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Pepperdine University
Graduate School of Education and Psychology

ADVANCING LEADERSHIP CONSCIOUSNESS: INTEGRITY FROM THE INSIDE OUT

A dissertation submitted in partial satisfaction
of the requirements for the degree of
Doctorate of Education in Organizational Leadership

by

Jessica Plancich Shinnars

November, 2020

Kent Rhodes, Ed.D. - Dissertation Chairperson

This dissertation, written by

Jessica Plancich Shiners

under the guidance of a Faculty Committee and approved by its members, has been submitted and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

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DEDICATION

This work is dedicated to leaders who are willing to do the work necessary to take radical responsibility to leave this planet worthy of our children's inheritance. And to my daughter, Zoe, I pray that this work makes a lasting difference so that you may grow up in a world of choice, freedom, beauty, and love.

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VITA

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Leadership consultation and development, executive coaching for C-suite decision makers for optimal wellbeing, enhanced emotional intelligence and mental fortitude. Whole systems approach to organizational leadership and structure, culture creation and team cohesion; training to enhance inter- and intra- department communication; creation of professional learning and development content and platforms for advance performance; support to integrate decision making models and consultation to transform companies into collaborative learning organizations.

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Creative Systems Director, 2013- 2014

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Development of business infrastructure for budding research and development technology company. Adaptive organizational systems to enhance productivity, design implementation, project management and team morale. Creative team building and leadership training to improve performance, communications and accountability.

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Integrative Psychotherapist and Clinical Supervisor and Owner 2001-2016

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Private psychotherapy practice specializing in use of integrative modalities (Western psychology- cognitive behavioral and humanistic talk therapy and Eastern philosophy- yoga, qi gong and energy healing) to treat depression, anxiety, somatic complaints to individuals, couples, families and adolescents. Emphasis on corporate healing interventions, team and morale building, strategic organization and development of company policies and procedures. Emphasis on a holistic approach to wellness and healing. Contract provider for the South Bay Youth Project and Torrance Juvenile Diversion Program; city-subsidized programs for uninsured residents. Network provider for Torrance School District, clinical supervisor and entrepreneurial coach for MFT interns.

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Star View Community Services, Torrance, Ca.

Program and clinical oversight to supervisors of community-based team of therapists and case managers, serving foster youth and their families. Program development, community liaison to the Department of Children and Family Services, Department of Probation and the Department of Mental Health to ensure collaboration and enhance service delivery. Clinical supervision of Therapeutic Behavioral Services Program and High Risk/High Needs Program. Development of agency policies and procedures, provider of outreach and engagement to non-government and grass roots organizations, provider of continuing education and professional development for staff. Oversight of building operations, program budget and site functions for 65 staff members.

Clinical Supervisor, 2003-2005

Star View Community Services, Long Beach, Ca.

Program development, administrative and clinical supervision of the Systems of Care Program; an intensive, community-based mental health program serving the most acute population of foster youth and their families to ensure permanency in the community and reduce recidivism to higher levels of care. Emphasis in the treatment of addiction, behavioral management, community integration, crisis intervention team approach to mental health treatment. Provided clinical and administrative supervision for MFT interns and para-professionals.

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Conducted group, individual, couples and family therapy in English and Spanish to recipients of federal aid to promote employability and self-sufficiency. Emphasis in treatment of woman's issues (single parenthood, sexuality, work-family balance), depression, anxiety, eating disorders, personality disorders and addiction. Developed workshop and course curriculum for group services.

Instructor, 2002-2003

Beach Cities Health District, Redondo Beach, Ca.

Developed course curriculum and facilitated stress management workshops for stress identification and reduction.

Instructor, 2002-2003

Torrance Unified School District, Torrance Adult School, Torrance, Ca.

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1736 Family Crisis Center

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Volunteer, Shakti Rising, San Diego, Ca- movement and workshop volunteer with organization devoted to empowering young women in recovery to become community leaders.

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ABSTRACT

A poll conducted by the World Economic Forum (2015) found that 86% of respondents perceive that we are facing a global leadership crisis. At the time of this study, the COVID-19 pandemic has impacted the global ecology in dramatic and widespread ways. In light of this uncertain political, economic, sociological, and ecological climate, humanity is in need of consistent and reliable ways of developing exemplary leaders. As society enters into massive technological advancement, leaders and collaborators are at risk of obsolescence if we do not find innovative ways to harness innate human capacities to advance consciousness and co-evolve with technology. This work examines consciousness research from a neuroscientific, philosophical, spiritual, behavioral, and psychological lens, which provides the foundational basis for the primary inquiry- whether leadership consciousness can be developed in an organizational setting. In order to meet these dynamic, high demand needs, new leadership development programs are required to cultivate integrated leaders that are adept at operating in the physical, analytical, emotional, relational, and spiritual domains. Though contemporary research has independently examined each of these aspects (and found positive relationships with leadership efficacy), this mixed-methods study investigates the impact of whole-person development on leadership consciousness and performance. Thirteen mid-upper management leaders from around the world completed a 10-week, virtual course and took pre- and post- Leadership Practices Inventory assessments in addition to a structured interview. The data was analyzed to understand each participants' experience, perceived improvements to address their leadership challenges, and determine any quantitative changes in leadership efficacy. Subjects displayed statistically significant score changes in all five domains of the LPI and demonstrated significant changes in the majority of domains in comparison to the group that did not receive the treatment. This study

concludes with implications for leadership development to address our leadership crisis and leading during times of crisis. These recommendations include the development of relationship-focused communities of practice, anchored in mindfulness meditation as a psychologically-safe context for challenging assumptions, crafting a shared vision, and ideating creative solutions.

Chapter 1: Introduction

In an age of unprecedented technological advancements, socio-political and environmental upheaval, today's leaders are challenged with how to radically adapt to extreme levels of emergent uncertainty. A 2015 poll conducted by the World Economic Forum found that 86% of respondents perceive that we are facing a global leadership crisis. In light of the past decades' rash of scandal, leadership failures, low levels of trust of leaders in corporate and socio-political arenas, global health crises, inter-racial upheaval, the contemporary climate demands a renewed focus on the means through which leaders are developed, and effective leadership practices ensured (Quatro, Waldman, & Galvin, 2007). Bennis (2005), Mintzberg and Sacks (2004), and Ghoshal (2005) are just three of the many authors calling for such investigation, all soundly criticizing management education and development, be it corporate or through business schools, as conduits through which misguided leaders are oftentimes produced. It appears that there is a clear call for reform of leadership development and management education.

Development Dimensions International conducted a 2018 Global Leadership Forecast and surveyed over 2500 human relations professionals and found that 50% responded that their companies do not have well-aligned leadership programs or processes, 78% see their leadership career planning and systems as only moderately effective or worse, and 65% do not believe their leaders have high-quality, effective development plans. Despite the fact that global leadership training is a \$366 billion industry (Training Industry, 2020), the efficacy of these programs is bleak and dismal, as the same Development Dimensions International report claims that leadership training has improved productivity by only 2%. Similarly, a 2016 Deloitte report explains that only 40% of respondents from their comprehensive survey found that their current

leadership programs provide only “some” value, and 24% report that they yield little to no value (Deloitte University Press, 2016).

Need for the Study

The intensity and high paced environment of free-market capitalism have reined havoc and distress on the bodies, minds, and spirits of those at the helm. Burnout, compassion fatigue, and anxiety disorders amongst leaders are skyrocketing, while happiness and satisfaction amongst top leaders are under 10% (Caesar & Caesar, 2005). Organizational leadership is becoming more complex as the challenges we face become more dynamic and multifaceted. Deloitte’s Global Human Capital Trends report survey found that 84% of respondents perceive that leadership development is “important” or “very important.” Despite this perception, the majority of nearly every CEO and CHRO reported that their companies are not developing skills fast enough or leaders deeply enough (Deloitte University Press, 2016). Furthermore, with the millennial generation now dominating the workforce, organizational practices need to adapt to the changing needs of this era. A 2017 Gallup poll reports that in addition to finding steady, engaging jobs, millennials want to have high levels of well-being, professional and personal development, and are seeking a sense of mission and purpose. Millennials have grown up in a digital, self-directed learning environment and have come to expect it as a part of their lives and overall development. Deloitte concludes that “the learning curve is the earning curve,” and 30% of executives see learning as a primary driver of employee development. The need to develop leaders who have an adept internal skillset coupled with practical acumen has never been more acute. This research is an attempt to advance the investigation of leadership practices that gives those who are in decision making positions greater capacity to meet the emergent demands of our times. This author proposes one approach to achieve this is to go beyond the traditional

tendency to develop leaders from a static and linear approach and instead consider a focus on the advancement of leadership consciousness. However, how to go about this process remains unclear, as there is an absence of research devoted to how to facilitate movement into higher stages of consciousness through training or coaching programs (Vincent, Ward, & Denson, 2013).

Authors Hess and Ludwig (2017) note that in order to rise to the challenges presented in our technologically advanced times, leaders need to develop a new series of behaviors and capacities that help overcome fears, namely vulnerability, uncertainty, risk, intellectual or emotional exposure, and uninvited scrutiny. They explain that science shows that these behaviors interfere with creativity, reflective listening, critical thinking, innovation, reflective listening, and emotionally engaging others. Furthermore, they espouse that humans need to excel at “critical, creative, and innovative thinking and genuinely engaging with others- things that machines don’t do well” (p. 2). Hess adds:

We humans will be in a frantic footrace with the smart machines to stay relevant. Society is on the leading edge of a technology tsunami. Advances in artificial intelligence, virtual reality, robotics, nanotechnology, deep learning, mapping the human brain, and biomedical, genetic, and cyborg engineering will revolutionize how most of us live and work. Technology will be able to learn, as well as teach and program itself. (p. 1)

Other contemporary thinkers such as Yuval Noah Harari (2018) explain, “The danger is that if we invest too much in developing AI and too little in developing human consciousness, the very sophisticated artificial intelligence of computers might only serve to empower the natural stupidity of humans” (p. 70). And “for every dollar and every minute we spend developing artificial intelligence, it would be wise to invest a dollar and minute in human

consciousness” (p. 71). This underscores the perceptions of Kegan and Lahey (2009), who contend that leadership development efforts should focus less on the knowledge and capabilities associated with leadership and more on the leaders’ journey of personal development.

Native human intelligence and their corresponding applied behaviors must advance to shape technology and awaken latent creativity to prevent human obsolescence (Harari, 2018). Authors Hess and Ludwig (2017) explain that “what we’re going to have to do well are those things which are uniquely human, such as our ability to create, innovate and relate at the highest emotional levels with other humans” (para. two). An efficient approach to this endeavor is to leverage organizations as a milieu to further the development of our human resources and promote the formation of learning organizations (Senge, 1990).

Senge’s seminal work, *The Fifth Discipline* (1990) outlines the principles that are required to establish a learning organization, including systems thinking, personal mastery, challenging mental models, shared vision, and team learning. Systems dynamics examines interconnections between elements of a complex system and the encouragement to understand the long-term effects of managerial policies and choices (Forrester, 1961; Sterman, 1989). This approach asks leaders and their collaborators to consider the impact that choices have locally, regionally, and globally- on the organism, individual, and the community. In regard to personal mastery, Senge claims that those with a high level of personal mastery embody particular characteristics, including a special sense of purpose, have a vision that is a personal calling, inquisitiveness, a sense of connection to others and to life itself, living in a continual “learning mode” as a lifelong discipline, acute awareness of their ignorance, “advanced maturity” through making goals larger than oneself, being open and continually striving for an accurate depiction of reality. Senge explains that the discipline of examining mental models includes surfacing,

testing, and improving mental images of how the world and organizations operate and is critical for innovations and breakthroughs. The process involves making what is implicit beneath the level of awareness to the explicit and known so that we can challenge and improve assumptions, beliefs, and perceived limitations.

Moving from an inward examination to an external focus, the concept of a shared vision can be described as the answer to the question, “What do we want to create?” (Senge, 1990, p. 192). It offers a sense of commonality, gives coherence to activities, and provides focus and energy for learning. Senge (1990) clearly states that compliance is short-lived and lackluster, whereas enrollment seeks to spark the genuine enthusiasm of collaborators so that the vision is a living, breathing force that compels the organization toward the impossible. Building on the discipline of shared vision and personal mastery, the practice of team learning is the microcosm of organizational learning. This capacity to curiously consider many points of view supports leaders to become observers of their own thinking. The proposed research outlined in this paper mirrors the same inside-out approach to development to mobilize organizations to operate with greater agility and creativity. A major upgrade is required to enhance outdated platforms and static learning approaches (Deloitte University Press, 2016). It is hypothesized that environments that promote cognitive flexibility, emotional maturity, spiritual awareness, and innovation will result in enhanced leadership consciousness to meet the demands of an uncertain future.

In the simplest sense, “consciousness” pertains to the subjective state of cognizance or awareness that is present whenever we are awake and going about daily duties (Searle, 1992, 1993). Zhong (2016) states:

At a higher or more intricate level, it is an essential mental phenomenon that applies to both humans and the vast majority of living creatures, creating a platform for the

emergence of higher mental faculties like attention, perception, cognition, and memory.
(p. 288)

How the brain organizes all of all these experiences and creates a unified conscious state based on physical/ neural processes has been described as the “hard problem” of consciousness (Chalmers, 1995). In addition to the “hard problem” are the “easy problems” of consciousness, which look to understand consciousness by investigating the physical, functional, and/or computational properties of the brain (Baars, 1988). Currently, there is an absence of research devoted to how to facilitate movement into advanced stages of consciousness through training or coaching programs (Vincent et al., 2013). This study aligns with psychology’s understanding of consciousness or ego development- an individual’s growth in understanding the self and the world (Kegan, 1982). This research investigates the conditions and practices that can advance leadership consciousness in applied, practical terms.

Attempts to define consciousness are complex and varied, as the inquiry has roots in neuroscience, philosophy, spirituality, and psychology. Each of these will be explored in Chapter 2 as the foundational basis for the current investigation. Contemporary leadership literature often conceptualizes consciousness through the lens constructive-developmental theory- a stage theory of adult development whose focus is the growth and expansion of a person’s ways of understanding the self and the world. Despite some of its limitations, which will be discussed in Chapter 2, this theory was chosen as a foundation for this research because it is the developmental stage theory most frequently used in the management and leadership literature. The term “constructive-developmental” was first suggested by Kegan (1982) that refers to a body of work in psychology that investigates the development of meaning and meaning-making processes throughout one’s life. The theory is “constructive” in the sense that it deals with a

person's perceptions, constructions, and interpretations of experience, as in, the meaning a person makes of an experience. It is "developmental" in the sense that it is concerned with how those perceptions, constructions, and interpretations of experience become more dynamic over time. Constructive-developmental theory focuses on the growth and development of a person's foundational capacity to understand the self and the world.

This theory represents the closest understanding that psychologists and leadership researchers have come to conceptualizing the hard problem of consciousness. Though neuroscience is attempting to advance the understanding of consciousness, and are even moving toward proposing a mathematical measurement of consciousness (Oizumi, Albantakis, & Tononi, 2014), it is clear that there is a dearth of understanding of this vast and mysterious concept. However, various studies have shown that a manager's stage of consciousness – also called stages of ego development- has a significant impact on their ability to handle complex issues, conduct change and successfully promote creativity and innovation (Fisher & Torbert, 1991; Harung, Travis, Blank, & Heaton, 2009; Rooke & Torbert 1998, 2005). These stages are generally defined as meaning-making systems that are simultaneously cognitive, affective, relational, and operative (Cook-Greuter, 1999; Wilbur, 2000). These investigations have drawn clear connections between leadership efficacy and advanced stages of consciousness.

For example, a longitudinal study conducted by Lewis, Forsythe, Sweeney, Bartone, Bullis (2007) of West Point college students over the course of four years reported that consciousness advancement was a positive predictor of peer and supervisor perceptions of leadership performance. Furthermore, research conducted by L. Harris and Kuhnert (2008) via 360-degree feedback reports indicates that advanced stages of ego development were positive indicators of more efficacious leadership from peers, subordinates, and superiors. More

specifically, Harris and Kuhnert explain that leaders who operated from higher stages of consciousness were rated as more effective in several dimensions of a 360-degree feedback investigation, namely managing performance, catalyzing teams, creating a vision, inspiring commitment, leading change, and personal and contextual grounding.

To further solidify this perspective, Wilbur (2000) explains that research in the field and has barely managed to go beyond the cognitive conceptualization of human development. Kegan (1994) explains, “the expectations of us [in modern life] demand something more than the acquisition of specific skills or the mastery of particular knowledge. They make demands on our minds, on how we know, on the complexity of our consciousness” (p. 238) As such, the research proposed in this work aligns with Kegan and Lahey’s (2009) perspective that leadership training efforts should move from a focus on leadership theory and skillsets and toward leaders’ internal and personal development. Cook-Greuter (2004) has explained beyond the “horizontal” skills often cultivated in leadership training- namely the cognitive understandings and behavioral capacities and into what she calls a “vertical” skillset of psychological maturity and emotional and spiritual intelligence. She explains that most development is aimed at skill acquisition, behavioral changes, and knowledge to apply to wider spheres of influence, whereas vertical development looks to transform people’s current way of making sense “toward broader perspectives” (Cook-Greuter, 2004, p. 3).

Researchers Vincent et al. (2013) boldly proclaim that in order to advance the current world views and develop leaders with the innovative, analytical and creative abilities, systems thinking, tolerance for ambiguity and uncertainty, training must advance beyond horizontal development and move to integrate vertical (psychosocial) development processes that take into

account the levels of consciousness leaders are currently functioning (Bartone et al., 2007; Forsythe, Snook, Lewis, & Bartone, 2002; Kuhnert & Lewis, 1987).

Interestingly, one of the findings from the research on ego development is that a minority of adults actually advance into the later stages of ego development and that the majority of adults stabilize by early adulthood (Manners, Durkin, & Nesdale, 2004). However, it is clear that intervention programs (Alexander, Drucker, & Langer, 1990; Hurt, 1990) can have an effect on the advancement of ego stage development in adulthood. What is unclear is the extent to which sustained development is possible and the specific processes that support this development (Manners et al., 2004).

Beyond the research connecting advanced ego stages to leadership efficacy, there is some noteworthy research dedicated to the advancement of leadership consciousness. Research performed by Manners et al. (2004) provided an empirical demonstration that sustainable development is possible into adulthood. Their interventions with 21 adults over a 10-week period rendered significant, sustained advancement through exposure to experiences that were structurally “disequilibrating,” personally salient, emotionally engaging, and of a personal nature. Though these results are promising, the methodology utilized could be difficult to recreate. However, the themes and categories of interventions provide useful guidelines for the current investigation.

Similarly, investigations by Rooke and Torbert (2005) posit several types of experiences that can trigger and support a leader’s transformation from one developmental order to another: (a) personal changes that spark the search for new perspectives; (b) external events, for example, a promotion that provides the opportunity to expand capabilities; (c) changes in the leader’s work practices and environment, and (d) planned and structured developmental interventions.

Though the aforementioned research points to general categories of ego development advancement, authors Baron and Cayer (2011) call for the clarification of practical methods by which to encourage the emergence of post-conventional stages.

This study investigates specific, personal practices and their ability to support the advancement of adult ego development (consciousness), and that could enhance leadership efficacy, which will be explained in greater detail in Chapter 2. The results have many possible implications and use for organizational development in consistent and replicable ways.

Problem Statement

Notable researchers in the field of leadership development make a clear call for advancements in the way that contemporary leaders are trained to meet the dynamic challenges of the times (Bennis, 2005; Ghoshal, 2005; Hess & Ludwig, 2017; Mintzberg & Sacks, 2004; Quatro, Galvin, & Waldman 2007). Others have argued that one way to achieve this is by advancing ego development/ consciousness (Cook-Greuter, 1999, 2004), as clear connections have been made between ego development and leadership efficacy (Bartone et al., 2007; Fisher & Torbert, 1991; Harung et al., 2009; Rooke & Torbert, 1998, 2005). Traditional leadership and management programs are not designed to develop the consciousness advancement required to foster the kind of adaptive behavior to meet communal, organizational, and global challenges (Vincent et al., 2013). Akrivou and Bradbury-Huang (2014) note that current programs are likely to produce “ostensibly morally neutral technicians engaged in a world of purely rational problem solving” (p. 13). More specifically, Kegan and Lahey (2009) explain that a person’s state of consciousness greatly influences their approach to management and leadership, and those who operate from more advanced states tend to be more efficacious managers and transformational leaders. A growing body of research is proving to demonstrate positive associations between

increased consciousness and enhanced leadership performance (Barker & Torbert, 2011; Bartone et al., 2007; Brown, 2011).

Investigators have made some broad conclusions about the general conditions that advance leadership consciousness (Rooke & Torbert, 2005; Vincent et al., 2013). However, it appears as though research has not yet been devoted to practical methods by which leaders can attempt to advance their stage of awareness (Baron & Cayer, 2011). This research looks to investigate whether the advancement of leadership consciousness can be trained and developed in comprehensive, methodical ways in an organizational setting.

Purpose of the Study

The purpose of this study is to identify the extent to which, if at all, differences exist in a leadership performance between organizational leaders before and after undergoing a 10-week course on mindfulness meditation, emotional intelligence and creativity development along with a regular exercise component, and a comparison group of organizational leaders who do not receive this course.

This study uses a mixed-methods approach to comparatively investigate leadership performance of organizational leaders before vs. after their participation in a comprehensive leadership development program, with each of the aforementioned domains represented, as these aspects have only been investigated independently, not in combination. These outcomes are contrasted to a comparison group of leaders who do not undergo the training. The data was collected during a 10-week program, and the method of inquiry was survey instruments administered at pre-test (Time 1) and post-test (Time 2).

This study builds upon previous research that has clearly identified positive relationships between adult ego development and leadership efficacy (Fisher & Torbert, 1991; Harung et al.,

2009; Rooke & Torbert 1998, 2005) and studies that have broadly pointed to practices that encourage this development (Rooke & Torbert, 2005) in an effort to more specifically identify training and development methodologies that can advance leaders into a post-conventional state. This research poses a comprehensive development strategy that integrates whole-human intelligence across physical, emotional, mental, and spiritual realms is optimal to enhance leadership outcomes (Quatro, 2007).

Regarding mindfulness, Sinclair (2015) reports that the use of mindfulness practices has shown to improve leadership performance in the areas of focus, improved decision making, creativity, innovation, and calm under high-pressure situations. Glomb, Duffy, Bono, and Yang (2011) and Thompson (2018) explain that leaders who practice mindfulness report improved self-regulation, to enhanced social relationships in the workplace, greater resiliency in the face of challenges, response flexibility, adaptability, empathy, and increased task performance. Mindfulness practices are now incorporated in leadership development workshops in numerous reputable organizations, including General Electric, Google, Apple, IBM, Starbucks, Goldman Sachs, Pfizer, US Air Force, Mayo Clinic, Procter & Gamble, and AT&T (Brendel, Hankerson, Byun, & Cunningham, 2016). In a recent study by Brendel and associates (2016), participants in the mindfulness practice condition demonstrated a significant increase in regulatory focus, a desirable habit of mind marked by enhanced creativity, and a greater likelihood of taking chances and a substantial reduction in anxiety. Authors explain that mindfulness practice is also strongly related to stress reduction, an ability that can liberate a leader's mental resources to deal with unanticipated obstacles and setbacks. Due to the robust research conducted to date, this study assumes that mindfulness practices are the gateway to access and efficacy of the other

domains. As a core aspect of this course, mindfulness meditation was a primary focal point of this investigation as a means to advance the other three domains.

