work. While research around mental models exists for visionary CEOs and business leaders, these have not yet been studied in relation to individuals working in the field of OD.

Benefits and risks of participation
Benefits of participation may include increased thoughtfulness around professional identity. Risks of participation are low. Participation in the NEP Scale instrument may increase thoughtfulness around one's personal view of how humans relate to their environment, which should cause no adverse effects.

Confidentiality
Participation is voluntary, and all responses will be kept confidential. Your name will not

be attached to any data. Only aggregate data will be reported in this thesis or in any subsequent analysis beyond this thesis. All data will be stored securely per privacy standards and destroyed after 3 years. You may withdraw at any time without penalty. You may leave any question blank.

Your Consent: By clicking on the survey link below, you are acknowledging that you have read and understand what your participation entails, and are consenting to participate in the study.

If you would like to participate, please follow this link to complete the 10-minute questionnaire: http://pepperdine.qualtrics.com/SE/?SID=SV_cT3pVMJPPisXGhS

This e-mail may be re-distributed 1 week from this invitation to remind anyone who would like to participate in this research that has not yet done so. If you have already participated, please disregard this reminder email.

This is a very busy time of year, and I appreciate and thank you in advance for your time!

Questions: If you have any questions regarding the study or questionnaire, please send email to Jessica Bartenhagen at Jessica.Bartenhagen@pepperdine.edu. You may also contact my advisor, Dr. Ann Feyerherm at Ann.Feyerherm@pepperdine.edu or the chair of the IRB, Dr. Yuying Tsong at Yuying.Tsong@pepperdine.edu. This study has been reviewed by the Institutional Review Board (IRB) at Pepperdine University and meets all requirements regarding the university's procedures.

Thank you for your participation and support!

Appreciatively,

Jessica Bartenhagen

Candidate, Master of Science in Organization Development
Pepperdine University
Graziadio School of Business and Management
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Appendix D:

Sample Email to TOS Practitioner: Invitation to Participate in Interview

Dear [name],

My name is Jessica Bartenhagen, and I am a member of NuPrime class at Pepperdine's MSOD program. I had the pleasure of meeting [name] back in August 2010 at NuPrime's Session 1 at Mount Madonna. I am now in the midst of my thesis work, which is why I am contacting you.

My thesis studies the significance of mental models on the professional identity of OD Practitioners, particularly those working in & around issues of sustainability. It's been fascinating, and it's a topic I value a great deal. I am working with Ann Feyerherm, who recommended I get in touch with both you and [name] (who I have e-mailed as well) as OD practitioners working in the arena of sustainability. I wonder if you might be amenable to participating in an interview?

If you are open to an interview, I can send you more information. I'm hoping to conduct interviews in the weeks following the New Year. I know this is a very busy time of year; I appreciate your time, especially now!

Thanks for your time, either way!

Happy Holidays~
Best,

Jessica
NuPrime

Appendix E:
Sample Follow-Up Email to TOS Practitioner: Participation, Confidentiality and Scheduling

[name],

Thank you for your response. I appreciate your willingness to help out!

I'm happy to schedule something in advance if you prefer, but can also catch up with you after the New Year to set up a time to talk that week or the following. In the meantime, I've pasted below all the requisite formalities....

Thank you again, I'm looking forward to speaking to you.
Happy New Year~
Best,
Jessica

The formalities:
I am a student in Pepperdine University's Master of Science in Organization Development program, working under the faculty supervision of Ann Feyerherm (PhD) to conduct a research project exploring links between mental models and professional identity. In particular, the project will study how mental models relate to professional identities associated with transitioning organizations for social and ecological sustainability. While research around mental models exists for visionary CEOs and business leaders, these have not yet been studied in relation to individuals working in the field of OD.

You have been identified as an OD practitioner working within the arena of social and ecological sustainability. As such, I am seeking your participation in this research project, should you be open to participating.

What would participation look like? Participation would involve 5 minutes to take the NEP Scale (see below), and 45 minutes to sit for an interview. Interviews will be scheduled for a day and time of your choosing. During the interview, you will be asked questions about your professional identity, your work, and what 'sustainability' means to you. The NEP Scale may be taken in advance and the results relayed during the interview, or it may be taken during the interview. The interview will be conducted either in person or over the phone at a time of your choosing, and will be recorded to ensure that your responses have been captured accurately. You may discontinue your involvement at any time.

Benefits and Risks of participation. Benefits of participation may include increased thoughtfulness around professional identity. Risks of participation are low. Participation in the NEP Scale may increase thoughtfulness around one's personal view of how humans relate to their environment, which should cause no adverse affects.

Confidentiality. Participation is voluntary, and all responses will be kept confidential. Your name will not be attached to any data. Only aggregate data will be

reported in this thesis or in any subsequent analysis beyond this thesis. All data will be stored securely per privacy standards and destroyed after 3 years. You may withdraw from this study at any time without penalty or questioning. This study has been reviewed by the Institutional Review Board (IRB) at Pepperdine University and meets all requirements regarding the university's procedures.

Your Consent: ***If you are able and willing to be interviewed, please hit 'reply' to this message. By responding affirmatively to this request for participation, you are acknowledging that you have read and understand what your participation entails, and are consenting to participate in the study.***

Questions: If you have any questions regarding the study or questionnaire, please send email to Jessica.bartenhagen@pepperdine.edu or call Jessica Bartenhagen at 617.784.7568 (cell).

I am including the published NEP Scale instrument at the bottom of this e-mail for your information. Should you choose to participate or would like to view the instrument before you agree to participate, please scroll down to view.

Jessica Bartenhagen

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