Investigations have been performed in the application of physical fitness and exercise, emotional intelligence, mindfulness, and creativity on leadership performance. Researchers across all four areas report positive relationships between the implementation of these practices and enhanced leadership performance. Specifically, Hogan, Mata, and Carstensen (2013) and Neck, Mitchell, Manz, Cooper, and Thompson (2000) purport that exercise can enhance cognitive and affective performance while staving off the negative impact of highly demanding positions. Those at the forefront of solution-finding for these complex challenges are often under high levels of stress from excessive demands that lead to physical health problems, depression, and job insecurity (Moore, Grunberg, & Greenberg, 2004; Murphy & Pepper, 2003). There is also ample evidence to indicate that chronic, unmanaged high job demands result in exhaustion and, ultimately, job burnout (Lovelace, Manz, & Alves, 2007; Schaufeli & Bakker, 2004). While all employees experience work stress, leaders tend to have particularly stressful jobs due to the high levels of demands and responsibilities associated with the leadership position (Hambrick, Finkelstein, & Mooney, 2005; Sparks, Faragher, & Cooper, 2001). Therefore, an important, yet often overlooked, component of leadership development is to prepare leaders to develop practices and habits that mitigate the negative impact of stress and increase adaptability and strength.

In relation to emotional intelligence, researchers Goleman and Lippincott (2017) explain that the cultivation of the key components of EQ (warmth, empathy, sociability, motivation, and optimism) have been linked with a spectrum of positive impact; from applied skills such as enhanced project completion and increased budgets and team headcount to interpersonal skills

such as better relationships with peers and improved crisis management skills. Highly attuned emotional leaders are skilled at understanding and managing human emotion as an inevitable phenomenon and leveraging it as a source of energy and shaping influence on follower behavior. Furthermore, developing emotional intelligence enhances inter-relational understanding and supports emergent collaboration (Goleman, 2010).

Finally, creativity has been dubbed the most important quality of CEO's by a major study by IBM in 2010. Investigators Gong, Huang, and Farh (2009) cite a positive relationship between creativity and performance within a corporate setting. They also suggest that managers can apply transformational leadership principles and provide an environment that stimulates and nourishes creative self-efficacy. The outcomes of these various studies indicate that leadership performance is enhanced through the inclusion of these practices and the cultivation of these skills.

The aforementioned research clearly points to the efficacy, and the positive relationship each of these domains have individually on leadership performance. However, the combination of these four aspects has not yet been studied together as a comprehensive approach to advancing the conditions and contexts that could allow for improvements in leadership consciousness. This work seeks to build upon what has already been empirically substantiated in isolation and looks to determine whether, if practiced together, the effects could be even greater and advantageous to leadership performance.

Research Question

To what extent, if at all, do differences exist in a leadership performance between organizational leaders before and after undergoing a 10-week course on mindfulness meditation,

emotional intelligence and creativity development along with a regular exercise component, and a comparison group of organizational leaders who do not receive this course?

Definition of Terms

- **Consciousness:** The subjective state of cognizance or awareness that is present whenever we are awake and going about daily duties (Searle, 1992, 1993).
- **Ego:** One of the three divisions of the psyche in psychoanalytic theory that serves as the organized conscious mediator between the person and reality especially by functioning both in the perception of and adaptation to reality (“Ego,” n.d.).
- **Tai chi:** An ancient Chinese discipline involving a continuous series of controlled usually slow movements designed to improve physical and mental well-being (“Tai chi,” n.d.).

Organization of the Study

Chapter 1: Introduction. This chapter reviews the background of the study, the need for the study, a statement of the problem, a purpose statement, research question, limitations of the study, definition of terms, and closes with the organization of the study.

Chapter 2: Literature review. Chapter 2 provides a comprehensive overview of the theoretical and practical analysis of the key concepts developed in this study. It reviews the following aspects: historical investigations of consciousness, the easy and hard problems of consciousness, an examination of the various approaches and definitions of consciousness; neurological, psychological (constructivism, spiral dynamics, integral, developmental and constructivist-developmental) followed by practices to advance ego development and measurement techniques from an inner to outward approach.

Chapter 3: Methodology. Chapter three provides an overview of the methodology and is followed by a description of the nature of the study. Hypotheses are stated and followed by a

description of the population, sample, and sampling techniques. Chapter three provides an overview of data collection, analytic techniques, and concludes with a summary.

Chapter four: Results. Chapter four provides the results of the study, information on analytical techniques, and ends with a summary.

Chapter five: Discussion. Chapter five offers an in-depth analysis of the results, limitations of the study, provides implications for organizations, recommendations for future research to advance leadership consciousness, and concludes with a summary.

Chapter 2: Literature Review

Literature Search Strategies

The literature review for this research was conducted in three distinct phases:

Phase One: A literature search was conducted using EBSCO Host, Proquest, and Academic Search, where databases were utilized for peer-reviewed scholarly articles and dissertations in the areas of consciousness and leadership, constructive-developmental theory, mindfulness, emotional intelligence, and creativity. Additionally, contemporary books from subject matter experts on the aforementioned topics were reviewed and considered.

Phase Two: Textbooks and dissertations related to the present research design were analyzed, literature reviews were examined with special attention to obtain a breadth of current findings.

Phase Three: Gaps in the literature were investigated, and additional material was sourced utilizing EBSCO Host, Proquest, and Academic Search.

Review of the Organization of the Literature Review

A wide range of theoretical and applied research related to the leadership consciousness was examined for the purpose of this review. Some of these aspects contain overlapping concepts; however, each will be discussed thoroughly in an effort to establish a strong foundation for the current study to add to the body of scholarly research. The literature review is organized as follows:

- A. Defining Consciousness
 - 1. Ancient Concepts of Consciousness
- B. Hard & Easy Problems of Consciousness
- C. Neuroscience and Consciousness

1. Neurobiological Approach to Consciousness
2. Integrated Information Theory
- D. Organizational Neuroscience & Neuroleadership
- E. Psychology & Consciousness
 1. Constructivism
 2. Theory of Levels of Existence and Spiral Dynamics
 3. Integral Theory
 4. Developmental Theory
 5. Constructive Developmental Theory
 - i. Support for Post-Conventional Development
- F. Advancing Leadership Consciousness
 1. Inward Shifts
 2. External Shifts
- G. Summary

Defining Consciousness

The process of defining consciousness is a daunting task. Despite decades of investigation, most researchers concur that a singular explanation of consciousness remains rather elusive and obtuse. Some would go so far as to say that there are no accurate descriptions of consciousness (Barutta, Gleichgerrcht, Cornejo & Ibáñez, 2010) However, for the purposes of this investigation, the aim is to report on the wide variation of current concepts and understandings of human consciousness and focus on the advancements in the psychological concepts of consciousness. In the quest to obtain a more comprehensive and integrated understanding of the relationship between body and mind, scientists in the hard and soft sciences

alike have struggled to distill this vast and complex idea into a simplified taxonomy, as it stands at the juncture of several intersections including the arts, neuroscience, religion and spirituality, psychology and philosophy (Zeman, 2004). The attempt to put this elusive, ineffable concept into more defined terms has proven to be a quagmire for researchers, to say the least. This section will provide a breadth of findings on consciousness found in neuroscience to adult ego development and will provide a theoretical and applied basis for the proposed research in the realms of humanities- namely psychology, human development, and neuro leadership.

The etymology of the word “consciousness,” derives from the Latin word “conscientia” (“Consciousness,” n.d.). It is the combination of the roots “cum” meaning “with” and “scio” meaning “know” (Zeman, 2004). Conscientia thereby means knowledge shared with another, but could, by extension, refer to “knowledge shared with oneself” or has sometimes been used in a broader sense to mean knowledge (Zeman, 2004). The idea that answers lie in the brain is an ancient one, as evidenced by this passage from Hippocrates’ *On the Sacred Disease*:

Men ought to know that from the brain and from the brain only, arise our pleasures, joys, laughter, and jests, as well as our sorrows, pains, griefs, and tears. Through it...we think, see, hear, and distinguish the ugly from the beautiful, the bad from the good, the pleasant from the unpleasant, sleeplessness, inopportune mistakes, aimless anxieties, absent-mindedness, and acts that are contrary to habit. These things that we suffer all come from the brain...madness comes from its moistness. (Capps, Page, & Rouse, 1923, p. 179)

The understanding of how experience is interpreted by the brain has been painstakingly slow over the past several hundred years since. E. O. Wilson (1998) reported, “the master unsolved problem of biology: how the hundred million nerve cells of the brain work together to create consciousness” (p. 374). There are those who are doubtful that we will ever come to a unified understanding of this mysterious concept. Zeman (2004) explains that this skepticism may arise from the fact that by and large, the human inner experience is intimate, private, and

inaccessible by third parties. Therefore, no amount of dissection and examination will render an orthodox scientific explanation of consciousness.

Over time, various researchers have attempted to distill down these aspects into a singular explanation, such as “consciousness absorbs, processes and stores information and further applies it to social behavior” (Shkuroko, 2013, p. 8). Searle (1992, 1993) offers the perspective that consciousness is a subjective state of awareness that that underlies waking experiences. More intricately, Chalmers (1995) expounds that consciousness is a mental phenomenon that pertains to most living creatures and provides a foundation for advanced mental capacities such as attention, perception, cognition, and memory. How the brain makes sense of all these different experiences and creates a unified conscious state of awareness based on physical/ neural processes has been designated as the “hard problem” of consciousness (Chalmers, 1995).

Dennett (1991) purports that “consciousness” is not a straightforward scientific term. Rather, it has evolved over centuries with a myriad of social, scientific, artistic, philosophical, and religious influences and includes terms such as “mind,” “self,” “soul and “spirit” (Berrios & Markova, 2003). When attempting to dissect and examine this vast subject, we find ourselves at the juncture of many studies- from humanities and the experiences of subjects to the sciences and the study of objects (Zeman, 2004).

Ancient Concepts of Consciousness

In the quest to explore the expansive and far-reaching terrain of consciousness, we now turn to some ancient contexts to provide the foundational basis of the current contemplations and research. It is beyond the scope of this review to provide an exhaustive distillation of the vast explorations of consciousness in each of the spiritual, philosophical, scientific, and psychological realms. However, the aim is to provide overarching principles and reoccurring themes presented

in each of the disciplines that point to a convergence of these investigations. The intention is to then draw forth implications for how contemporary leadership development can glean insights from these findings toward practical, modern-day applications.

The Ancient Mayans were among the first to propose an organized sense of each level of consciousness, its purpose, and its temporal connection to humankind. Because consciousness incorporates stimuli from the environment as well as internal stimuli, the Mayans believed it to be the most basic form of existence, capable of evolution, and that individual development plays a role in the collective evolution (Calleman, 2004). Their nine stages of consciousness cover the span of human evolution, dating back to the big bang. Calleman (2004) reports that the nine-step Mayan pyramids explain that consciousness is organized hierarchically, and each step stands on the foundation of the previous step. As we will see further in this chapter, this staged concept continues to pervade the contemporary understandings of human development.

Buddhist contemplations of consciousness have been going on for thousands of years and have been at the epicenter of their principles and traditions. Interestingly, there appear to be some linkages between the neuroscience view of *panpsychism* — the belief that consciousness is everywhere (Tononi & Koch, 2015) and underscores the Buddhist perspective of universal consciousness. To advance his developing theory of consciousness, Koch met with the Dalai Lama at Drepung Monastery, Tibet. It was here that the Dalai Lama told Koch (Tononi & Koch, 2015), “the Buddha taught that sentience is everywhere at varying levels and that humans should have compassion for all sentient beings” (para. 17). Buddhism associates mind with sentience. In a similar vein, the modern-day integrated information theory (IIT) says consciousness is an intrinsic quality of everything yet only appears significantly in certain conditions. Buddhists purport that the idea of reincarnation is based on the notion of consciousness as a continuum.

According to Buddhist principles, consciousness can only arise from a continuum of phenomena similar to itself. Aristotle (c. mid 4th century BC) also aligned with this concept and perceived that the soul is formed in a hierarchy conceived in the previous levels of substance. This assertion is similar to the staged theories that will be explored in the realms of developmental psychology.

The transpersonal, monist (doctrine of unity) ideas of consciousness embedded in Buddhist and Hindu traditions underscore the co-existence with matter (Odin, 1982; Varela, Maturana, & Uribe, 1974), whereas in the West (as in Europe and those associated with its cultural and philosophical belief systems), there was a strong emphasis in philosophical and religious faiths that aside from the conscious mind, there is a soul-essence that lives beyond personal physical death (Allers, 1994; Ivanka, 1939). These debates are at the center of the philosophical mind-body problem, which concerns the relationship between thought and consciousness in the mind and the brain as part of the physical body. This argument that the mind and body are considered distinct, and fundamentally different was posed by Rene Descartes (1641/1989). Though this Cartesian dualistic perspective aligns with many theologies that souls occupy an independent realm, separate from the physical world, this perception is not shared by more ancient Eastern philosophies that claim that there is a unifying reality in which everything can be explained.

Easy and Hard Problem of Consciousness

The distinction between the “hard” and “easy” questions of consciousness was conceived by philosopher David Chalmers to highlight the differences between the neural functions that mediate conscious behavior and the process by which these events give rise to awareness (Chalmers, 1995). The “easy problem” of consciousness aims at explaining the dynamics of

consciousness by investigating the physical, functional, and/or computational properties of the brain (Baars, 1988; Chalmers, 1995), such as response to stimuli, attention, and motor control. This approach considers any organism to be conscious as long as it can translate external sensory or perceptual information to guide behavior and decision making (Block, 1995). This is a helpful determination when considering those that may have an “experience,” but not capable of converting it to volitional capacities and awareness, such as in those in a comatose state. How the brain makes organized sense of these physical experiences based on these neural processes is considered the “hard” problem of consciousness. This materialistic concept of natural phenomena is distinct from the problem of experience, and Chalmers argues, is an inquiry that will continue long after the relevant neuronal functions are explained (Chalmers, 1995).

This research is devoted to the investigation of conditions and practices that can advance leadership consciousness in applied, practical terms. In other words, are there a series of behaviors, that when practiced, could offer a qualitative experience of enhanced awareness that activates areas of the brain associated with advanced neurological functioning? For the purposes of this investigation, we intend to build upon the latest neurological and humanities research in consciousness to advance the understanding of what types of contexts in leadership training may give rise to advanced leadership efficacy.

According to Walach (2007), there is a central debate about whether mind and consciousness are identical with (Armstrong, 1968), reducible to (Churchland, 1995), a derivative of (Dennett, 1991), emergent from (Bunge, 1991) matter or not (Chalmers, 1995). The aforementioned authors have taken their respective stances on the materialist perspective in an attempt to tackle the “hard” problem of consciousness. However, these reductionist positions do not address concepts such as the private conscious experience (Chalmers, 1995) the

phenomenology of the mind (Varela, Thompson, & Roshe, 1991) or quantum mechanics (Schwartz, Stapp, & Beauregard, 2005). The matter is complicated further by the fact that these non-reductionist perspectives rarely distinguish consciousness by the individual, personal consciousness, or transpersonal, universal consciousness.

Neuroscience and Consciousness

Neurobiological approach to consciousness. Prominent cognitive neuroscientist Stanislaus Dehaene (2014) reports, “Consciousness is bringing wide information sharing. The human brain has developed efficient long-distance networks, particularly in the prefrontal cortex, to select relevant information and disseminate it throughout the brain” (p. 161). Dehaene adopts Baars’ (1998) global workspace model of consciousness, which explains that unconscious processors work in parallel to give the most detailed and complete interpretation of the external environment with a “single conscious decision-maker” that concludes the best interpretation. This popular model of consciousness processing purports, “It seems to be a major function of consciousness to collect the information from various processors, to synthesize it, then broadcast the results – a conscious symbol– to other arbitrarily selected processors” (Dahaene, 2014, p. 105). This implies that conscious experiences are shaped as much by inhibitory as well as activation functions.

Dehaene (2014) further states that information “becomes conscious” when it is broadcast widely through the brain, allowing forms of cognitive performance that are otherwise unattainable such as delay of reflex to stimulation, inhibition of habitual behavior, the creation and evaluation of innovative strategies and advanced semantics. The neural workspace model argues that consciousness is a neurological processing function and challenges previously accepted ideas of “phenomenal consciousness” (he argues this is “pre-scientific”) into functional

reductionist terms. Thereby, if one can access the neurological information processing areas in the brain, then consciousness has been found. This postulation begins with the brain and how it gives rise to experience. However, this “access consciousness” does not explain some of the more philosophical components of the body-mind integration, which are inherently first-person experiences and not amenable to third-person observation.

Conversely, Block (1995, 2011) purports just the opposite- that phenomenal consciousness (what it is like to have an experience) has far greater capacity than access consciousness (what can be reported). Some have highlighted the difficulties of finding a place for the mind in a world that is fundamentally physical (Kim, 1998), whereas others have suggested that living organisms possess something beyond a biochemical process – a particular ‘vital’ element that has no material manifestation and is, therefore, difficult to measure (Bergson, 1988). Such processes would be of a different logical kind, and (as many argue) remain invisible to neuroscientific analysis.

Whether subjective, introspective, first-person data is considered a viable means by which to gain insight into consciousness is contentious and thus takes us back to the “hard problem” of this inquiry. It essentially asks, how do physical states give rise to subjective experiences? Why are some neural mechanisms (but not others) associated with consciousness? These questions seem to defy scientific explanation and pose the quagmire of the current state of research. This debate has implications for whether intersubjective sciences like cognitive-behavioral therapies and mindfulness practices are valued and considered “experiential neuroscience,” where first and third-party data are treated as valuable and complimentary. However, as Searle (1992) contends, “Consciousness consists in the appearances themselves.

Where appearance is concerned, we cannot make the appearance-reality distinction because appearance is the reality” (p. 121).

Integrated information theory. Integrated information theory (IIT) of consciousness (Tononi, Gosses, & Laureys, 2009) seeks to approach the hard and easy problems in a different way. Unlike the global workspace theory, it begins with the phenomenal properties of experience (or axioms as they are called) and infers postulates about the characteristics that are required of its “physical substrate.” The theory was born from a philosophical argument based on phenomenology, which is a first-person study of one’s own consciousness (going back to the Latin genesis of the word “conscientia” - for one’s own knowledge). Tononi presents this as an essential part of IIT’s justification. According to IIT, consciousness is linked to integrated information, which can be represented by a precise mathematical quantity called ϕ (‘phi’). Theorists maintain that this can provide a mathematical framework for evaluating the quality and quantity of consciousness. In short, systems with high phi, such as the aspects of the human brain that support consciousness are highly conscious; systems with low phi have a small amount of consciousness. In associating this numerical value to consciousness, the theory seeks to resolve the easy problem- as those physical states correlated with maximal phi are conscious.

IIT seeks to take first-person perspectives about consciousness and translates it to physical postulates with a precise mathematical measure and tests that measure against third-party observations, which implies a strong connection between the mental and physical realms. Tononi is clear that the first-person, experiential perspective on consciousness can never be replaced by any third-person, purely neurological perspective. If this relationship could be better understood, we may see great advancements in the hard problem of consciousness and how physical processes can give rise to subjective experiences.

IIT has radical implications. If IIT is proven to be valid, we could see a future with a ‘consciousness-meter’ that extrapolates levels of consciousness; from comatose patients to infants, from animals and plants to AI. Furthermore, there appear to be some practical implications (albeit a slippery slope) for reliable ways to measure consciousness- from whether someone is in a vegetative state (and effectively dead), how much awareness a person with dementia has, when a fetus develops consciousness, how much animals perceive, or even whether a computer can feel. If it is validated, IIT may also prompt a reconsideration of how widespread consciousness is in nature and at what physical scale it may occur (Tononi, Boly, Massimini, & Koch, 2016). It remains to be seen whether IIT’s first-person approach can withstand the intense empirical scrutiny and philosophical criticism that it will endure gaining traction as a viable, integrated theory of consciousness.

Whether awareness really depends on qualitative neural processing or rather is a straightforward neurological function of variables such as amplitude and site is a major empirical question for the future (Zeman, 2004). It is beyond the scope of this research to advance the understanding of the juncture between first and third-person consciousness. However, there are some intersections where neuroscience advancements meet humanities research that seem to be tracking in similar directions.

Organizational Neuroscience and Neuro Leadership

One emergent body of research that looks to reduce the aforementioned scientific understandings in consciousness and apply them to leadership is the field of organizational neuroscience and neuro leadership. The work of Ringleb and Rock (2008) asserts that theories of behavior and leadership are advanced and fortified by the understanding of neurology and that behaviorism and humanism alone are inadequate solutions for long-term change (Rock &

Schwartz, 2007). It attempts to marry the “soft” science of leadership with the “hard” discipline of neuroscience. Coined by author and global leadership consultant David Rock, neuro leadership “focuses on how individuals in a social environment make decisions and solve problems, regulate their emotions, collaborate with and influence others, and facilitate change” (Ringleb & Rock, 2008, p. 87). They continue by explaining that human behavior in the workplace doesn’t work the way many perceive it does, which explains why many leadership efforts and organizational change initiatives “fall flat” (Rock & Schwartz, 2007). As such, they have outlined the following domains of neuro leadership: the ability to solve problems and make decisions, the ability to regulate emotions, the ability to collaborate with others, and the ability to facilitate change.

Proponents of this theory are quick to tout the upside of this perspective and look to leverage recent advancements in cognitive neuroscience to influence mindful change that takes into account the physiological nature of the brain- and explains why some embrace particular forms of leadership and resist others. These theorists share the following conclusions: that organizational change results in pain because it evokes physiological discomfort; that behaviorism is ineffective and rarely succeeds in the long run; that the act of paying attention creates chemical and physiological changes in the brain; that people’s expectations have a significant impact on current perceptions; and focused attention can lead to long-lasting personal evolution (Rock & Schwartz, 2007). They summarize that brain science points us toward focusing people on solutions instead of problems, allowing them to come to their own answers and keeping them focused on their insights.

However, there are researchers who make strong arguments that caution the unchecked use of this approach. Lindebaum and Zundel (2013) explain that organizational neuroscience is

largely based in reductionism in hypothetical terms, yet advances in technologies have “turned the reductive ideal into a seductively tangible possibility” (p. 871). They caution that the reductive model leads to some research design and analysis issues and, at the present time, that it’s uncertain whether effective leaders can be identified and developed via neuro-scientific methods. They underscore some limits of this approach, including the contextual nuances that render a leader effective in one situation but not another (Lindebaum & Fielden, 2011) and that the theory also neglects that human behavior is essentially relational, rendering social phenomena, such as specific leader–follower exchanges, irreducible to the thought processes of one individual alone. They warn that the brain level is not always the ultimate cause of human behavior, but merely one part of more complex, unfolding processes. Authors Jack, Rochford, Friedman, Passarelli, and Boyatzis (2017) warn that it is dangerous to take neuroscience as a replacement for established methods. In summary, opponents explain that it is not a question of whether or not, but how and when neuroscience will inform and shape the future (Farah, 2005) and that future investigations should include rigorous standards on how neuroscience is used by organizational scholars.

Psychology and Consciousness

Though the concepts of “conscious” and “unconscious” are by no means Freudian terms, he is often associated with the popularization of these explorations and made some key additions to the psychological understanding of these ideas. Freud (1915) contended that the unconscious mind consists of mental processes that are inaccessible to the conscious waking state, but influence behavior, perceptions, feelings, and judgments. He purported that lives are greatly governed by past experiences and stored in the unconscious aspect of the mind. His triad of id, ego, and superego comprise the components of the human mind; the id is regarded as totally

unconscious while the ego and superego are associated with conscious, preconscious, and unconscious aspects. While it has proven to be difficult to empirically examine these assertions, and modern research has revealed the limitations of the Freudian theory of the unconscious mind (T. D. Wilson, 2004), the theory has provided some foundational basis for understanding the complex aspects of the human psyche.

Constructivism. The modern psychological study of consciousness in developmental terms dates back to the foundational work of Jean Piaget (1948, 1954) on the cognitive development of children and adolescents. He called this “genetic epistemology”—the genesis or successive unfolding of the capacity for rational thought in the developing child. Piaget contended that humans evolve their meaning-making systems in a gradual, organic way. He explained that throughout the lifespan, these systems become more complex to create increasingly differentiated versions of self and other. He astutely noted that we constantly refine and adapt the understanding of ourselves and the world through feedback loops from experiential sensory data. He argued that individuals assume that their “mapping” of reality is accurate and thus limits developmental potential. However, new data that is incongruent with one’s meaning-making structures can help advance and upgrade to a different meaning-making system. These opportunistic, emergent moments construct Piaget’s developmental stages. In the decades since lifespan development, literature has supported that earlier meaning-making becomes integrated into more complex and comprehensive later ways (Basseches, 1984; Berg & Sternberg, 2003; Moshman, 2003; Sinnott, 1996).

Theory of levels of existence and spiral dynamics. Theorists following Piaget’s work looked to advance his mostly cognitive-based understanding of human development and incorporated a more comprehensive model of understanding. Clare W. Graves (1970)

contributed his “Theory of Levels of Existence,” whereby he outlined eight distinct stages of human development that are elicited through socio-environmental circumstances that perturb an individual (or system) into evolving beyond the current context of operation into the adoption of a more dynamic and complex stage. His 30 years of close observation of subjects brought him to the conclusion that humans evolve in a regressive-progressive fashion. He proposed that the movement into a higher level of living occurs when the current level of existential problems is solved and presents an opportunity for advancement (Graves, 1974). Furthermore, he purported that development advances when the pressure of the current conditions create regression- and these signs of decay precede the “spurt like” move into a higher level of organization and reorganizing growth (Graves, 1974). One outstanding component of this theory is that it goes beyond the application to the individual and into collective, resulting in a more rich and expansive application. Much like the ancient Mayan philosophies, he believed that all the beginning stages continue to be accessible at the higher stages and that the goal is not to attain the highest stage, but to meet current circumstances with the most helpful, cognitive mindset that face an individual or group (Graves, 1970).

We can, therefore, see that our time at each level of existence is divided between an embryonic period of identifying the values needed to solve the new existential problem, a period of implementing the values toward the solution of the problem, and a period of values breakdown following the successful solving of the problem. It is this final phase of breakdown which causes such periodic dismay in society, but dissolution is necessary so that man can be free to recognize new existential problems. (Graves, 1974, para. 39)

Graves was influenced by others in the field of transpersonal psychology and, in particular, Abraham Maslow’s (1962) work and his system of the hierarchy of needs. This

approach uses a five-level pyramidal structure to map the evolution of human needs: physiological, safety, love and belonging, esteem, and self-actualization (aka transcendence). According to Maslow, humans are continually evolving from one level to the next, in an “open” way with no limitations and a matter of “non-interfering receptive perception versus active controlling perception, enlarging consciousness, the ineffable experience” (Maslow, as cited in Graves, 1970, p. 155).

Graves was unable to further develop the theory due to ailing health. However, theorists Beck and Cowan (1996) aimed to advance these foundational concepts and integrated them into their work entitled *Spiral Dynamics*. They explain that spirals are “expansive, open-ended, continuous and dynamic” (p. 5) and functionally and visually represent the development of consciousness. Beck drew upon the work of his mentor by stating:

A spiral vortex best depicts the emergence of human systems, or memes, as they evolve through levels of increasing complexity. Each upward turn of the spiral marks the awakening of a more elaborate version on top of what already exists, with each meme a product of its times and conditions. And these memes form spirals of increasing complexity that exist within a person, a family, an organization, a culture, or society. (Beck, 2002, p. 9)

With the apparent blessing of their mentor, the authors further developed the theory and popularized its use in organizational leadership and transpersonal psychology realms. They explained the eight stages as following (Beck & Cowan, 1996):

1. Automatic: motivated by survival and physical imperatives.
2. Tribalistic: seeking social stability and the use of totems and taboos.
3. Egocentric: individualism and the use of force to acquire objects of desire

4. Sainly: recognition of the value of rules, marked by a focus on religion.
5. Materialistic: authoritarianism, dogma is secondary to pragmatism.
6. Personalistic: concern with belonging, concern for others.
7. Cognitive existence: on the threshold of true humanity.
8. Experiential existence: beyond animal needs, drive to make life stable.

Integral theory. In the time following the dissemination of this work, the authors had an apparent split in their partnership, and the concept of spiral dynamics was interpreted and integrated into the work of Ken Wilbur. His theory of Integral Life posits a theoretical overlay that is inclusive of the previous theoretical contributions. Since Piaget's seminal work, Wilbur (2000) perceives that research in the field has barely managed to go beyond his cognitive conceptualization of human development and contemporary models of remain in a staged, hierarchical construct. His integrated format is an attempt to better explain the dynamic socio-political, qualitative, and quantitative forces that influence the progression and evolution of human and organizational consciousness. Wilbur's work with the Integral Institute has been credited with spreading developmentally-informed perspectives to the most vexing societal challenges (Cook-Greuter, 2004). This work recognizes the influence of philosophy, mysticism, and developmental research on a staged approach to human development and proposes a spectrum of consciousness (Wilbur, 1983) that spans from neonatal and infancy to adolescence and into advanced levels of maturity and wisdom.

Integral theory purports the following at each stage of development: a higher-order emerges in consciousness; the self identifies its being with the higher holarchy; the next higher-order structures eventually emerge; the self dis-identifies with the lower level and shifts its essential identity to the higher structure (Wilbur, 2000). In sum, consciousness transcends lower

level structures and can integrate the earlier levels- each successive level is more complex, organized, and unified.

Developmental theory. During a similar time-period that Graves was developing his work in the 1960s and 1970s, Jane Loevinger made some foundational contributions to the understanding of human development. She perceived that the ego is a frame of reference by which we interpret and interface with the world (Loevinger & Blasi, 1976). She created a developmental model of nine sequential stages, each representing progressively more complex and dynamic ways of perceiving oneself in relation to others. Each stage is more differentiated and dynamic in its capacity to navigate the complexities of life (Cook-Greuter, 2004). The stages build upon one another, and each frame of reference builds upon the previous one and that some people reach a plateau, and others continue to integrate and evolve (Loevinger & Blasi, 1976). A summary of Loevinger's stages include (Locke, 2007):

1. Pre-social and symbiotic stage: this is seen typically during infancy and focused on gratifying immediate needs.
2. Impulsive stage: primarily during the toddler years, but can be longer; focused on bodily sensations, basic impulses, and immediate needs, which are primarily fulfilled by others.
3. Self-protective stage: primarily in early and middle childhood; has an awareness of cause and effect, rules and consequences, focused on satisfying their own needs and desires.
4. Conformist stage: primarily found in middle to late childhood and into adolescence; focused on the approval of peer groups, are simple, rule-bound, and moralistic.
5. Self-aware stage: most common stage among adults (in the United States); they are aware of the uniqueness of their own feelings and motives and begin to contemplate topics such as spirituality and religion, morality, mortality, love, and relationships.

6. Conscientious stage: focus on the pursuit of high ideals and goals; tendency toward self-evaluation and self-criticism as well as experiencing (and expressing) one's own feelings in more accurate and differentiated ways; increasing concern with mutuality and empathy in relationships.
7. Individualistic stage: focus on deepening aspects of relationships, including tolerance and respect for the autonomy of self and others, which can lead to an awareness of inner conflicts and paradoxes.
8. Autonomous stage: focus on heightened respect for the autonomy of self and others where unique paths are encouraged and celebrated; relationships are seen as an interdependent system of mutual support; a tolerance for the unknown, including acceptance of inner and external conflicts as inevitable facets of life.

Constructive developmental theory. Another way to answer the hard problem of consciousness is through the application of constructive-developmental theory- a stage theory of adult development whose focus is the growth and expansion of a person's ways of understanding the self and the world—coined by psychologist Robert Kegan (1994), who believes that the complications in modern life require more than the development of specific skills or cognitive mastery of subjects; that we are charged with making “demands on our minds, on how we know, on the complexity of our consciousness” (p. 5). Kegan expands on this idea by explaining that consciousness development is a challenging and difficult process that is brought about by experiencing a gap between the leaders' current meaning-making structures and the complexity of the problem one is facing. Kegan (1982, 1994) purports that a key principle at the epicenter of adult development is a concept he calls subject-object. He explains that each phase of consciousness can be defined in terms of what the individual can see and perceive (objects of

awareness) and the lens by which the individual sees through (to which one is subject). Kegan (1982, 1994) and Kegan and Lahey (2009) revealed an important principle at the core of the adult development process that he calls the subject-object. He observed that each stage of consciousness could be more clearly defined in terms of what it allows the individual to see (objects of awareness) and what the individual sees through (the lenses through which one sees or to which one is subject). According to Kegan and Lahey (2009),

consciousness development occurs when one is able to look at what before one could only look through so that a way of knowing or making meaning becomes a kind of ‘tool’ that we have (and can control or use) rather than something that has us (and therefore controls and uses us). (p. 51)

Kegan adopts Winnecot’s (1965) idea that development can be facilitated by “holding environments,” which proposes that the evolution of meaning-making is a life history of holding environments or cultures of embeddedness. These holding environments serve to (a) illuminate the meaning-making involved in a particular circumstance, (b) assist to elucidate the limitations to these meaning structures and differentiate themselves from it, and (c) help integrate more encompassing subject-object, meaning-making experiences from which they had previously differentiated themselves (Kegan, 1982, 1994).

Unlike the access theory of consciousness, Kegan argues that human development cannot be considered independently of the social environment in which they develop. These lifelong contexts provide a milieu by which we internalize ways of thinking, perceiving, and acting in environments that shape the vision and view of ourselves, others, and the world. The continuation of adult development requires exposure to environments that encourage challenging

of beliefs, “which hold us (with which we are fused) and which let go of us (from which we differentiate)” (Kegan, 1982, p. 116).

Psychologist William Torbert (1987), an early proponent of developmentalism, further advanced these concepts by creating a typology to these stages. The stages of consciousness attempt to incorporate various meaning-making structures accumulated throughout one’s life to continuously adapt and fulfill one’s potential (Baron & Cayer, 2011). Cook-Greuter (2004) explains that adults mature in a way that integrates earlier understandings into more complex meaning-making systems and that each of these stages has a cognitive, affective (or emotional) and operative components (Cook-Greuter, 1999; Wilbur, 2000). Additionally, each stage is linked to a particular worldview, determines one’s emotional stance, needs, goals, deeper intention, and meaning of life (Cook-Greuter, 1999).

Cook-Greuter (2004) explains further that “development refers to transformations of consciousness” (p. 3) and that developmental theory share the following assumptions: that a leader’s stage of development influences what they perceive and are aware of and thereby, what they are able to describe, articulate, influence and change; as development advances, flexibility, tolerance for difference, reflection, adaptability increase while defensiveness decreases; those who have reached advanced stages can touch into earlier worldviews, but those at an earlier stage can only momentarily experience more advanced perspectives, and that development is encouraged between the opportunity provided in the environment and the appropriate encouragement to rise to the challenge. Cook-Greuter concludes with the assertion that though leaders may have momentary access to a range of action-logics, that they tend to function from the most advanced version currently available to them or their center of gravity. She explains that

under distress, leaders tend to digress to earlier stages of behavioral patterns. However, perception associated with later stages than one's center of gravity is rare and fleeting.

The hierarchy of the stages of consciousness is composed of four main levels, known as pre-conventional, conventional, post-conventional, and transcendent (Harung et al., 2009; Miller & Cook-Greuter, 1994;). Each stage of consciousness (or action logic) will be described using Torbert's typology (1987, 1994, 1999, 2004), which is well-documented in leadership development studies.

Though usually attained in childhood, pre-conventional stages comprise 5% of the leadership population (Rooke & Torbert, 2005) and are characterized by opportunist, impulsive, self-protective behaviors, driven by the need for safety. This stage does not have the affective maturity or cognitive capacity to meaningfully participate in higher-order contexts (Baron & Cayer, 2011). Conventional stages comprise nearly 80% of the leadership population and are characterized by the adaptation to social rules, values, and conventions. Within this level are sublevels dubbed Diplomat, Expert, and Achiever and are characterized by overall conformity with social rules, values, and perceptions. The Diplomat stage is marked by a drive for affiliation and expectation of obedience and compromise. In the Expert stage, where 38% of managers find themselves (Rooke & Torbert, 2005), the drive for affiliation is met by adding unique perspective and contribution to the group- to the detriment of distance from the perspectives held by established authorities and experts. The 30% in the Achiever stage is represented by a personal integration of the conventions; however, they tend to base their sense of self on their ability to control their environment and are not receptive to acknowledging the limitations of their mental models (Baron & Cayer, 2011). As such, they are not seen as open to shifting their more fixed ways of thinking, perceiving, and acting.

Post-conventional stages account for 15% of the leadership population (Rooke & Torbert, 2005) and are classified as the Individualist, Strategist, and Alchemist and as a group, are marked by their capacity to question assumptions and enhance existing rules, are capable of managing complex issues, interface and consider the needs of various stakeholders and are proactive and self-starting (Cook-Greuter, 2004; Marko & Combs, 2011; Pfaffenberger, Marko, & Combs, 2011; Rooke & Torbert 2005). It is purported at these stages, that the individual is motivated by altruistic and existential drivers and openly question meaning-making structures and conventional assumptions. Without the need to control their environments, post-conventional individuals are also better able to recognize and deal with the organic rhythm, autonomy, ambiguity, and interdependence of systems (Koplowitz, 1984).

Rooke and Torbert (2005) explain that the rare 4% who advance to the Strategist and Alchemist are emissaries of organizational learning and have the capacity to create systematic, long-term organizational development. These stages, where the ego has been *transcended*, have been scarcely studied by developmental psychologists (Alexander et al., 1990).

There are some notable skeptics that speak out about adult developmental theories in their prejudice that confer a higher value on people in “advanced” stages. Authors such as Wilbur (2000) are particularly critical of the perceived limitations in the stages that are related to social and global problems. However, other authors such as Baron and Cayer (2011) note that one of the advantages of this model is that there are practices that can give access- even temporarily- to higher stages of awareness and complex perspectives that make these theories more fluid and accessible than fixed typologies.

Support for post-conventional development. A significant amount of research has been devoted to the importance of advancing leadership consciousness (or ego development), as

advanced stages have been found to have a significant impact on the ability to handle complex issues, conduct change and support innovation (Blank, Harung, Heaton, & Travis, 2009; Fisher & Torbert, 1991; Rooke & Torbert, 1998, 2005). In general, post-conventional managers appear to be more flexible, innovative, and successful than their conventional counterparts (Baron & Cayer, 2011; Harung et al., 2009; Rooke & Torbert, 2005). Their ability to manage complexity, reappraise conventions, and deal with different stakeholders makes it easier to implement change, promote new ideas, and develop collaborations. Post-conventional stages have also been associated with a higher organizational as well as individual performance, and greater capacity to adapt one's style of leadership to different types of situations (Joiner & Josephs, 2007; Rooke & Torbert, 2005).

Researchers Rooke and Torbert (1998) examined ten longitudinal organization change efforts. Of those studied, seven resulted in transformational change, and five of these were led by those at advanced stages of post-conventional leadership. They concluded that the correlation between CEO developmental order and degree of transformational change was significant. Kuhnert and Lewis (1987) conclude that later stage leaders may be more able to inspire and empower their teams toward transformation. Furthermore, Cook-Greuter (2004) writes that post-conventional leaders have the capacity for more “integrated and complex thinking, doing, and feeling” (p. 6). She notes that those who embrace these advanced action-logics tend to have a more adaptive and expansive organizational perspective in a multitude of contexts. Finally, Torbert (1987) and Rooke (1997) note that companies run by post-conventional leaders perform better than their conventional counterparts.

Additionally, an early study conducted by authors Merron, Fisher, and Torbert (1987) supports the argument that leaders who have reached advanced stages of consciousness are better

facilitators of organizational learning. They conclude that leaders at higher stages are more likely to redefine the problems they face, are capable of questioning assumptions when defining a problem, and consider the underlying problems of current challenges whereas those at earlier stages tend to treat current problems as isolated events and address proximal rather than root causes.

Furthermore, Bartone et al. (2007) conducted a more recent four-year longitudinal study of West Point college students and concluded that conscious development was a predictor of peer, subordinate, and supervisor ratings of performance efficacy. The researchers posit that leadership development programs that focus on skill acquisition while ignoring psychosocial development are not likely to achieve the desired results. In this vein, authors Strang and Kuhnert (2009) report that advanced stages of consciousness were associated with more effective leadership performance as displayed in 360-degree feedback scores. Authors L. Harris and Kuhnert (2008) found similar results, specifically that those who led from a higher action-logic were experienced by peers and subordinates as more efficacious in all dimensions of leadership performance- namely- leading change, developing talent, creating a vision, and managing performance.

Finally, for those looking to understand how these stages correlate to performance in relation to revenue and profits, Eigel (1998) concludes a strong correlation between managers' mental complexity and competency on the job. He examined CEO's and middle managers of companies with gross revenues of over \$5 billion and found that these individuals had the unique capacity to inspire a shared vision, challenge assumptions and existing processes, problem solve, manage conflict, empower team members, and build trusting relationships- all of which are correlated with their ability to successfully lead their companies into robust fiscal outcomes.

Developmental theories of leadership are highly correlated with Bass' (1988) theory of transformational leadership. As Bass and Avolio (1993) explain, transformational leadership's Four I's: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration move far beyond a transactional model and moves followers to transcend their own self-interest for the sake of the team and to move followers to address higher-level needs.

Authors Bass and Avolio report that though transformational leadership is practiced at all levels in an organization, it is more likely to be found at higher levels. Researchers Tichy and Ulrich (1984) also conclude that transformational leadership is more readily found at higher organizational levels and that lower-level managers are more likely to adopt a transactional leadership style. In order to continue to be relevant, organizations need to continuously strive to invest in their workforce to support continual growth with an emphasis on learning (Northouse, 2016). There is strong evidence that although transactional leadership can be effective for motivating followers, transformational leadership is more strongly related to advanced leadership efficacy, such as follower satisfaction and group productivity (Lowe, Kroeck & Sivasubramaniam, 1996).

There are, however, some notable limitations to the research presented in favor of post-conventional leadership advancement. Several of the studies based on the Kegan or Loevinger/Torbert frameworks have utilized small sample sizes and is likely due to the complexity of the psychometric tools they employ. The sentence completion tests, such as the WUSCT or LDP, require extensive training and are labor-intensive to use. Furthermore, the study samples were also noted for their cultural homogeneity, with very little focus on leadership outside of the United States. Since constructive-developmental theory originated from a Western perspective, it does not yet have a strong cross-cultural reach (McCauley, Drath, Paulus,

O'Connor, & Baker, 2006). Finally, most research to date has been focused on individual developmental order, and the field would benefit from moving into leadership dynamics in groups, teams, and organizations.

Advancing Leadership Consciousness

Both historical and current research suggests that those who lead from a post-conventional stage of consciousness are associated with the ability to foster organizational learning and change and advanced performance. However, large-scale studies (Cook-Greuter, 2004) utilizing the Leadership Development Profile ($n = 4510$) shows that approximately 85% of respondents in the working population are not functioning in the post-conventional stages. Prominent thinkers and researchers are making a strong argument for the need for a new set of leadership capacities as society moves further into a “smart machine era” (Hess & Ludwig, 2017). Notable contemporary thinkers such as Yuval Harari explain that with the emergence of biotechnology and artificial intelligence, advancements in human consciousness are required in order for the human race to remain relevant and useful (2018). And though organizations cannot force human advancement in an area as intricate and nuanced as ego development, it is worth investigating the best means and contexts to support the progression to higher stages and harness the innate human intelligences.

Cook-Greuter (2004) explains that most adult learning and development are aimed at expanding and enriching the current way of meaning-making with a set of skills, competencies, and behaviors. However, recognizing and reframing individual and collective meaning structures doesn't help us go beyond these structures. Instead, combining it with a combination of the psychology of perception, phenomenology, and spirituality suggests that we suspend preconceptions and improve connection with our present time experience (Baron & Cayer,

2011). Cook-Greuter (2004) suggests that beyond a “lateral” set of skills and capacities, that advancement also requires “vertical” development. This rare form of development refers to seeing the world with a novel vision and willingness to change the interpretations of our experiences to expand the view of reality. She contests that transformations in human consciousness toward broader perspectives are vastly more important than any amount of horizontal development.

The present investigation proposes that vertical development (i.e., physical and spiritual cultivation) facilitates new insights and perspectives to become laterally (i.e., emotional/relational and creativity/innovation) integrated into new ways of behaving. This is an inside-out approach where the ready to transform leader first commits to an inward journey and then applies these new perceptions into external environmental and organizational shifts. The following section is dedicated to theoretical investigations and practical implications- mostly in the realms of constructive developmental theory, backed by research in the physical sciences and leadership studies- for advancing leadership consciousness.

Inward Shifts

As previously noted, stage theorists (Cook-Greuter, 2004; Graves, 1974; Loevenger, 1976; Wilbur, 2000) concur that leaders often face challenges in their current meaning-making systems, where their center of gravity and perspective is no longer sufficient to meet current challenges. Specifically, Graves (1974) explains that dissonance occurs when there is a breakdown of current existential problems, often resulting in a crisis. He explains that a shift to a higher-order system stems from the biochemical changes that ensue during the regressive search for old ways to answer new problems. Graves purported that this search ends, and access to the

new system becomes available when insight emerges. This insight enables the capacity to solve the new problem, but insight alone is insufficient to step to the next level.

Authors Torbert and Associates (2004) advocate for the practice of action-inquiry. This is a disciplined approach to integrating action and inquiry in the present moment that supports individuals, groups, and organizations to become more capable of self-development. According to McCauley et al. (2006), action-inquiry requires individuals to attend to three levels of data: internal (first-person) subjective, data generated in relation to others (second-person), and external objective data (third-person). These authors report that action-inquiry is a process by which individuals can notice and come to understand the limits of their current meaning-making structure.

Similarly, Bohm and Edwards (1991) and Bohm and Peat (1987) encouraged the importance of critically examining collective assumptions in order to advance ways of thinking and behaving that are more creative and adaptive to meet the complexity of the current systems. Bohm added that the majority of collective knowledge is riddled with misinformation, which infects the human experience and contributes to the *endarkment* of human consciousness. The implication is that development is advanced by suspending, examining, and refining the meaning structures or mental models in favor of more direct contact with the present reality.

Building upon Graves' foundation, constructive-developmental researchers Rooke and Torbert (2005) have investigated circumstances that can encourage a leader's transformation into the next developmental level according to new challenges that highlight limitations on an individual's current meaning-making structure. Specifically, they cite that personal changes can spark the search for new perspectives- that these changes may take the form of new relationships or new forms of spiritual practice, centering or self-expression, such as playing a musical

instrument or practicing tai chi. The new perspective that these practices offer helps shift the ready to change leader into a new vantage point that helps embrace novel awareness and new ideas. This perspective is also reflected in Peter Senge's (1990) assertion that challenging mental models is one of the disciplines of advanced leadership.

Similarly, Fisher, Rooke, and Torbert (2005) reported that the attainment of post-conventional stages requires expanding individual and contextual awareness instead of operating under unquestioned assumptions, trends, and habits. Baron and Cayer (2011) explain that one way to attain this expansion is through the use of mindfulness techniques. These direct sensory experiences have been found to be potent to hone non-conceptual awareness of the physical, emotional and mental experiences in the present moment and essential to the development of post-conventional leaders (Joiner & Josephs, 2007; Rooke, 1997; Rooke & Torbert, 2005).

Sinclair (2015) explains that mindfulness is the ability to cultivate awareness of body, mind, and present. Mindfulness has shown to improve leadership performance in the areas of focus, improved decision making, creativity, innovation, and calm under high-pressure situations. Glomb et al. (2011) explain that leaders who practice mindfulness report improved self-regulation, to enhance social relationships in the workplace, greater resiliency in the face of challenges, response flexibility, empathy, and increase task performance. Thompson (2018) reports that leaders who integrate mindfulness in the workplace experience greater adaptability and an enhanced capacity to rise to the occasion of high-stress situations. The integration of mindfulness into the workplace has proven to enhance leadership performance, though measuring and implementing this strategy has been shown to be difficult. Implementation of mindfulness practices in the workplace, without religious or dogmatic messages, has been shown to decrease stress and improve several valuable aspects of leadership skills. Though much of

these practices are encouraged outside of the workplace, organizations would greatly benefit from finding creative ways to introduce these tools such as Google's "Search Inside Yourself" program.

Mindfulness practices are now incorporated in leadership development workshops in numerous reputable organizations, including General Electric, Google, Apple, IBM, Starbucks, Goldman Sachs, Pfizer, US Air Force, Mayo Clinic, Procter & Gamble, and AT&T (Brendel et al., 2016). In a recent study by Brendel et al. (2016), participants in the mindfulness practice condition demonstrated a significant increase in promotional regulatory focus, a desirable habit of mind marked by enhanced creativity, and a greater likelihood of taking chances and a substantial reduction in anxiety. Authors explain that mindfulness practice is also strongly related to stress reduction, an ability that can liberate a leader's mental resources to deal with unanticipated obstacles and setbacks. Of all of the aforementioned domains, mindfulness has been the focus of much investigation with ample evidence that incorporation of these practices has a positive impact on leadership performance.

Accordingly, the inclusion of new forms of physical practices to expand somatic intelligence and provide the benefits of stress reduction have been proven to benefit the evolving leader. Those who are physically fit and with healthy lifestyle habits support them to meet the demands of high-pressure circumstances and mitigate the negative impact of stress. Those at the forefront of solution-finding for complex issues are often under high levels of stress from excessive demands that lead to physical health problems, depression, and job insecurity (Moore et al., 2004; Murphy & Pepper, 2003). There is also ample evidence to indicate that chronic, unmanaged high job demands result in exhaustion and, ultimately, job burnout (Lovelace et al., 2007; Schaufeli & Bakker, 2004). While all employees experience work stress, leaders tend to

have particularly stressful jobs due to the high levels of demands and responsibilities associated with the leadership position (Hambrick et al., 2005; Sparks et al., 2001).

High demand jobs lead to high-stress responses from leaders that, in turn, negatively impact job performance as well as physical and mental health (Lovelace et al., 2007). Regular exercise not only staves off the negative effects of high pressure, high output positions, but can also enhance leadership performance to optimal levels (Neck et al., 2000). Additionally, research demonstrates that exercise can enhance cognitive and affective performance (Hogan et al., 2013). Linkages between regular exercise and enhanced leadership performance appear to be obvious and natural. However, exercise regimens are not currently integrated into the regular training and development of leaders at the academic level or the corporate level. Without integration into the infrastructure of these institutions and organizations, these findings wind up merely becoming recommendations outside of work hours and other responsibilities.

According to studies in neuro leadership, Amsten's (2007) Yale Lab has investigated the catecholamine ("flight or fight") hormones norepinephrine and dopamine's modulation of the prefrontal cortex (PFC). Apparently, stress exposure leads to the rapid loss of PFC capacities. Conversely, in low-stress environments, fMRI scans show concentrated activity in the PFC. This research indicates that high stress shifts brain activity from the PFC (associated with advanced executive functioning) to the amygdala (associated with primal, basic life functioning). However, and an individual's control over a situation (even perceived or illusory) shifts blood flow from the amygdala to the PFC (Amsten, 2007, 2008). Though these reflexive abilities may be advantageous in life or death circumstances, they impair the advanced decision making required in high-pressure organizational environments. Additionally, chronic stress further creates physiological changes in neuronal functioning, and further inhibitory PFC capabilities kill

neurons in the hippocampus, which are associated with verbal, contextual, and emotional memory functioning (McEwan & Lasley, 2002).

External Shifts

Torbert and Associates (2004) have also examined outward circumstances that can advance leadership consciousness, including external events that trigger and support transformation. This could come in the form of a promotion or expanded leadership opportunities to move the individual into a new territory where new capacities are required. Correspondingly, Hungarian psychologist Csikszentmihalyi (1990) introduced the concept of the “flow state,” meaning the achievement of optimal performance or the sense of “being in the zone.” Csikszentmihalyi argued that in order for us to be in flow, we need certain levels of two separate elements: personal skills and presenting challenges. If we are highly skilled and the presenting challenge is low, we become bored; if the presenting challenge is high and the skill level is low, we become anxious. We need the right amounts of both mental challenges and skills to tap into a neural state that allows us to become optimally productive and creative.

Additionally, Torbert and Associates (2004) cite that changes to a leader’s work practices and environment can also facilitate stage-transformation. These can come in the form of organizational and process changes by which the advancing leader’s newly acquired insights can be supported by open-mindedness, critical feedback, and constructive debate. Shifts to the organizational milieu can provide psychological safety to help leaders take new risks and fail safely (Dweck, 2008). Rooke and Torbert (2005) explain that communicating about forward-thinking, creative actions from an expanded worldview is critical for the transition to post-conventional development.

Some of the aforementioned practices, namely mindfulness, physical exercise, and action inquiry, could be implemented in the workplace to create a context for such curiosity to support a collective learning mindset. This openness fosters an intelligence that is well-documented in many spiritual traditions called the “beginner’s mind.” This requires the suspension of previously conceived ideas to give direct access to knowledge and basic wisdom (Rosch, 2008). Several authors (Depraz, Varela, & Vermersch, 2003; Gibson, 1979; Rosch, 1999, 2008) report that fostering one’s own consciousness development can happen through experiencing phenomena without mental analysis and that this non-dualistic approach can result in unprecedented creativity. Gibson (1979), a noteworthy psychologist in the field of visual perception, explains that perception is not dependent on conceptualization and a process of attunement with the environment and sensory data that allows one to experience the “structural invariants” without relying on meaning-making structures.

Regarding the support for creative thinking and behavior, a 2010 IBM study of 1400 global organizations reported that creativity is the greatest desired leadership trait of CEOs. Authors Anderson, Potočnik, and Zhou (2014) report that creativity and innovation are key to any organization’s performance to meet the demands of relevancy and dynamism of the changing global marketplace. Their results suggest that organizations that have higher levels of innovation take some key actions, including providing training and employee involvement practices, providing flexible working hours, an emphasis on job variety and autonomy, and display human resource flexibility. Investigators Scott, Leritz, and Mumford (2004) explain that based on 70 prior studies, it was found that well-designed creativity training programs typically result in performance gains and the effects generalize across criteria, settings, and target populations. These researchers are of the belief that expansive, out-of-the-box thinking is

necessary to meet the demands of environmental, social, political, and economic challenges and that future research could be dedicated to the study of the integration of creativity training and relevant strategies and heuristics into practical, realistic contexts.

Developing leaders that are adept at both understanding and managing interrelated complexity and fostering creativity has traditionally been at most a tangential focus of both corporate leadership development and business school education programs (Quatro et al., 2007). These skills include advanced conceptual skills, time efficiency skills, strategic thinking, utilization of technological applications, collaborative design, and systems thinking. Bass (1988) referred to intellectual stimulation when considering the cognitive side of transformational leadership, which involves leader actions geared toward the awareness and problem solving on the part of followers, as well as beliefs and values. Intellectually stimulating leaders help followers to question old assumptions and beliefs to view complex problems and issues in more innovative ways. The increasing relevance of intellectual stimulation at more strategic leadership levels has been considered in the literature. For example, Wortman (1982) described the importance of top-level executives engaging themselves and subordinates in the intellectual task of conceptualizing and articulating a firm's broader environmental context (systems approach), as well as the threats and opportunities posed by that context.

Relatedly, neuroscience researchers have investigated insight, a key component of creativity, innovation, and problem-solving. FMRI scans and electroencephalography has shown that neural activity during a breakthrough problem-solving moment is very different than deliberate, analytical approaches (Subramaniam, Kounios, Parrish, & Jung-Beeman, 2008). They explain that people who reported using an analytical approach to problem-solving showed increased activity in the area related to visual input immediately prior, whereas those who used

insight showed activity related to close associations and remote associations. Additionally, they reported that those who reported a more positive mood prior to the problem-solving experiment were better able to solve problems requiring insight or creativity (Ashby, Isen, & Turken, 1999; Isen, Daubman, & Nowicki, 1987; Subramaniam et al., 2008).

External shifts in leadership development can also take the form of planned and structured development interventions (Rooke & Torbert, 2005). Communities of practice are a way of creating this type of change and the formation of holding environments that encourage networks of leaders to share knowledge, expand members' capabilities and work collaboratively to solve problems (Wenger & Snyder, 2000). Cianciolo, Matthew, Sternberg, and Wagner (2006) argue that communities of practice expose leaders to a myriad of perspectives to stimulate reflection on their own guiding principles and that collectively, they can experience the limitations of meaning-making systems that interfere with change and innovation.

Drath and Palus (1994) describe four processes by which leadership advances through communities of practice, including the individual development of members, which in turn supports the creation of new forms of operation, by which new ways of bringing people into a relationship with one another emerge, which in turn advances the way the community relates to the world at large. Rooke and Torbert (2005) explain that development programs in which leaders challenge their mental models and conventional assumptions about leadership are particularly effective in advancing into a post-conventional stage. They purport that these intense and repeated experiences provide the shock of dissonance that stimulates deeper examination of world views and perspectives. This inside-out approach reinforces and integrates internal changes into external environments to encourage shifts beyond the individual and into the fabric of the organization.

Researchers Kegan and Lahey (2009) agree that leaders have much to gain by taking ownership of their own advancements in consciousness. They explain that this can happen through a critical examination of their meaning-making systems, suspending those structures in order to have more direct contact with present reality or through increased awareness of their own complexity. Kegan (1982, 1984) purports that the support of a peer group is a final critical component of integration, where there is an opportunity to co-construct new and advanced structures. Similarly, Graves (1974) cites that the final step in the integration of new insights occurs when the leader begins to apply and practice new ways of being and operating, which help solidify the higher-level neurological functioning. It appears as though research supports that specific long-term practices that focus on self-reflection, inquiry, and leveraging the reflection and support of others enhance developmental gains (Cook-Greuter, 2004).

Research in neuro leadership also points to the importance of planned developmental changes. Rock and Schwartz (2007) explain that the working memory, the form that operates when we learn something new, is an action of the PFC and consumes a great deal of energy to function. Whereas the basal ganglia, a much older portion of the brain associated with long-standing habit and routine, is much more efficient and requires much less energy to operate. Once a behavior is practiced repetitively, and routinely, it eventually moves from the PFC and into the basal ganglia, which frees up the PFC for new activity and learning. Additionally, when something unexpected occurs (even regarding positive change), the orbital frontal cortex activates to detect the differences between what we expect and what is actually occurring. This structure is located near the amygdala, activates a fear response, and draws significant energy away from the prefrontal cortex, the seat of executive functioning. What we can glean from this insight is that planned rather than unexpected developmental changes can not only serve to avoid

the fear response, but with time, new habits can move to a more efficient portion of the brain to free up the valuable energy of the PFC for higher-ordered thinking and present time processing.

Additionally, advancements in neuro leadership point to the power of focused effort and attention. In 2005, researchers Schwartz et al. applied the concept of the quantum Zeno effect (QZE) to the investigation of paying focused attention to a mental experience. According to the physics law of QZE, atoms-sized particles (such as atoms, ions, or electrons) are affected by the act of observation- the more rapidly and frequently the observation, the less change is noted. They then applied this concept to brain activity and state that the electrochemical thought process is impacted by deliberate focus and that the brain changes as a function of where attention is placed. Furthermore, they report that attention continually reshapes brain patterns (Lafferty & Alford, 2010). The term attention density is defined as the amount of attention given to a mental experience over time. Rock and Schwartz (2007) explain that with sustained attention density, individual thoughts can become solidified into one's identity and can be shaped into new perceptions and ways of being in the world. Neuroscientists call this self-directed neuroplasticity. This implies that planned, focused developmental changes are impactful in part due to the biochemical shifts that occur in the brain.

From a constructivist perspective, Graves (1974) explained that following an insight, a leader must overcome barriers in the form of external factors in order to make the "great psychological jump." These barriers can come in the form of family, friends, and societal norms that hold an individual to previous conceptions and earlier center of gravity. Historically, developing leaders who are attuned to emotional and relational issues have not been a strong focus of either corporate leadership development or business school education programs (Quatro et al., 2007). This omission is quizzical due to the fact that almost all businesses are built upon

the strength of relationships, and these relationships are often predicated on the capacity to navigate the emotional realm of the human experience. Furthermore, Quatro et al. (2007) report that highly attuned emotional leaders are skilled at understanding and managing human emotion as an inevitable phenomenon and leveraging it as a source of energy and shaping influence on follower behavior. Developing emotional intelligence enhances inter-relational understanding and supports emergent collaboration (Goleman, 2010), fortification of relationships, and the strengthening of organizational culture and loyalty (Sinek, 2009).

The emotional domain of leadership can be largely understood by considering how leadership visions become shared with followers. According to Senge (1990), a leader's vision becomes shared when it builds upon a desire on the part of followers to pursue a common important undertaking, and when it connects emotionally to their personal values and visions. He goes on to explain that effective leaders deal not only with the emotional needs and responses of others; they also deal with their own emotions in order to achieve effectiveness. That is, they are able to maintain a connection with their own emotional intelligence. There is some evidence that a leader's emotional abilities and understandings can play a key role in transformational leadership and the attribution of charismatic qualities to a leader (Megerian & Sosik, 1996; Shamir, 1991). The emotionally intelligent leader is able to offset emotional toxicity by maintaining balance and keeping themselves positive and motivated, thereby inspiring others around him or herself (Hatfield, Cacioppo, & Rapson, 1994). Positive emotional contagion can foster collective efficacy and unity (Van Knippenberg, Van Knippenberg, De Cremer, & Hogg, 2004). Additionally, effective leaders are able to manage negative emotions, such as anxiety and fear, thereby showing courage through accepting responsibility, occasional nonconformity, stating potentially unpopular beliefs, and acting as moral leaders (Daft, 2005).

High demand jobs place leaders in strained psychological and emotional states (Lovelace et al., 2007). Research has discovered a strong connection between emotional intelligence (the development of skills such as motivation, empathy, sociability, warmth, and optimism) and leadership performance in the areas of stronger relationships with peers, heightened output, better project outcomes, improved crisis management, increased budgets, and team headcount, being trusted with sensitive information and positive performance reviews (Goleman & Lippincott, 2017). Rosette and Ciarrochi (2005) report that executives higher on EI are more likely to achieve business outcomes and be considered as effective leaders by their subordinates and direct manager. Regression analysis revealed that EI, specifically the capacity to perceive emotions, was able to predict effective leadership. These researchers purport that the cultivation of emotional intelligence is an asset to leaders in major decision making positions who are interacting with various levels of employees, ethnic and racial diversity, gender, culture, and age. They explain that learning to develop interpersonal skills that heighten empathy, sociability, and the ability to authentically connect with others is imperative for conducting business and retaining a high performing team. They conclude with the argument that integrating such tools could improve retention, engagement, cohesiveness, cooperation, collaboration, and morale of the organization.

According to studies in neuro leadership, understanding and managing emotions are integral components of leadership. Goleman (2010) explains that the amygdala is the source of the “amygdala hijack,” an overwhelming fear or anger response. The orbital frontal cortex and the amygdala are the oldest portions of the mammalian brain and, once activated, draw metabolic energy away from the PFC and high-ordered thinking (Rock & Schwartz, 2007). This evidence

supports the importance of regulating reactive neural activity in favor of keeping the advanced brain functions activated and in charge of key decision-making moments.

This compelling evidence bolsters the stance that organizational leadership is enhanced through the inclusion of emotional intelligence training. And though extensive research has been conducted to demonstrate a strong relationship between leadership performance and EQ, future research could be devoted to determining whether EQ has a positive impact on some of the more quantifiable aspects of business and leadership success, namely profitability and fiscal health. Establishing a connection between these aspects could be the kind of convincing evidence that could have business owners seriously consider this recommendation.

The aforementioned practices may offer a solid foundation by which leaders can cultivate greater capacities to meet the uncertain and volatile ecology of our times. These capabilities, in contexts of trusted communities of practice, may serve to encourage the kind of resiliency and stamina required to not just stave off burnout, but rise to these challenges with internal fortitude and external mastery. According to Masten (2018), resilience is defined as the “capacity of a system to successfully adapt to significant challenges that threaten its function, viability, or development” (p. 12). The intent behind this particular combination of practices is to foster the cognitive flexibility, physical endurance and emotional stability required to meet high pressured, even potentially traumatizing, adverse events with an advanced perception that supports leaders to not just “bounce back” in tumultuous times, but continue to persevere and serve their cause day after day and year after year.

Despite the fact that there is multi-modal, inter-disciplinary support for the integration of practices and contexts to support leadership advancement, there are some reasons why these recommendations, regardless of how empirically compelling, could be ill-received.

Organizations of today find themselves at a liminal juncture of traditional and emergent leadership and organizational practices. Though some industries eagerly adopt such innovations, others may be reluctant to encourage a milieu that supports challenging of the status quo that may push the organization to consider the values of all stakeholders, not just those in top executive positions (Baron & Cayer, 2011). The approaches outlined in this paper can serve to redefine relationships and power in organizations from one of obedience to one of shared vision, inclusion, and collaboration. And though some traditional companies and leadership therein may be hesitant to embrace this perspective, many others are increasingly utilizing organizational development approaches based on collective intelligence to solve the complex challenges of our times (Briskin, Erickson, Ott, & Callanan, 2009).

Summary

Investigations into the advancement of human consciousness are one that dates back to the beginnings of ancient civilizations and is an inquiry that has been highly explored in the areas of spirituality and religion, philosophy, hard science, and behavioral science. Though a singular definition of consciousness, let alone how to go about advancing it in the context of organizational leadership has yet to be found, several of the approaches outlined in this literature review point to similarities and parallel findings. The focus of this current inquiry has been on the “hard” problem of consciousness and an investigation into previous literature to determine how modern organizations can garner insights from various bodies of research to create a context to support the advancement of leadership consciousness, as advanced stages have been associated with enhanced leadership outcomes (Fisher & Torbert, 1991; Harung et al., 2009; Rooke & Torbert, 1998, 2005)

Most every approach reviewed in this paper has concluded that a ready to evolve leader first comes up against limitations in their previous methods of approaching problems and face inadequacy to meet current challenges. There is a stage of dissonance and perturbation that ensues and has the leader search for new internal perspectives and capacities. Some of those found to be most effective to elicit insights and breakthroughs are mindfulness and physical exercise practices. Once new awareness has been experienced, the leader is then challenged with integrating these insights into their external relationships and work practices. Communities of practice and the social support of anchoring in these newfound perspectives are critical to ensure the implementation into the organization. Emotional intelligence and creativity training has also been found to support these ideas to take form in the external environment. Investigations in neuroscience support these findings and have given additional weight to these conclusions. Though the adoption of these practices may be slow in certain sectors, others are ready to embrace more vertical development approaches (Cook-Greuter, 2004) in favor of a more comprehensive, resilient, whole human approach to leadership and organizational development and thereby, enhanced leadership outcomes.

Chapter 3: Research Methodology

The purpose of this study is to identify the extent to which, if at all, differences exist in a leadership performance between organizational leaders before and after undergoing a 10-week course on mindfulness meditation, emotional intelligence and creativity development along with a regular exercise component, and a comparison group of organizational leaders who do not receive this course.

This study uses a mixed-methods approach to comparatively investigate leadership performance of organizational leaders before vs. after their participation in a comprehensive leadership development program, with each of these domains represented, as these aspects have only been investigated in isolation, not in combination. These outcomes were compared to a comparison group of leaders who did not undergo the training. The data was collected during the 10-week program, and the method of inquiry was survey instruments administered at pre-test (Time 1) and post-test (Time 2) and structured interviews at post-test (Time 2).

This study builds upon previous research that has clearly identified positive relationships between adult ego development and leadership efficacy (Harung et al., 2009; Fisher & Torbert, 1991; Rooke & Torbert, 1998, 2005) and studies that have broadly pointed to practices that encourage this development (Rooke & Torbert, 2005) in an effort to more specifically identify training and development methodologies that can advance leaders into a post-conventional state. A more comprehensive development strategy that integrates whole-human intelligence across physical, emotional, mental, and spiritual realms is optimal to enhance leadership outcomes (Quatro, 2007). This research comparatively investigates leadership performance of organizational leaders before vs. after their participation in a comprehensive leadership

development program, with each of these domains represented, as these aspects have only been investigated independently, not in combination.

Based on the literature review, this researcher has several assumptions regarding the advancement of leadership efficacy. Namely, this researcher believes that those who engage in physical exercise, regular mindfulness meditation, emotional intelligence training, and creativity training display advanced leadership capacities. Additionally, this researcher asserts that those in advanced leadership positions are intrinsically motivated to engage in this type of professional cultivation and are more apt to follow through with the duration of the research.

Research Question

To what extent, if at all, do differences exist in a leadership performance between organizational leaders before and after undergoing a 10-week course on mindfulness meditation, emotional intelligence and creativity development along with a regular exercise component, and a group of organizational leaders who do not receive this course?

Hypotheses

Alternative Hypothesis: It is hypothesized that leadership performance will be greater for organizational leaders after versus before a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

Null Hypothesis (Ha1): Leadership performance will be less or no different for organizational leaders after versus before a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

Alternative Hypothesis 2: It is hypothesized that leadership performance will be greater in the majority of leadership domains for organizational leaders who do versus do not undergo a

10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

Null Hypothesis (Ha2): Leadership performance will be less or no different for organizational leaders who do versus do not undergo a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

Nature of the Study

This study uses a mixed-methods approach to comparatively investigate leadership performance of organizational leaders before vs. after their participation in a comprehensive leadership development program. These outcomes were compared to a comparison group of leaders who do not undergo the training. The data was collected during a 10-week program and the method of inquiry was survey instruments administered at pre-test (Time 1) and post-test (Time 2) and a structured interview at post-test (Time 2).

Research Design and Rationale

A quantitative measure of leadership performance was combined with a qualitative text-based-analysis to characterize perceived advancements in consciousness following a comprehensive leadership development training. This social science framework provides an explanation for the quantitative and qualitative components of the study and helps inform the findings and results (Creswell, 2009). This study is quantitative in nature as it seeks to measure descriptive data to analyze leadership performance through administering the leadership Practices Inventory (see Appendix A) in a self-report format. This study is designed to determine the effects, if any, that the treatment has upon leadership performance outcomes. The research is qualitative in nature as it includes semi-structured interviews to garner data from subjects to

assess the participants' opinions, statements, and convictions and to elicit narratives about their lived experiences (Nohl, 2009).

Social constructivism was chosen as an epistemology lens for this research. This concept came from Berger and Luekmann's (1967) *The Social Construction of Reality* and Guba and Lincoln's (1985) *Naturalistic Inquiry*. Their work, amidst others such as Lincoln, Lynham, and Guba (2011) and Mertens (2010) believe that humans seek to understand the world in which they live and work. Additionally, individuals develop varied and multiple subjective meanings toward their experiences.

Crotty (1998) identified these assumptions regarding social constructivism:

1. Human beings construct meanings as they engage with the world they are interpreting.
2. Humans engage in their world and make sense of it based on their historical and social perspectives.
3. The basic generation of meaning is always social, arising in and out of interaction with a human community.

Methodology

Inclusion criteria encompass men and women in organizational leadership positions of mid to upper management and above who were in good health (i.e., without major physical or mental health risks), and who were willing to commit to a 10-week course and its corresponding activities. Participants who fit the criteria were asked to consent to voluntarily participate in a 10-week course first completed a baseline self-administered LPI. The course consisted of participation in:

- A virtual introductory class

- Daily meditation and tai chi exercises (approximately 25 minutes)
- Virtual synchronous classes (1 hour/ week) in the areas of emotional intelligence and creativity (each was recorded in the event of participant absence)
- Stretch assignments and experiential integration opportunities (approximately 10 hours/ month)
- Online independent study materials in preparation of each workshop
- Group accountability sessions
- Completion of post-test LPI self-administered and semi-structured interview

Comparison group participants received the pre- and post- self-administered LPI for comparison purposes. The modules in each of these domains utilized established experts in the field and their coursework (Sam Harris's Waking Up application [Harris, n.d.] Adam Mizner's [n.d.] Discover Taiji movement platform, The International Studies in Creativity Coursera course on Igniting Your Everyday Creativity and Goleman's exercises on Emotional Intelligence).

This study is designed to determine the effects if any, that the course has upon leadership performance outcomes. A 10-week course was chosen after examining the work of Lally, Van Jaarsveld, Potts, and Wardle (2010) regarding habit formation and the determination that new behaviors take between 2-8 months to establish. For efficacy and efficiency purposes, this 2.5-month period has been chosen to sufficiently anchor new behavioral traits. Data collection on January-March 2020 and was selected because many individuals look to establish new habits at the beginning of the year, thus yielding possible greater numbers of participants who are apt to complete the entirety of the research.

Measures

The study utilizes the highly-validated Leadership Practices Inventory (LPI), a tool

conceptually based on the transformational leadership model of Posner and Kouzes (1988). This model emerged from their analysis of thousands of case studies of people's personal-best leadership experiences, especially exemplary times of performance (Northouse, 2016; Posner & Kouzes, 1988). The LPI purports that there are five exemplary leadership practices: Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, and Encourage the Heart. Posner (2016) notes that "the original purpose of the LPI was for leadership development, helping individuals become more effective leaders through self-assessment and feedback from constituents, rather than for the empirical or scholarly study of leaders (p. 2).

Each statement is evaluated on a ten-point Likert-scale. A higher value represents a more frequent use of leadership behavior. The anchors for the scale include: (1) Almost never do what is described in the statement; (2) Rarely; (3) Seldom; (4) Once in a while; (5) Occasionally; (6) Sometimes; (7) Fairly Often; (8) Usually; (9) Very Frequently; and (10) Almost always do what is described in the statement; with a total possible score of 150 (range= 30-150).

The LPI self-assessment version takes approximately eight to ten minutes to complete, and this study utilizes the online format for both the completion and scoring of the assessment. Upon the completion of the study, participants were provided a comprehensive report to interpret results, including bar graphs, one for each leadership practice, and a graphic representation of the total rating. Total responses can range from 6 to 60, which represents adding up the response score (from 1—Almost Never to 10—Almost Always) for each of the six behavioral statements related to the practice.

This measurement was chosen due to its internal reliability, construct validity, face validity, test-retest reliability, and predictive validity across many sectors and industry leaders.

Much documentation has been captured via the normative database, with nearly 2.8 million responses to the LPI online from 2007 through 2015. Seventeen percent of these responses are from leaders ($N = 475,891$), and the remainder is from “observers” of that leader. Reliabilities ranged from .66 to .97 when examined from respondents who represent cross-sectoral, multiple occupations (fields and disciplines), various positions and hierarchical levels, a myriad of industries, and organizational types (Posner, 2016). Permission to utilize this tool was given through Wiley & Sons and was free of cost due to the fact that it was used for academic research purposes. Regarding the selection of a measurement tool, the following is a compiled list of inquiries that were considered in opting for our survey (Fortuna & Scharf, 2003; Loeppke et al., 2003; Lynch & Riedel, 2001).

1. Are there any concerns about the accuracy and truthfulness of responses, and if so, why?
2. What is the length of the tool? Is a shorter version available, and has validity testing been conducted on the shorter versions?
3. What are the costs associated with the use of the tool and with the scoring of the data?
4. Is the scoring transparent enough that experts are not required to interpret the results?
5. Can the results be trended over time?
6. Does the assessment address the dimensions of productivity loss you are most interested in measuring?
7. Was the tool designed to be applied in the way you would like to use it?
8. Is the recall period used in the tool likely to result in an accurate self-report? While there are mixed opinions about the ideal recall period in self-report tools, it the

general consensus that shorter recall periods (e.g., two weeks or a month) are more accurate than longer recall periods (e.g., 12 months).

9. Does the tool meet the minimum education or reading level of employees?
10. Has the tool been translated into other languages? If so, has the translation work been tested to ensure the translation conveys the appropriate meaning for employees?
11. Has the tool been vetted through research to demonstrate accuracy and consistency (i.e., subjected to rigorous validity, reliability, and responsiveness testing)?
12. Has the tool been tested and found applicable to a variety of occupations or to the specific occupation group you are interested in?

Accordingly, the LPI was selected due to the ease of use for participants (digital, online format and easy to understand), brevity (8-10 minutes in length), internal reliability, construct validity, face validity, test-retest reliability, predictive validity across many sectors and industry leaders (Posner, 2016), and ease of interpretation and transparency of results.

Analysis of semi-structured interviews occurred in alignment with Creswell's (2004) standards:

1. Transcribing Interviews: all relevant parts were transcribed from audio to text format.
2. Reading through the data: all data was thoroughly read to get an overall sense of the meaning and relevant codes and themes.
3. Generalizing Codes and Themes: the material was segmented in order to bring meaning to the information and then labeled with terms that describe the data (Rossman & Rallis in Creswell, 2009). The codes, categories, and hierarchies emerged during the interpretation process.

4. Interpreting the meaning of the themes: data was interpreted and the meanings of the coded data against the backdrop of “her or his own culture, history, and experiences” and compares these findings “with information gleaned from the literature or theories” (Creswell, 2009, p. 189).
5. Inter-rater reliability: an external auditor was used to ensure the coding and its rating are accurate to ensure standards of inter-rater reliability.

A structured interview was chosen for this research with the following considerations:

1. The structured design gives the participants ample time and scope to express their personal views and allows the researcher to respond to and pursue emerging ideas and unfolding events (Nohl, 2009).
2. Results obtained through semi-structured interviews can be compared among each other since all participants are required to express their views about the same general themes (Nohl, 2009).
3. Semi-structured interviews allow for assessing the participants’ opinions, statements and convictions and elicit narratives about their personal experiences (Nohl, 2009).
4. Open-ended questions allow the participants to freely voice their perceptions and mitigate the interference of the researcher’s attitudes and previous findings in an anonymous manner (Creswell, 2004).

Population, Setting, Sample and Sampling Technique

The focus of this study is to investigate the performance of those who hold organizational leadership positions before and after exposure to a comprehensive leadership training and development program. “Leadership” for the purposes of this investigation includes mid to upper-

level managerial positions through C-suite executives. The sample was a mixture of men and women with various ethnic backgrounds, predominantly Caucasian, between the ages of 25-50.

The study includes a non-equivalent dependent samples group and utilized opportunity sampling methods within a single organization based out of Cleveland, OH. The pool of potential participants was given an opportunity to volunteer for either the participant or comparison group. The participants, however, were located in various geographic regions throughout the globe, as this organization has multi-national staff who work remotely. This sampling strategy has been chosen because the purpose is not to generate a representative sample and then generalize over other contexts but rather to gather data from those who are “information-rich” and can shed light on the specific areas of interest of this research (Creswell, 2004).

Inclusion criteria encompassed men and women in organizational leadership positions of mid to upper management and above who were in good health (i.e., without major physical or mental health risks), and who were willing to commit to a 10-week course and its corresponding activities. Exclusion criteria were: those who, after a brief mental and physical health screening were not capable or willing to undergo a 10-week course and its corresponding activities and those who were not in positions of mid to upper management positions or higher. This study recruited 26 participants and anticipated that 85% of subjects would complete the course and prescribed treatments through engagement measures such as accountability partnerships and gaming activities.

The 10-week course occurred virtually in synchronous sessions through Zoom, an online video conferencing platform, beginning January 6, 2020, through March 27, 2020. Subjects were recruited from a student travel company based out of Cleveland, OH. A written memorandum of understanding regarding the parameters of the study, including confidentiality protection

procedures and the voluntary nature of the study, was created between the researcher and the company. The company's CEO was the liaison for the research.

Recruitment and Participation

Recruitment for the study involved providing potential participants and those in the comparison group the opportunity to join after describing the nature of the study, potential benefits and risks (low) of participation. Regardless of the outcome of the study, participants benefited from receiving a free 10-week comprehensive training course, including baseline and outcome measures that would typically cost a great deal of money in the open market. The study took place virtually utilizing video conferencing software. To address non-engagement during the recruitment phase, this researcher held an informative video conference meeting to introduce the research assistant, sample the methodologies and answered any pertinent questions or concerns. Respondents and non-respondents were tracked via accountability measures built into the course (completion of assignments, participation for in-person meetings, routine coaching conversations), and as a secondary measure, they were courtesy notifications, increased contact efforts and accountability partnerships. Completion of the study also added to their professional development and incentivized the completion of the course.

Informed Consent

Informed consent was obtained from each participant prior to the commencement of research. Utilizing Google software, once potential subjects received the pre-screening survey and are determined appropriate according to the inclusion criteria (in upstanding physical and mental health), Google forms were utilized to provide full disclosure on the parameters of the investigation, their option to withdraw at any time and the Participant bill of rights. Copies of the consent (Appendix B) and the Participant Bill of Rights (Appendix C) are attached.

Consent process. Embedded within the recruitment paperwork included a hyperlink to the consent form and bill of rights. Participants were asked to either consent to the prompt, "I consent to participate in the study" or "I do NOT consent to participate in the study." Participants who consented were then directed to sign up for a preferred time for the video conference sessions. Those who did not consent were directed to a message stating, "Thank you for your participation."

Ethics and Human Subject Considerations

Every effort was made to take the utmost ethical considerations when interacting with participants. The researcher has a duty to uphold the respect, rights, needs, values, and desires of the participants. By virtue of the personal nature of this study, personal data and sensitive materials were handled with sensitivity (i.e., appropriate decorum and dignity) as well as the confidential storage of this data in secured files with proper software security.

An explicit agreement and memorandum of understanding between the researcher and the organization were created to outline the parameters of the study. All necessary approvals to interact with human subjects was obtained from Pepperdine University's Institutional Review Board. Subjects were given a thorough and comprehensive digital informed consent document that outlined the voluntary, non-compensated nature of the study, including the right to withdraw at any time. Participants were informed that they have the right to opt-out of data collection analysis without recompense. The consent also outlined confidentiality measures that were taken, including coding measures to encrypt their identity, proper storage of study data, and agreements with the research assistant to maintain the confidentiality of all participants. This document also explained that upon completion, the subjects would have access to the results of the study.

Informed consent makes explicit the possible benefits of participation, including supporting the advancement of academic studies in the field of leadership development. Minor risks of participation were listed to include risk of minor physical injury and risk of minor mental and emotional discomfort. If participants were to encounter such experiences, they would have been provided referrals to local mental health and/ or health clinics. This study did not aim to deceive participants or commit harm to participants' physical, psychological, legal, social, and/or economic status.

Privacy, Confidentiality and Data Collection

All participants (treatment and comparison groups) were assigned a participant code (to compare pre- and post-test results) and given the Leadership Performance Inventory (LPI) self-assessment version at the inception of the training. This version is an online format and the results are securely stored through the Wiley & Sons web portal. The 10-week course was held in video conferencing format utilizing the software platform Zoom and was recorded for those unable to attend synchronously. At the end of the training, all participants took the electronic LPI Self- assessment as a post-test measure. There was no need for the use of private health information, nor was the use of deception a concern in this study.

Data Analysis and Interpretation

A structured interview with open-ended questions was utilized at the commencement of the study. The same coding methods were employed during the interviews to maintain anonymity. Interviews were conducted and recorded via Zoom video conferencing software, as face-to-face interviews were not feasible due to the geographical dispersion of some of the subjects. This option allowed for greater scheduling flexibility and still enabled a sense of personal contact with subjects.

Data gathered from this instrument was gathered electronically via the Wiley & Sons secure website and exported and encoded in a Microsoft Excel file. The researcher took measures to clean the data to ensure accuracy and enter into SPSS for analysis. Due to the fact that data was collected electronically, where all responses were required, missing data is not a factor in this collection process. Descriptive statistics were used to identify: central tendency, spread of data, mean, median, and range. Additionally, statistical analysis was performed to determine if the data satisfies statistical assumptions such as statistical independence, equality of variance, and normality.

A comparison of all five aspects of the LPI scores of the 13 treatment group participants and the 13 comparison group participants was analyzed to address the second alternative hypothesis. A one-way ANCOVA was selected because of its main objectives: (a) to determine whether the independent variable is statistically significant in terms of the dependent variable; and (b) if so, examine where any differences in the groups of the independent variable lie (Laerd Statistics, 2017).

Data Management

All survey data was collected digitally with encrypted software. Data was accessed on a password-protected computer with current safety software installed. Data collected during interviews were digitally transcribed, stored on a password-protected computer and backed up on an external hard drive, which was locked and stored in a secure cabinet.

Validity

Self-report is the primary method for collecting these measures. Although the validity of self-report has been challenged in certain areas—particularly for health biometrics—consensus

in the field is that self-report may be used with reasonable confidence that it represents the health status of the individual (Aldana, 2001; Lynch & Reidel, 2001).

In the effort to make a meaningful contribution to the field, an upstanding design methodology was created to offer credible data. The following measures were taken:

1. Member checking- following the data collection phase, preliminary results were shared with participants in an appropriate format to ascertain accurate findings.
2. Participatory modes of research- the participants were involved in most phases of the research and were kept informed, from the design to results.
3. Researcher and selection bias- attempts were made to mitigate possible biases.
4. Peer debriefing- we presented our findings to a neutral peer in the graduate department to garner valuable input and feedback.
5. External auditing- a respected peer in the field was selected to review findings and offer sagacious insights and perspectives to ensure inter-relater reliability.

Summary

The mixed methods research outlined in this chapter outlines the methodology surrounding the central inquiry concerning differences that may exist in leadership performance between organizational leaders before and after undergoing a 10-week comprehensive leadership development course and a comparison group of organizational leaders who do not receive this course. Each of these aspects has been investigated in isolation. However, this research investigated the combined effect on leadership efficacy.

Baseline measurements of the treatment and comparison groups were taken in the form of the highly-validated Leadership Practices Inventory and quantitatively compared to post-test results. A structured interview occurred at the commencement of the course for qualitative data

interpretation to determine the perceived impact of the course on leadership efficacy and the advancement of leadership consciousness.

Chapter 4: Results

This chapter presents the results from the completion of the Leadership Practices Inventory (Posner & Kouzes, 1998) at pre- and post-test intervals for 13 leaders of middle to upper management at the beginning of a 10-week leadership development course and 13 leaders also from middle to upper management from a comparison group. Qualitative results from structured interviews from the treatment group will also be presented. The problem, purpose, and research questions are restated, followed by the results, and the chapter concludes with a summary.

Restatement of Research Question and Hypotheses

To what extent, if at all, do differences exist in a leadership performance between organizational leaders before and after undergoing a 10-week course on mindfulness meditation, emotional intelligence and creativity development along with a regular exercise component, and a comparison group of organizational leaders who do not receive this course?

Alternative Hypothesis: It is hypothesized that leadership performance will be greater for organizational leaders after versus before a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

Null Hypothesis (Ha1): Leadership performance will be less or no different for organizational leaders after versus before a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

Alternative Hypothesis 2: It is hypothesized that leadership performance will be greater in the majority of leadership domains for organizational leaders who do versus do not undergo a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

Null Hypothesis (Ha2): Leadership performance will be less or no different for organizational leaders who do versus do not undergo a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

Study Design

Subjects were solicited through an initial invitation outlining the purpose and description of the research to the entire pool of potential volunteers from a youth-based, global travel company based out of Ohio. Volunteers submitted their interest via a digital participant application form that gathered basic information, including name, contact information, age, ethnicity, availability and schedules, desired outcomes, previous experience with the aspects of the course, and screening for any health conditions that may interfere with their full participation. These volunteers were then sent a link to complete a digital Informed Consent Letter via Hello Sign (a digital document signing platform with encrypted software). The remaining 13 leaders were given an invitation to participate in the comparison group and were also sent the digital Informed Consent Letter. Of the original 13 participants, three withdrew from the study due to time constraints. The additional three positions were filled from volunteers recommended by study participants from outside organizations, also in executive positions.

Once the study commenced, all 13 treatment group participants and 13 comparison group participants completed the necessary requirements for the study, rendering a balanced design with equal numbers of participants (n). Once these digital signatures were received, both groups were sent a link via Wiley Press to complete the LPI-Self survey. At the end of the 10-week group, all treatment group participants completed the post-test LPI and a structured interview. The interview was comprised of eight questions that were conducted and recorded for audio via

Zoom conferencing and was then transcribed to a digital format. All comparison group participants also completed post-LPI-Self surveys. Results from the LPI pre- and post-test of the participants were analyzed and then compared to the comparison group pre- and post-test LPI results. Qualitative results from the interviews were analyzed, and then the two data sets were merged for analysis and interpretation. This convergent parallel design (where qualitative and quantitative data is collected concurrently), was chosen to provide a complete understanding from two data sets to corroborate results from different methods, thereby rendering multiple levels of data (Creswell, 2009).

Overview of Analytical Techniques

Quantitative data was gathered via the Leadership Practices Inventory, and results were entered into SPSS statistical software for analysis. The LPI does not generate a single composite score; rather, the inventory renders five scores from each of its domains. Each of these scores was analyzed separately. For the qualitative data, responses to the structured interviews were coded for major and secondary themes and to capture the participant's lived experience (Creswell, 2009). In the final phase, the researcher compared the analysis from these two data sets to identify key findings, patterns, and trends to perform this phenomenological study. Qualitative data is presented in a series of charts and tables to display responses and follows with overviews of the respondent's comments.

This qualitative data was analyzed in three ways, including an analysis to establish the frequency of comments and Pareto charts of comments in descending order—secondly, a coding process developed by the primary researcher to determine key themes. Finally, an analysis conducted by a third-party was performed to establish inter-rater reliability to validate major and secondary themes. The results are cited in respect to the frequency of the response, the

significance of the response (as determined by the researcher), and the connection to the overarching theoretical framework, to be discussed further in Chapter 5.

Restatement of the Problem

Notable researchers in the field of leadership development make a clear call for advancements in the way that contemporary leaders are trained to meet the dynamic challenges of the times (Bennis, 2005; Ghoshal, 2005; Hess & Ludwig, 2017; Mintzberg & Sacks, 2004; Quatro, Waldman, & Galvin, 2007). Others have argued that one way to achieve this is by advancing ego development/ consciousness (Cook-Greuter, 1999, 2004), as clear connections have been made between ego development and leadership efficacy (Bartone et al., 2007; Fisher & Torbert, 1991; Harung et al., 2009; Rooke & Torbert, 1998, 2005). Traditional leadership and management programs are not designed to develop the consciousness advancement required to foster the kind of adaptive behavior to meet communal, organizational, and global challenges (Vincent et al., 2013). More specifically, Kegan and Lahey (2009) explain that a person's state of consciousness greatly influences their approach to management and leadership, and those who operate from more advanced states tend to be more efficacious managers and transformational leaders. A growing body of research is proving to demonstrate positive associations between increased consciousness and enhanced leadership performance (Barker & Torbert, 2011; Bartone et al., 2007; Brown, 2011).

To date, investigators have made some broad conclusions about the general conditions that advance leadership consciousness (Rooke & Torbert, 2005; Vincent et al., 2013) however; it appears as though research has not yet been devoted to practical methods by which leaders can attempt to advance their stage of awareness (Baron & Cayer, 2011). This research looks to

investigate whether the advancement of leadership consciousness can be trained and developed in comprehensive, methodical ways in an organizational setting.

Restatement of Purpose

The purpose of this study is to identify the extent to which, if at all, differences exist in a leadership performance between organizational leaders before and after undergoing a 10-week course on mindfulness meditation, emotional intelligence and creativity development along with a regular exercise component, and a comparison group of organizational leaders who do not receive this course.

Participants

The treatment group consisted of 13 leaders from middle to upper management positions; 10 of them were from a single organization based out of Ohio but located internationally. The remaining three were entrepreneurs and CEOs of their own enterprises. The group consisted of six females and seven males, ranging in ages 24 to 47, with a mode of 39 and a median age of 35. The ethnic backgrounds included 76% Caucasian, 8% African, 8% Eastern European, and 8% Middle Eastern.

The comparison group consisted of 13 leaders from middle to upper management positions, all of which were from the same Ohio-based organization. The group consisted of four females and nine males, ranging in ages 29 to 49 and a median age of 37. The ethnic backgrounds included 70% Caucasian, 15% African, 15% Latin American.

Table 1

Treatment Group Demographics

Variable	Frequency	Percentage
Gender		
Female	6	46
Male	7	54
Age (Mean)	35	
Ethnicity		
Caucasian	10	76
African	1	8
Latin American	0	0
Middle Eastern	1	8
Eastern European	1	8

Table 2

Comparison Group Demographics

Variable	Frequency	Percentage
Gender		
Female	4	31
Male	9	69
Age (Mean)	37	
Ethnicity		
Caucasian	9	70
African	2	15
Latin American	2	15
Middle Eastern	0	0
Eastern European	0	0

Quantitative Results

A paired-samples *t*-test was used to determine whether the mean difference between paired observations is statistically significant different from zero for individuals tested at two-time points on the same dependent variable. Paired-samples *t*-test utilization requires meeting

two statistical assumptions, including testing for outliers and inspection of normality, which was assessed by Shapiro-Wilk's test and a Normal Q-Q plot (Laerd Statistics, 2017). Paired-samples t-tests were conducted on all five scores on the LPI-Self (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act and Encourage the Heart). The alpha value or level of significance was set to .05 for this analysis. It should also be noted that any outliers detected in this analysis were included in the calculations. A graphic depiction of the treatment group's pre- and post-LPI scores are shown in Table 3 below, ordered in descending order according to mean change in scores, and a summary of the results are below in Table 4.

Table 3

Pre- and Post- LPI Scores for Treatment Group Participants

Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Model Post	49.46	13	3.23	0.896
	Model Pre	44.08	13	7.112	1.972
Pair 2	Inspire Post	51.38	13	4.959	1.375
	Inspire Pre	42.77	13	8.565	2.375
Pair 3	Challenge Post	52.23	13	3.745	1.039
	Challenge Pre	43.31	13	6.836	1.896
Pair 4	Enable Post	55.23	13	2.555	0.709
	Enable Pre	50.77	13	6.287	1.744
Pair 5	Encourage Post	52.69	13	6.25	1.733
	Encourage Pre	46.23	13	9.212	2.555



Figure 1. LPI scores of treatment group.

The first t-test was used to determine if there was a statistically significant mean difference between the treatment participant's Model the Way score. Three outliers were detected that were more than 1.5 box-lengths from the edge of the box in a boxplot. Inspection of normality was not violated, as assessed by Shapiro-Wilk's test ($p = .337$). Participants increased their Model the Way score ($M = 49.46$, $SD = 3.23$) in comparison to their pre-test scores ($M = 44.08$, $SD = 7.112$), a statistically significant mean increase of $M = 5.385$, 95% $CI [2.460-8.308]$, $t(12) = 4.011$, $p = .002$, $d = 1.11$.

A paired-samples t -test was used to determine whether there was a statistically significant mean difference between the treatment participant's Inspire a Shared Vision score. Two outliers were detected that were more than 1.5 box-lengths from the edge of the box in a boxplot. Inspection of normality was violated, as assessed by Shapiro-Wilk's test ($p = .008$). Participants increased their Inspire a Shared Vision score ($M = 51.38$, $SD = 4.959$) in comparison to their pre-

test scores ($M= 42.77$, $SD= 8.565$), a statistically significant mean increase of 8.615, 95% CI [4.633-12.597], $t(12)= 4.714$, $p< .05$, $d= 1.30$.

A third paired-samples t-test was used to determine whether there was a statistically significant mean difference between the comparison participant's Challenge the Process scores. Three outliers were detected that were more than 1.5 box-lengths from the edge of the box in a boxplot. Inspection of normality was not violated, as assessed by Shapiro-Wilk's test ($p= .062$). Comparison participants increased their Challenge the Process score slightly ($M= 49.92$, $SD= 6.910$) compared to their pre-test scores ($M= 48.38$, $SD= 6.995$), a statistically significant mean increase of 1.62, 95% CI [-.549-3.626], $t(12)= 1.606$, $p= .134$, $d= .445$.

A fourth paired-samples t-test was used to determine whether there was a statistically significant mean difference between the comparison participant's Enable Others to Act scores. No outliers were detected. Inspection of normality was not violated, as assessed by Shapiro-Wilk's test ($p= .519$). Comparison participants increased their Enable Others to Act score slightly ($M= 53.85$, $SD= 3.738$) compared to pre-test scores ($M= 53.38$, $SD= 3.228$), a statistically significant mean increase of .462, 95% CI [-1.091-2.014], $t(12)= .648$, $p= .529$, $d= .180$.

A fifth paired-samples t-test was used to determine whether there was a statistically significant mean difference between the comparison participant's Encourage the Heart Scores. One outlier was detected that was more than 1.5 box-lengths from the edge of the box in a boxplot. Inspection of normality was not violated, as assessed by Shapiro-Wilk's test ($p= .222$). Participants increased their Inspire a Encourage the Heart scores ($M= 51.23$, $SD= 2.315$) compared to their pre-test scores ($M= 50.00$, $SD= 2.029$), a statistically significant mean increase of 1.231, 95% CI [-1.959-4.420], $t(12)= .841$, $p= .417$, $d= .234$. A graphic depiction of the

treatment group's pre- and post-LPI scores are shown in Table 5 below, ordered in descending order according to mean change in scores, and a summary of the results are below in Table 6.

Table 4

Pre- and Post- LPI Scores for Comparison Group Participants

Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Model post comparison	51.46	13	5.517	1.53
	Model pre comparison	51.15	13	5.398	1.497
Pair 2	Inspire post comparison	47.77	13	8.757	2.429
	Inspire pre comparison	46.08	13	10.95	3.037
Pair 3	Challenge post comparison	49.92	13	6.91	1.916
	Challenge pre comparison	48.38	13	6.995	1.94
Pair 4	Enable post comparison	53.85	13	3.738	1.037
	Enable pre comparison	53.38	13	3.228	0.895
Pair 5	Encourage post comparison	51.23	13	8.348	2.315
	Encourage pre comparison	50	13	7.314	2.029

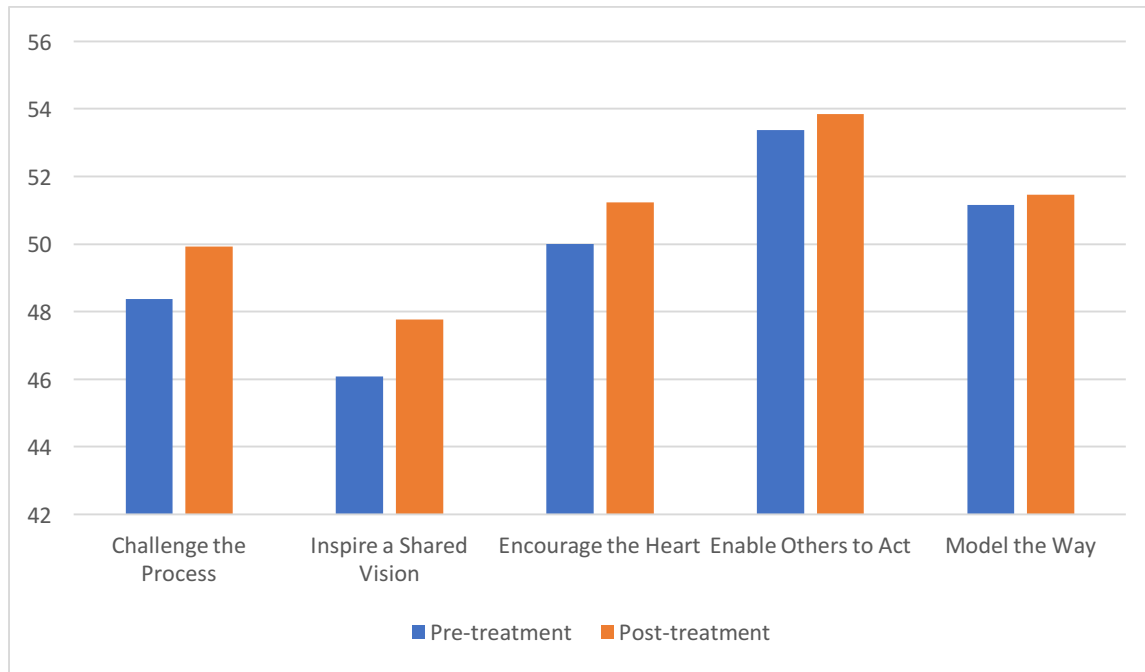


Figure 2. LPI scores of comparison group.

A comparison of all five aspects of the LPI scores of the 13 treatment group participants and the 13 comparison group participants was analyzed to address the second alternative hypothesis. A one-way ANCOVA was selected because of its main objectives: (a) to determine whether the independent variable is statistically significant in terms of the dependent variable; and (b) if so, examine where any differences in the groups of the independent variable lie. One-way ANCOVA utilization requires meeting several statistical assumptions, including one independent variable tested at the continuous level, one independent variable that consists of two or more categorical, independent groups, one covariate variable that is measured at the continuous level, independence of observations, testing for a linear relationship between the covariate and the dependent variable using a scatterplot, and testing for homogeneity of regression slopes (Laerd Statistics, 2017).

First, An ANCOVA was run to determine the effect that the treatment had on the Model the Way scores versus the group that did not receive the treatment. There was a linear

relationship between pre- and post-treatment Inspire a Shared Vision scores, as assessed by inspection of a scatterplot. There was homogeneity of regression slopes, as the interaction term was not statistically significant $F(1)= 46.17, p< .05$ Standardized residuals for the treatment and for the overall model, as assessed by inspection of a boxplot, and scores were normally distributed, as assessed by Shapiro-Wilk's test ($p> .05$). There was homoscedasticity and homogeneity of variances, as assessed by visual inspection of a scatterplot and Levene's test of homogeneity of variance ($p= .036$), respectively. There were no outliers in the data, as assessed by no cases with standardized residuals greater than ± 3 standard deviations. After adjustment for pre-treatment and post-treatment scores, there was not a statistically significant difference in post-treatment Model the Way scores between the interventions, $F(1)= 3.132, p= .09$, partial $\eta^2= .120$.

Table 5

ANCOVA Results for Model the Way Treatment vs. Comparison Group

Tests of Between-Subjects Effects
Dependent Variable: Model- Post

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	353.372a	2	176.686	24.918	0	0.684
Intercept	212.192	1	212.192	29.925	0	0.565
Model_pre	327.372	1	327.372	46.168	0	0.667
Group	22.209	1	22.209	3.132	0.09	0.12
Error	163.089	23	7.091			
Total	66722	26				
Corrected Total	516.462	25				

a R Squared = .684 (Adjusted R Squared = .657)

An ANCOVA was run to determine the effect that the treatment had on the Inspire a Shared Vision scores versus the group that did not receive the treatment. There was a linear relationship between pre- and post-treatment Inspire a Shared Vision scores, as assessed by inspection of a scatterplot. There was homogeneity of regression slopes, as the interaction term was statistically significant, $F(1)= 46.52, p < .05$. Standardized residuals for the treatment and for the overall model, as assessed by inspection of a boxplot, and scores were normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$). There was homoscedasticity and homogeneity of variances, as assessed by visual inspection of a scatterplot and Levene's test of homogeneity of variance ($p = .010$), respectively. There were no outliers in the data, as assessed by no cases with standardized residuals greater than ± 3 standard deviations. After adjustment for pre-treatment and post-treatment scores, there was a statistically significant increase in post-treatment Inspire a Shared Vision scores between the interventions, $F(1)= 11.208, p = .003$, partial $\eta^2 = .328$.

Table 6

ANCOVA Results for Inspire a Shared Vision Treatment vs. Comparison Group

Test of Between-Subject Effects
Dependent Variable: Inspire- Post

Source	Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.	Partial Eta Squared
Corrected Model	898.242a	2	449.121	25.689	0	0.691
Intercept	608.905	1	608.905	34.829	0	0.602
Inspire_pre	813.281	1	813.281	46.519	0	0.669
Group	195.951	1	195.951	11.208	0.003	0.328
Error	402.104	23	17.483			
Total	65205	26				
Corrected Total	1300.346	25				

a R Squared = .691 (Adjusted R Squared = .664)

An ANCOVA was run to determine the effect that the treatment had on the Challenge the Process scores versus the group that did not receive the treatment. There was a linear relationship between pre- and post-treatment Challenge the Process scores, as assessed by inspection of a scatterplot. There was homogeneity of regression slopes, as the interaction term was statistically significant $F(1)= 12.14, p= .002$. Standardized residuals for the treatment and for the overall model, as assessed by inspection of a boxplot, and scores were normally distributed, as assessed by Shapiro-Wilk's test ($p> .05$). There was homoscedasticity and homogeneity of variances, as assessed by visual inspection of a scatterplot and Levene's test of homogeneity of variance ($p= .580$), respectively. There were no outliers in the data, as assessed by no cases with standardized residuals greater than ± 3 standard deviations. After adjustment for pre-treatment and post-treatment scores, there was a statistically significant increase in post-treatment Challenge the Process scores between the interventions, $F(1)= 15.42, p= .001$, partial $\eta^2= .412$.

Table 7

ANCOVA Results for Challenge the Process Treatment vs. Comparison Group

Tests of Between-Subjects Effects

Dependent Variable: Challenge- Post

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	482.177a	3	160.726	12.041	0	0.621
Intercept	408.591	1	408.591	30.609	0	0.582
Group	205.875	1	205.875	15.423	0.001	0.412
Challenge_pre	275.58	1	275.58	20.645	0	0.484
Group * Challenge_pre	162.06	1	162.06	12.141	0.002	0.356
Error	293.669	22	13.349			
Total	68606	26				
Corrected Total	775.846	25				

a R Squared = .621 (Adjusted R Squared = .570)

An ANCOVA was run to determine the effect that the treatment had on the Enable Others to Act scores versus the group that did not receive the treatment. There was a linear relationship between pre- and post-treatment Enable Others to Act scores, as assessed by inspection of a scatterplot. There was homogeneity of regression slopes, as the interaction term was statistically significant $F(1)= 6.00, p= .023$. Standardized residuals for the treatment and for the overall model, as assessed by inspection of a boxplot, and scores were normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$). There was homoscedasticity and homogeneity of variances, as assessed by visual inspection of a scatterplot and Levene's test of homogeneity of variance ($p= .097$), respectively. There were no outliers in the data, as assessed by no cases with standardized residuals greater than ± 3 standard deviations. After adjustment for pre-treatment and post-treatment scores, there was a statistically significant increase in post-treatment Enable Others to Act scores between the interventions, $F(1)= 5.769, p= .025$, partial $\eta^2= .201$.

Table 8

ANCOVA Results for Enable Others to Act Treatment vs. Comparison Group

Tests of Between-Subjects Effects
Dependent Variable: Enable Post

Source	Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.	Partial Eta Squared
Corrected Model	112.984a	2	56.492	8.931	0.001	0.437
Intercept	241.726	1	241.726	38.217	0	0.624
Enable_pre	100.522	1	100.522	15.892	0.001	0.409
Group	36.49	1	36.49	5.769	0.025	0.201
Error	145.478	23	6.325			
Total	77594	26				
Corrected Total	258.462	25				

a R Squared = .437 (Adjusted R Squared = .388)

An ANCOVA was run to determine the effect that the treatment had on the Encourage the Heart scores versus the group that did not receive the treatment. There was a linear relationship between pre- and post-treatment Encourage the Heart scores, as assessed by inspection of a scatterplot. There was homogeneity of regression slopes, as the interaction term was statistically significant $F(1)= 13.51, p=.001$. Standardized residuals for the treatment and for the overall model, as assessed by inspection of a boxplot, and scores were normally distributed, as assessed by Shapiro-Wilk's test ($p> .05$). There was homoscedasticity and homogeneity of variances, as assessed by visual inspection of a scatterplot and Levene's test of homogeneity of variance ($p=.916$), respectively. There was one outlier as assessed by scores with standardized residuals greater than ± 3 standard deviations; this data was kept in the data set. After adjustment for pre-treatment and post-treatment scores, there was not a statistically significant increase in post-treatment Encourage the Heart scores between the interventions, $F(1)= .978, p=.333, \text{partial } n^2= .041$.

Table 9

ANCOVA Results for Encourage the Heart Vision Treatment vs. Comparison Group

Tests of Between-Subjects Effects

Dependent Variable: Encourage Post

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	597.218a	3	199.073	6.068	0.004	0.453
Intercept	466.442	1	466.442	14.218	0.001	0.393
Group	2.321	1	2.321	0.071	0.793	0.003
Encourage_pre	417.492	1	417.492	12.726	0.002	0.366
Group * Encourage_pre	0.371	1	0.371	0.011	0.916	0.001
Error	721.743	22	32.807			
Total	71519	26				
Corrected Total	1318.962	25				

a R Squared = .453 (Adjusted R Squared = .378)

Three out of the five LPI scores of treatment participants were higher than the comparison group, namely- Challenge the Process, Inspire a Shared Vision, and Enable Others to Act. Based upon these results, we can accept the second alternative hypothesis, that leadership efficacy is greater in the majority of leadership domains for organizational leaders who do versus do not undergo a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component. Figure 3 and Figure 4 graphically depict the mean pre- and post- LPI scores of the treatment and comparison groups, respectively, and Figure 5 compares the two groups' median post-test scores.

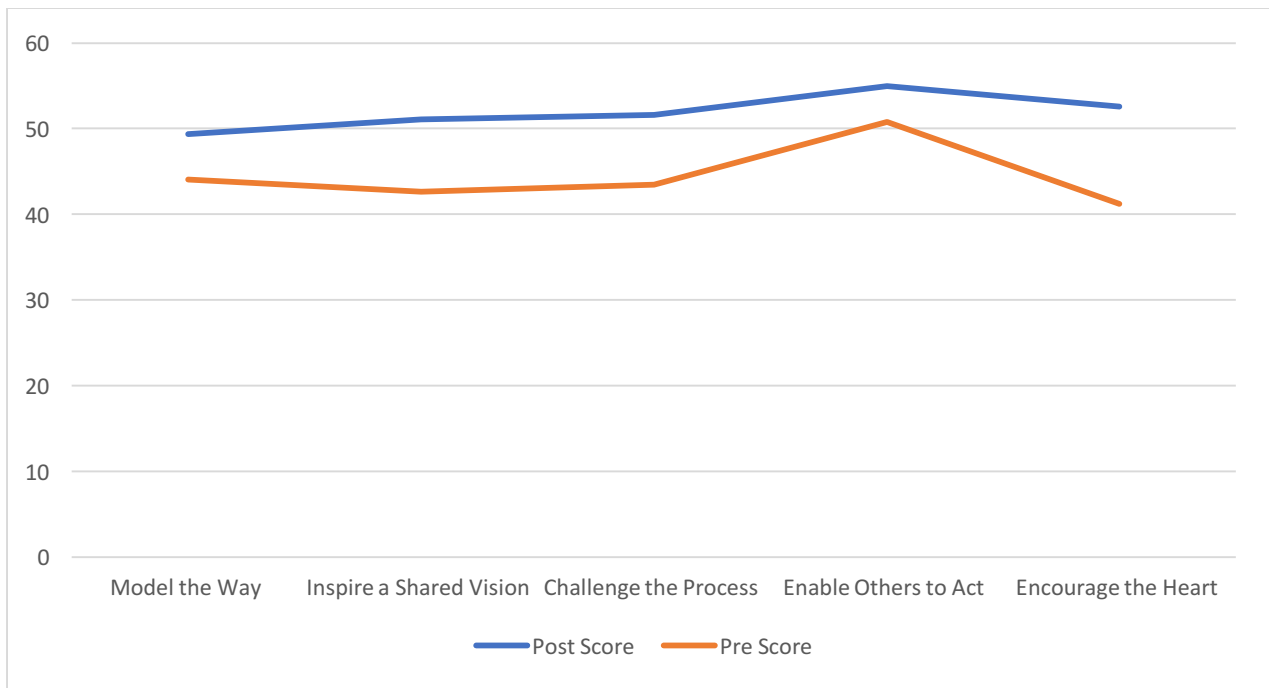


Figure 3. Treatment group mean LPI scores.

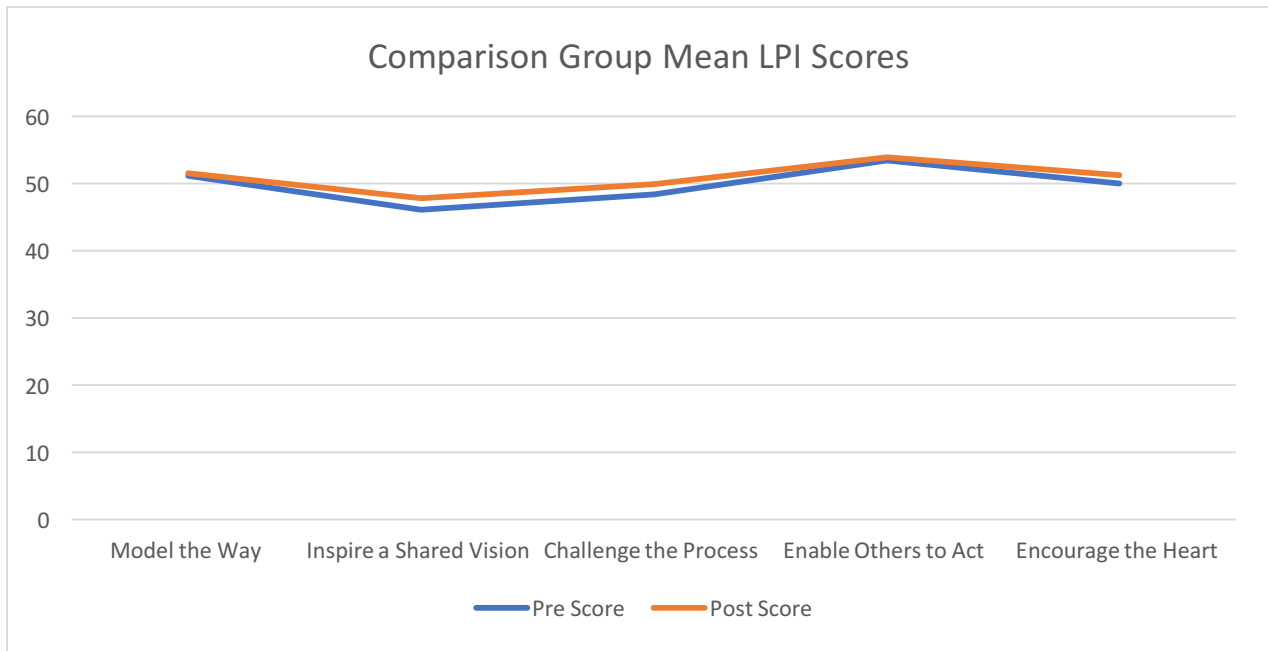


Figure 4. Comparison group mean LPI scores.

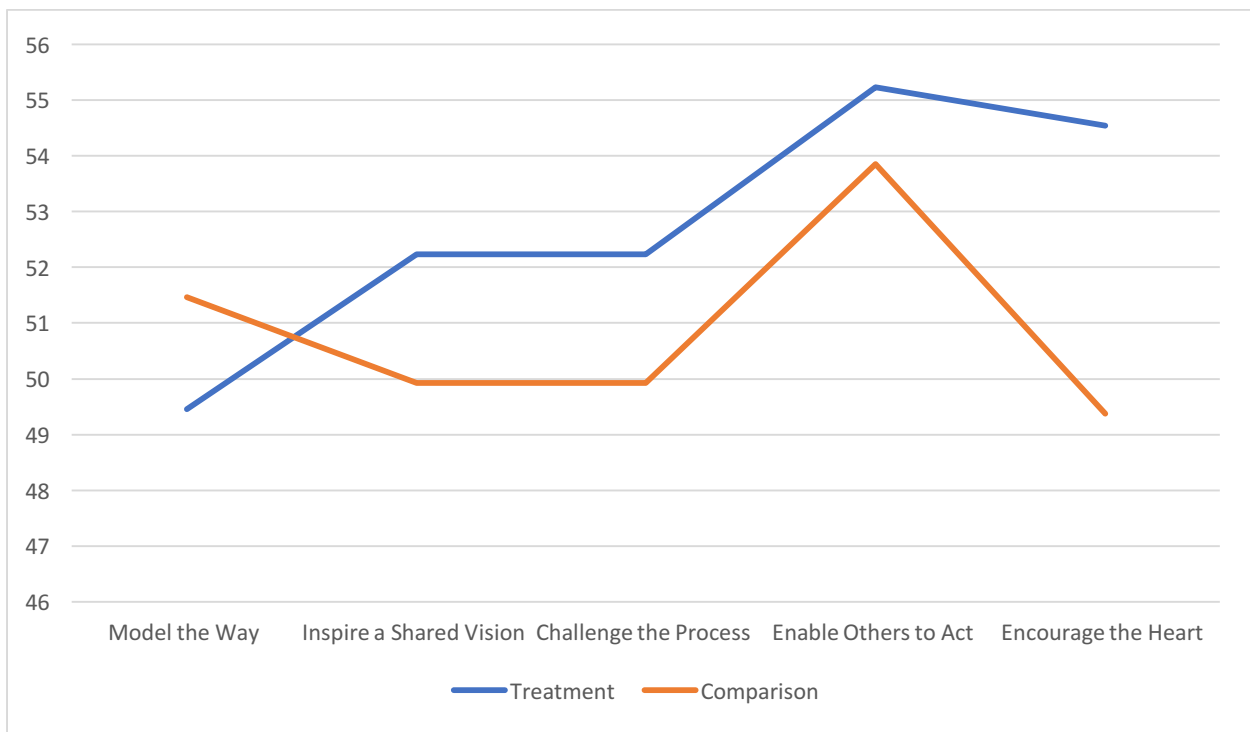


Figure 5. Treatment vs. comparison group post-LPI scores (mean).

Qualitative Findings

In this mixed-methods study, qualitative data were collected via structured interviews to capture participants' lived experiences and the perceived impact of the treatment. This approach is supported by Creswell's (2011) convergent parallel mixed method design (Creswell, 2009) in which both qualitative and quantitative data is collected at one time and compared for possible relationships across and within both data sets, leading to the interpretation of more robust implications and findings.

Qualitative data were analyzed in three ways. The first included quantitative data to display the frequency of comments and Pareto charts of comments. The researcher then coded the interview results to determine major and secondary themes. Finally, to determine inter-rater reliability, a third party reviewed the data coded by the primary researcher. The results are reported according to the frequency of response and significance of response (themes and patterns determined significant by the researcher).

Participants from the treatment group underwent a structured interview following the completion of the 10-week course. The following were the questions posed to each participant:

1. What was your previous experience with the aspects of the course? (meditation, tai chi, emotional intelligence and creativity)
2. What were your biggest leadership challenges upon entering and throughout the course?
3. Which aspects of the course did you find most impactful to address your leadership challenges?
4. Which aspects of the course did you find least impactful to address your leadership challenges?

5. Do you perceive that your leadership efficacy improved as a result of your participation in the course? Why or why not?
6. What could be improved about the course to improve leadership efficacy even further?
7. Would you recommend this course to a colleague? Why or why not?
8. Is there anything else you would like to share about your experience?

It should be noted that the course began at the end of January 2020, as the COVID-19 virus began having a global reach. Ten out of 13 participants worked in a global travel company, and the impact upon this industry was experienced immediately (versus other industries that were affected much later). Thereby, the majority of the participants in the course were operating professionally within the context of this pandemic and the staggering blow it created for the travel industry. These interviews took place four weeks into the stay-at-home mandate.

- (1). What was your previous experience with the aspects of the course? Specifically: meditation, tai chi, emotional intelligence, and creativity.

The responses are captured in Figure 6.

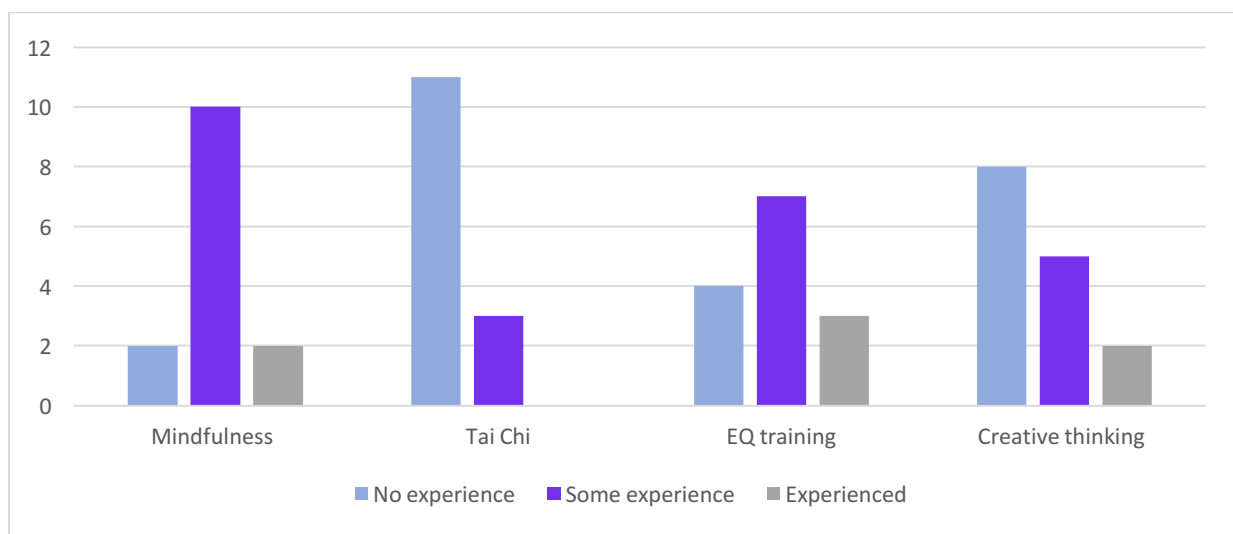


Figure 6. Previous experience upon entering the course.

(2). A. What were your biggest leadership challenges upon entering and throughout the course?

- Four respondents (31%) reported that they were challenged by recent restructuring of the company and specifically, adjusting to changes in leadership and management.
- Four respondents (31%) reported that they were coping with issues regarding morale and motivation, including managing stress to achieve new goals, remain productive, and adapt to many recent changes.
- Three respondents (23%) reported that they were challenged by asserting greater leadership in their positions, including taking on new challenges, tasks, and duties.
- One respondent (7%) reported challenges in learning how to be a mentor, guide, and resource to staff.
- One respondent (7%) reported challenges with finding creative problem-solving strategies.

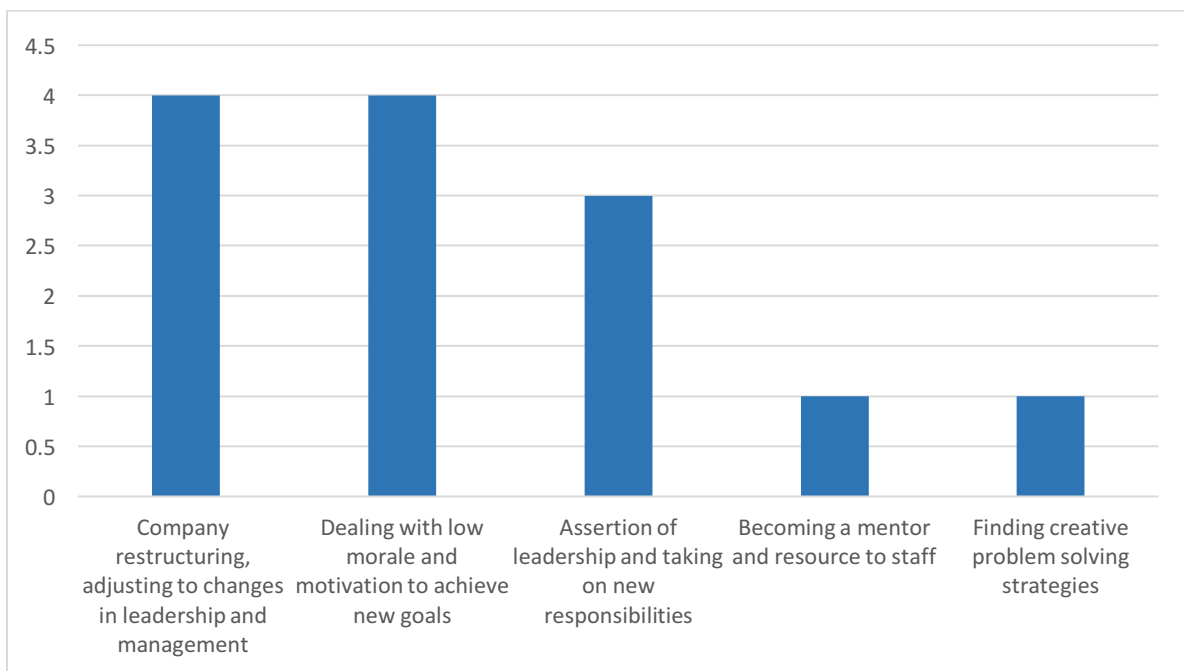


Figure 7. Biggest leadership challenges upon entering the course- Pareto.

(2). B. What were your biggest leadership challenges throughout the course?

All 13 participants (100%) reported that their leadership challenges were related to the COVID-19 pandemic. The majority of the participants were employed in a global travel company and, therefore, were greatly impacted early on and throughout the entire course. Some of the secondary themes included massive financial implications for the travel industry and, thereby, to their clients, collaborators, partners, and their own salaries. Several subjects noted that the roles and responsibilities of their jobs changed rapidly and unexpectedly (i.e., going from managing several on their team to drastic reductions or total elimination of the team) and that participation in the course supported them to manage this in an adaptive manner. Due to the need to take drastic measures in the form of furloughs, travel vouchers, delayed payments to vendors, etc., many participants also experienced emotional stress in their attempts to manage and mitigate these rapid implications for their customers and vendors. However, another theme that emerged was a sense of unity and togetherness among team members and collaborators in the mounting intensity and uncertainty.

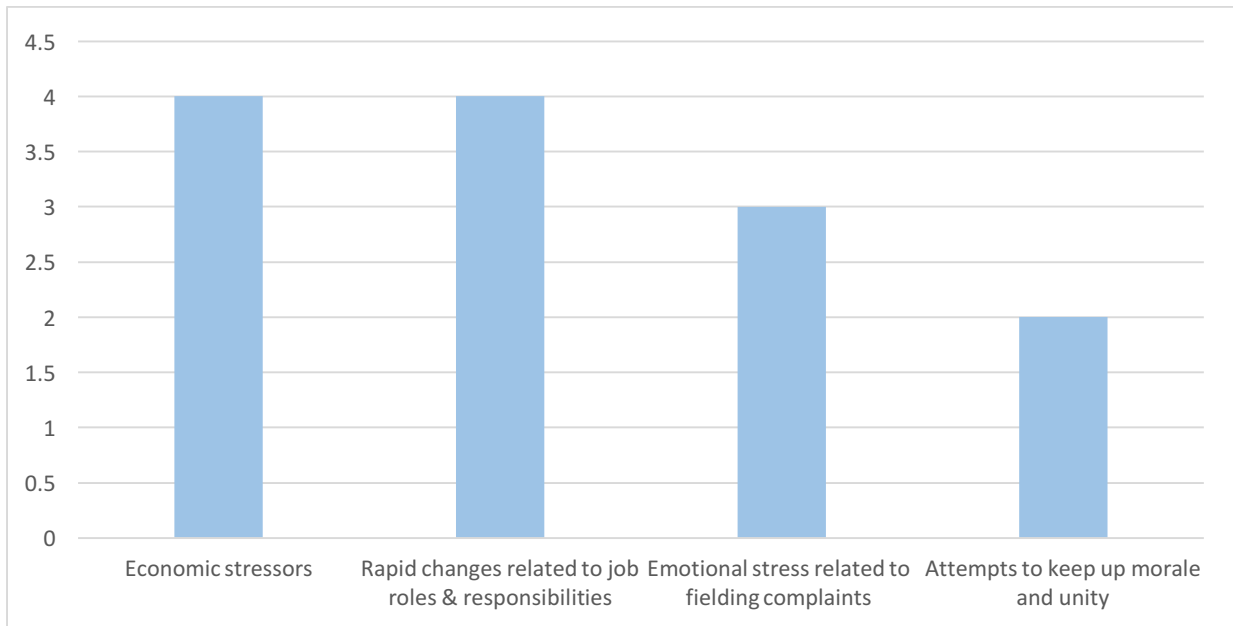


Figure 8. COVID-19 related leadership challenges- Pareto.

The following is a sample of respondent's comments:

- “After all the changes, I was unsure how was I going to apply the course materials because my current role within the company had changed so quickly and so much, but I was able to shift it to a more personal focus.”
- “I want to follow the coursework now more than ever because everything for me is changing right now. I think it's a good opportunity for me to kind of rework the way that I do a lot of things.”
- “At first, we thought it was going to be some blip on the screen and that we would return to “normal” shortly, but at some point, when things worsened, I just needed to surrender to what was happening.”
- “Now, I'm fluent in having to pivot pretty radically.”

(3). Which aspects of the course did you find most impactful to address your leadership challenges?

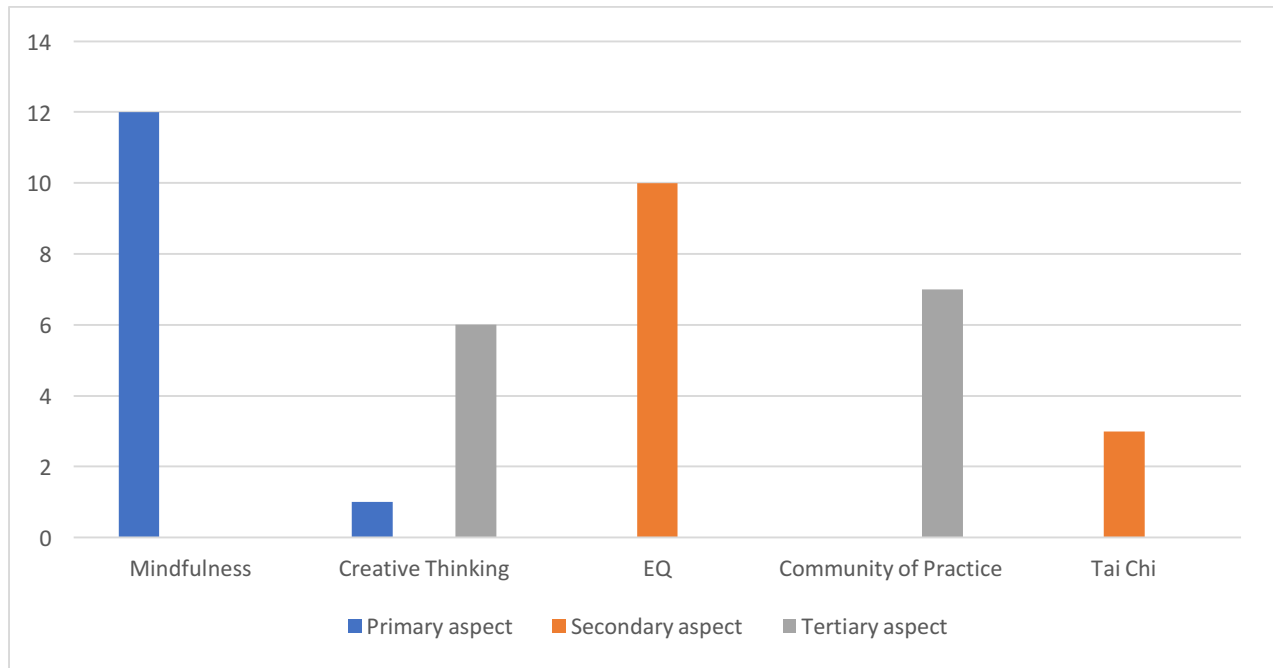


Figure 9. Primary, secondary and tertiary aspects of the course most impactful to address leadership challenges.

Some notable themes in this data set include a relatively novel level of experience with the aspects represented throughout the course. Most subjects had some experience with mindfulness meditation and may account for their willingness to maintain consistency with this practice and thereby produced the greatest perceived benefit. On the contrary, very few had any prior experience with the chosen exercise form, tai chi, and the level of novelty and unfamiliarity may account for the fact that it was perceived as least impactful to address their leadership challenges.

What follows are some of the comments provided by subjects:

- “This course provided me a sense of discipline and focus.”
- “I now have a better sense of equanimity.”
- “It expanded my ideas of creativity.”
- “I experienced a paradigm shift.”

Some secondary themes emerged in relation to the aspects that subjects found most impactful to address their leadership challenges. Regarding emotional intelligence and two participants (14%) reported an increased sense of self-awareness, four (29%) reported an experience of increased self-regulation (these are two of the five major aspects of emotional intelligence, according to Goleman (2010)).

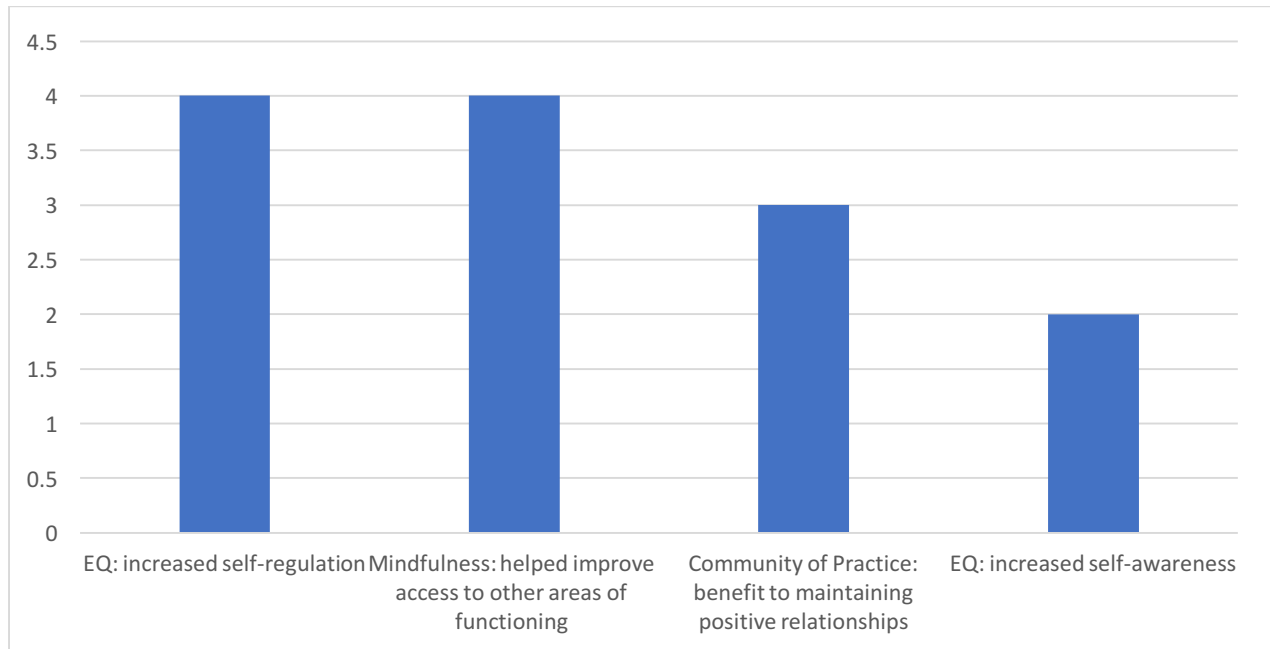


Figure 10. Aspects most helpful to address leadership challenges.

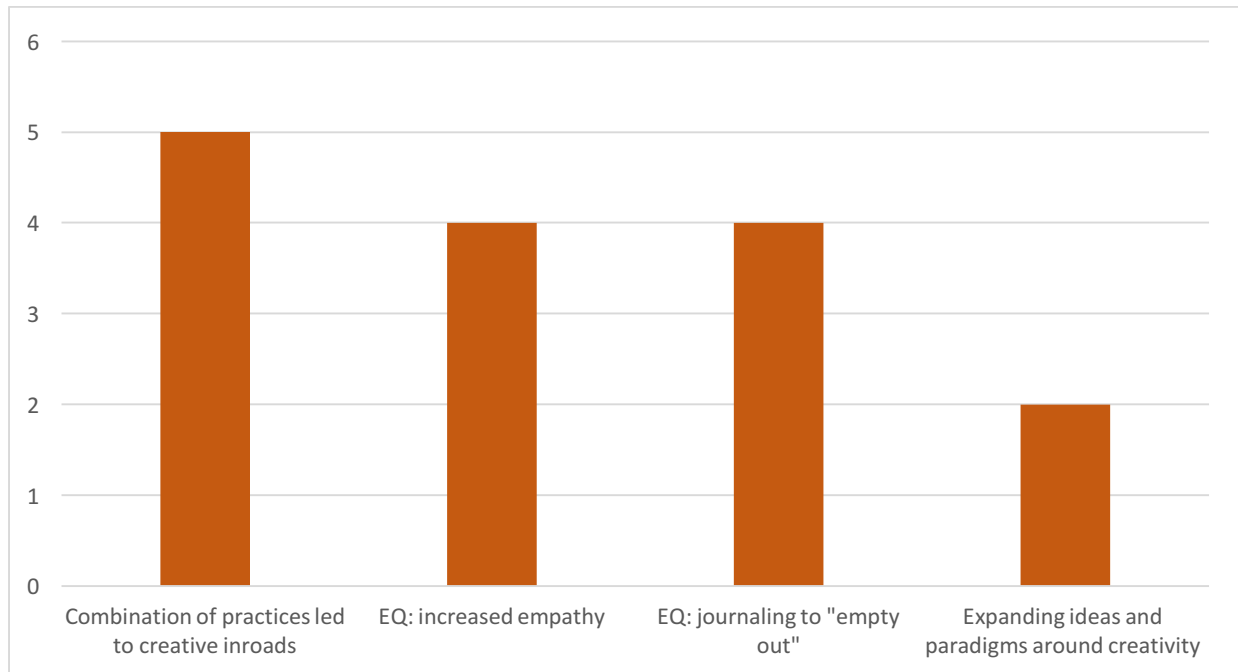


Figure 11. Secondary themes: Most helpful to address leadership challenges- Pareto.

The following is a sample of the subjects' comments on this theme:

- “This has afforded me the opportunity to re-establish a fairer relationship with myself.”
- “I have a better understanding of how my internal state impacts those around me.”
- “I’m not reacting to others as quickly.”
- “I have learned to be gentler with myself.”
- “No matter how much work you’ve done on leadership, this is an opportunity to step back and reflect.”
- “The combination of practices in conjunction with connection to others helped me remain centered and promote mutual understanding.”
- “The ability to connect and share with others offered positive peer feedback and improved my leadership confidence.”
- “I became more mentally flexible.”
- “I gained a sense of centeredness.”

- “If every corporation had this course, it would change how we operate in business.”
- “Everyone could benefit from mindfulness practice, greater empathy, and emotional intelligence.”
- “The small group format made me realize that maybe I was under-appreciating what was going on around me.”
- “Just having space where you can learn from other professionals how to handle stress and creative problem-solving can be beneficial.”
- “The combination of practices was helpful to meet our new age problems.”

One standout theme was the benefit of the community of practice aspect of the course. Three respondents (21%) reported receiving benefits from maintaining positive relationships during distressing and challenging times. This structured time to connect with and deepen their relationships with colleagues was echoed several times as an unexpected benefit of the course. They explained that the small group aspect of the program helped increase accountability, connection, and provided virtual, transformative, self-care practices at a time when the global pandemic greatly shifted their connections with the outside world.

(4). Which aspects of the course did you find least impactful to address your leadership challenges?

What was noteworthy about these responses is that eight (57%) participants explained that they found that the tai chi component was least impactful, but not because they did not find worth in the practices, but rather, because it was a novel experience, that they did not invest themselves in the exercises to reap the benefits. Six respondents (43%) reported that there was not anything that they found “least impactful” about the course to address their leadership challenges.

(5). Do you perceive that your overall leadership efficacy improved? Why or why not?

Twelve (93%) of subjects reported that they believed that their leadership efficacy improved, and one (7%) did not. The respondent that did not perceive her leadership efficacy improved explained that she believes that she did not improve because she only nominally engaged with the program at an estimated 30% due to unforeseen, COVID-related circumstances that emerged throughout the course that interfered with her participation.

What follows is a sample of the comments provided by subjects:

- “It gave me more discipline and focus.”
- “I had a greater sense of stability and spaciousness.”
- “I developed a sense of equanimity.”
- “The course was a paradigm-shifting experience.”
- “I became more aware of myself and my own experiences, and then I was able to meet others with greater compassion and empathy.”

(6). What could be improved about the course to improve efficacy even further?

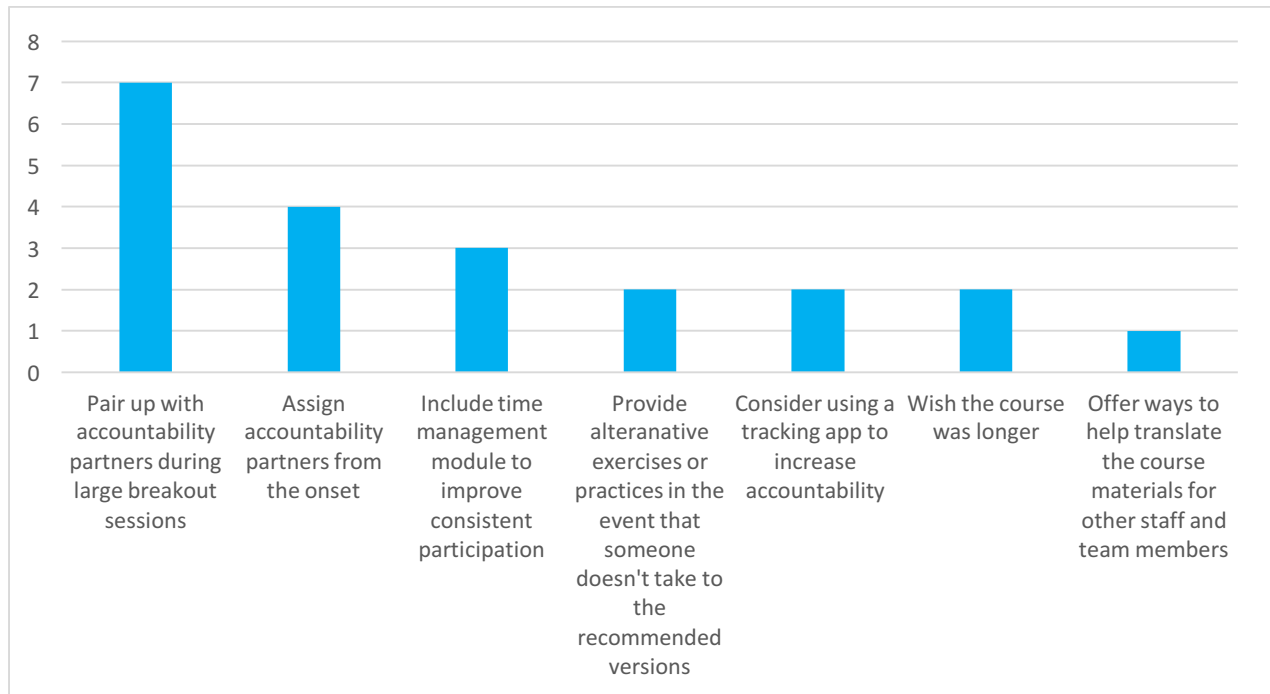


Figure 12. What could be improved about the course- Pareto.

The major highlight in this question had to do with the perceived benefit from developing deeper connections with group participants in small settings. To that end, several subjects (7) explained that they would have liked to be linked with their accountability partner from the onset and to pair with their partner during the small group break out exercises during the initial weeks of the course (the researcher assigned breakout group pairings at random). Overall, participants reported receiving great benefit from the chance to establish trust, safety, and friendships in smaller settings, which served them well during times of greater social and economic strife.

(7). Would you recommend this course to a colleague? Why or why not?

All 13 participants reported that they would recommend this course to a colleague. What follows are respondent sample comments:

- “This was a really helpful opportunity to think really intentionally about leadership.”
- “I really enjoyed learning with new people.”

- “I appreciated the opportunity to connect with colleagues on a personal level and outside of regular work conversations.”
- “This was a great opportunity for the practical application of leadership principles.”

(8). Is there anything else you would like to share about your experience?

Some subjects explained that they would be interested in taking the course with colleagues, others with non-colleagues, and some with a mixture of colleagues and non-colleagues. Two participants explained that they thought it would be beneficial to take a beginning course with colleagues, supported by their organization, then an opt-in, second-level course with others to expand their community of practice. This question elicited a variety of responses what follows are respondent sample comments:

- “I wish the course could be offered during a more ‘normal’ time-period to see if the outcomes and participation would change.”
- “I’m grateful for taking this course during what was the most unique time-period in modern human history.”
- “I feel blessed to have taken this course during such a challenging moment.”
- “Though it was hard on everyone, I think this course happened in perfect timing to help me through this time.”

Due to the fact that the entirety of this 10-week course was conducted during the COVID-19 pandemic, this researcher felt that it was imperative to inquire about the subject’s experience in light of this global crisis. Though it was not originally part of the original design, an additional inquiry was added to the end of the structured interviews to include: “What about this course was helpful to deal with your experience of the COVID-19 pandemic?”

Figure 13 summarizes the themes gathered according to the order of frequency.



Figure 13. Aspects of the course most helpful to deal with COVID-19 related challenges- Pareto.

There were a few outstanding themes, namely the importance of having a community of practice during times of uncertainty. Subjects noted that it was “therapeutic” to connect in a small group setting that fostered unity at a time of societal, physical disconnection. They explained that these conversations “normalized” their experiences and was a rare opportunity to foster more personal, “humanized” relationships with colleagues that went beyond transactional and became transformational. Furthermore, respondents shared that the mindfulness exercises were especially helpful to “cope with uncertainty” and “manage my wellbeing.” The third theme that arose was the concept of resiliency and how the aspects of the course supported them to be able to meet the challenges that emerged in their personal and professional lives with greater adaptability. Participants also explained that the self-care practices “fortified” them to “rise to the occasion” in the face of adversity and pressure. Lastly, subjects noted that they found the emotional intelligence components useful to “increase internal regulation” and in light of the myriad of experiences that citizens were having across the globe, “an expanded awareness of others’ experiences.”

What follows are some of the respondent’s direct quotations:

- “I received fortification of inner strength and resiliency.”
- “It was helpful to be working on something that was completely different than the things that were urgently in my face.”
- “I think that this course gives you the tools, whether it’s in a corporate setting or in a personal setting to really be able to handle anything.”
- “I felt like the whole world was melting down and those were quiet moments of peace that I could find in my day. Not to try and shut down the inner voices in my head that were freaking out about where we’re headed as a society and as a professional, but to tune in.”
- “This course provided me with the inner strength to face such enormous changes.”
- “By taking care of myself, I’m more able to be fortified for others and all that I’m responsible for.”
- “All of it was useful for everyday life- very helpful and effective to apply these to your normal life, especially under these intense circumstances.”

Summary

Based on the quantitative results and descriptive statistical analysis, respondents in the treatment group reported statistically significant mean score changes in each of the five LPI categories. Therefore, we can reject the null hypothesis and accept the first alternative hypothesis, that leadership performance is greater for organizational leaders after versus before a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component. Treatment group subjects reported statistically significant mean score changes in the majority of the LPI categories versus the comparison group. Therefore, we can reject the second null hypothesis and accept the second alternative

hypothesis, that leadership performance is greater in the majority of leadership domains for organizational leaders who do versus do not undergo a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component. Qualitative analysis of structured interviews reports that subjects perceived improvements in their leadership efficacy found the aspects of the course helped address their emerging leadership challenges and found that the course and the practices therein supported them to stay resilient and adaptive during an incredibly challenging moment in our modern history. The implications of this data for organizations is vast and will be discussed in Chapter 5.

Chapter 5: Discussion and Recommendations

Overview

Prior to the commencement of this body of research, notable researchers in the field of leadership development made loud and bold calls for advancements in the manner in which contemporary leaders are trained to meet today's complex challenges (Bennis, 2005; Ghoshal, 2005; Hess & Ludwig, 2017; Mintzberg & Sacks, 2004; Quatro, Waldman, & Galvin, 2007). This study occurred during one of the most challenging global pandemic events we have faced in modern history, and at the time of this writing, civil rights and racial strife has erupted once again in our country's landscape. We require highly cultivated leaders to help us solve these dynamic problems and highly nuanced issues. However, in the words of philosopher and author Cornel West, "We're witnessing the collapse of the legitimacy of leadership, the political class, the economic class, the professional class, that's the deeper crisis" (as cited in Kaplan, 2020, para. 16).

This research builds upon previous work that claims that one way to improve leadership efficacy is through advancing ego development/consciousness (Cook-Greuter, 1999, 2004), as clear connections have been made between ego development and leadership proficiency (Bartone et al., 2007; Fisher & Torbert, 1991; Harung et al., 2009; Rooke & Torbert, 1998, 2005). Our current methodology to develop this capacity has not yet reached mainstream educational institutions and the leadership training industry. This work looks to contribute to a growing body of research to demonstrate positive associations between increased consciousness and enhanced leadership performance (Barker & Torbert, 2011; Bartone et al., 2007; Brown, 2011).

Investigators have made some broad conclusions about the general conditions that advance leadership consciousness (Rooke & Torbert, 2005; Vincent et al., 2013). However, it

appears as though research has not yet been devoted to specific, practical methods by which leaders can attempt to advance their stage of awareness (Baron & Cayer, 2011). This research displays that the advancement of leadership consciousness can be trained and developed in comprehensive, methodical ways in an organizational setting. The following section discusses the detailed mixed-methods results and themes from a treatment group who underwent a 10-week, comprehensive leadership development course in contrast to a comparison group who did not receive the course. It is followed by implications for organizations, implications for leadership during crisis, limitations of the research, implications for future research, the researcher's personal observations and reflections, and concludes with a summary.

Discussion

The Leadership Practices Inventory, self-report version, is a 30-question assessment that investigates five domains of leadership functioning. This tool was utilized to measure baseline leadership functioning at the beginning of the research as a post-measure and again at the conclusion of the 10-week course as a post-measure for both the 13 members of the treatment and 13 members of the comparison group.

Research Question Answered

The primary focus of this research was to ask what extent, if at all, differences exist in a leadership performance between organizational leaders before and after undergoing a 10-week course on mindfulness meditation, emotional intelligence and creativity development along with a regular exercise component, and a comparison group of organizational leaders who do not receive this course? The corresponding hypothesis included:

Alternative Hypothesis: It is hypothesized that leadership performance will be greater for organizational leaders after versus before a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

Null Hypothesis (Ha1): Leadership performance will be less or no different for organizational leaders after versus before a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

It was unclear whether any statistically significant results would be rendered from this relatively short time period. However, in all five areas, the treatment group reported statistically significant changes in scores ($p < .05$).

Alternative Hypothesis 2: It is hypothesized that leadership performance will be greater in the majority of leadership domains for organizational leaders who do versus do not undergo a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

Null Hypothesis (Ha2): Leadership performance will be less or no different for organizational leaders who do versus do not undergo a 10-week course on mindfulness meditation, emotional intelligence, and creativity development along with a regular exercise component.

The treatment group displayed statistically significant changes in the majority of the LPI leadership domains (specifically, Inspire a Shared Vision, Challenge the Process and Enable Others to Act) in contrast to the comparison group. What follows is an analysis of each of these domains (and an explanation of each of these domains from the authors of this assessment tool; Posner & Kouzes, 1998) and qualitative data from structured interviews to further substantiate these results.

Figure 14 (originally presented in Chapter 4 as Figure 5) is re-presented here to visually display the changes in all five LPI domains between the participants vs. comparison group.

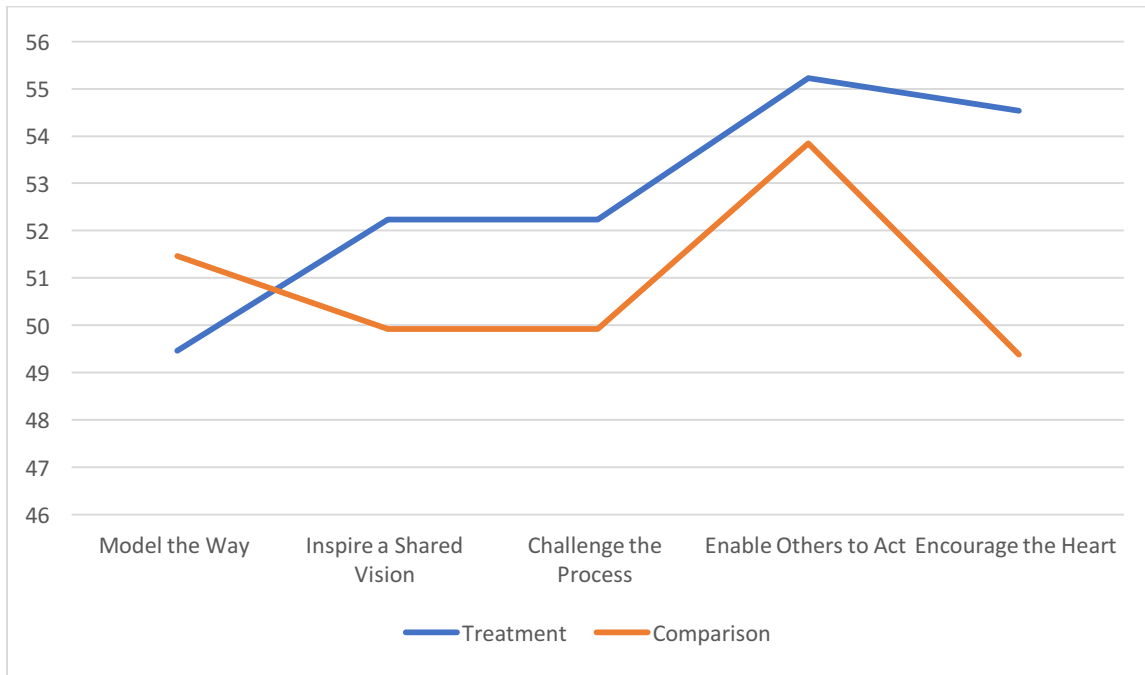


Figure 14. Treatment vs. comparison group post-LPI scores (mean).

Inspire a Shared Vision

According to authors Posner and Kouzes (2017, p. 33), this domain is concerned with the ability to “envision the future by imagining exciting and ennobling possibilities” and “enlist others in a common vision by appealing to shared aspirations.” At the onset of research, 28% of participants reported that their greatest leadership challenge was regarding the recent change in management and how to enroll their team toward a common goal, since the vision had shifted from values to profit-focused with new owners and leadership. Morale in the company cascaded in the aftermath of the transaction, and leaders struggled to locate the “just cause” that author Simon Sinek refers to in his latest book, *The Infinite Game* (2019).

However, throughout the course of the research, the entire participant group was impacted by COVID-19, a virus that began in China and quickly spread throughout the entire

globe. Ironically, its far-reaching social and economic impact served to unify the leaders in this company as they scrambled to find creative and fair solutions for their customers and vendors in a global travel industry that was hit hard and early by this pandemic. Despite great economic pressures (the majority of the group were either laid off or furloughed in this period) and managing irate and demanding customers (in the form of cancellation of all summer trips and issuing future vouchers for all student travel), they were able to stave off massive burnout and mitigate the stress of the unknown future. This was the domain that experienced the greatest LPI score changes, and this is perhaps due to a sense of togetherness that came in the vacuum of a united shared vision that was fostered by a community of practice and anchored in a personal-care regimen.

Despite recent ownership changes and despite the new management's focus on profits and performance, a longer history of service and relationship-forward culture prevailed, and they worked hard to draw upon trusted connections and common humanity to find innovative solutions for their customers, collaborators, and vendors. Conversely, this was the least improved area or fifth-ranking LPI score change for comparison participants. This may be due to the fact that many of these professionals found themselves without connection and camaraderie in the midst of such adversity. Without a sense of shared purpose, values, and connection, extreme external pressure can weaken the vision toward a compelling future.

Challenge the Process

Posner and Kouzes (2017, p. 57) explain that this area of leadership efficacy is concerned with “a search for opportunities by seizing the initiative,” “looking outward for innovative ways to improve” and, “experiment and take risks by consistently generating small wins and learning from experience.” This domain rendered the second greatest change in this area for subjects as

they embraced the opportunity for innovation and creativity in the face of turmoil. Through regular, disciplined personal practices such as mindfulness, 42% of leaders reflected that they were able to adapt to emergent circumstances (furloughs, layoffs, cancellations, distressed customers, delaying payments to vendors, finding virtual solutions and adaptations to ensure continued workflow) with advanced creative problem solving, greater empathy (to preserve relationships, keep up morale, and connection) and an improved ability to be “mentally flexible.” Participants reported an increased ability to transform challenging, unforeseen circumstances into opportunities to learn, adapt, and respond to change quickly. These results are aligned with the post-conventional stage of leadership functioning, whereby leaders openly question meaning-making structures and conventional assumptions (Koplowitz, 1984). Forty-two percent of leaders reported that the creative thinking component of the course supported them to expand their previously conceived ideas, find solutions to emerging problems, and rapidly innovate.

Enable Others to Act

This domain of leadership functioning is focused on “fostering collaboration by building trust and facilitating relationships” and “strengthening others by increasing self-determination and developing competence” (Posner & Kouzes, 2017, p. 81). This was the area that reported the third greatest LPI score change among participants. The resounding theme in this arena was the benefits participants garnered from small groups of communities of practice. As a result, 42% of leaders reported that they were able to stay connected to others, receive critical feedback, and improved confidence to adapt to “the new normal.” These intimate groups provided an opportunity to connect with colleagues on a personal level, which fostered more connection and trust so that when circumstances became more intense, finances got leaner, and tough decisions had to be made, they were done with greater empathy and care. Many subjects explained that this

course happened in “perfect” timing to allow them to have the support and connection throughout such a challenging moment of uncertainty.

In the realm of empathy, 35% of participants explained that especially in light of the pandemic, an increased sense of empathy (through the training on emotional intelligence) allowed them to first connect with their own internal experience, then face those on their teams, clients and vendors with greater compassion and understanding. In turn, this led to preserving valued relationships, treating others with dignity, respect, and served to solidify trust. Also, related to EI, 45% reported a willingness to take responsibility for self-care, self-awareness, and self-regulation. The secondary theme that arose was a sense of how one’s personal state impacts those around us and a call to grow “first personally, then professionally,” to take an “inside-out approach” to leadership.

Model the Way

This LPI domain concerns itself with “clarifying values by finding your voice and affirming shared values” and “setting the example by aligning actions with shared values” (Posner & Kouzes, 2017, p. 9). This was one of the two areas with no statistically significant change between treatment and comparison groups and was fourth-ranked in improvement in both groups. Upon beginning the course, most noted that their leadership challenge related to changes in management and, thereby, the rapid shift in purpose, values, and goals of the business. Throughout the course, these same participants explained that their leadership challenge shifted to aspects related to leading the company during a global pandemic. These two challenges in tandem presented subjects with extremely novel circumstances at an unprecedented scale. The majority of professionals in this research have not endured such immense, widespread global adversity, and it’s understandable that there were few examples to “Model the Way.”

However, the timing of this research group and the container it provided allowed them to help process the “loss of their previous culture” and any resentment and anger they harbored. Respondents reported that this community of practice provided the psychological safety to normalize their experiences, and in turn, they were able to embrace “what is,” including massive shifts in their responsibilities, duties, and team size. Subjects explained that the course encouraged them to “look inward” to find their own values and what kept them with the company, despite the overarching leadership changes.

Encourage the Heart

Posner and Kouzes (2017) explain that this domain relates to “recognizing contributions by showing appreciation for individual excellence” and “celebrating the values and victories by creating a spirit of community” (p. 105). This was also an area that did not render a statistically significant change between treatment and comparison groups. Perhaps one of the reasons that this area of leadership efficacy did not change much is due to the fact that great efforts had been made prior to the change in management and before the COVID virus to show appreciation for contributions and fostering a sense of community. This longstanding, familial company culture was steeped in celebration and connection. Despite a multitude of rapid changes, perhaps leaders in this organization were able to draw upon this previous culture at this heightened time of turbulence.

Additionally, this research occurred at a time of widespread social contraction and physical distancing- not in an environment of normally lauded accomplishments and achievements. However, participants echoed that the community of practice in the course served to help them “maintain positive relationships,” “an opportunity to establish a gentler relationship with myself,” and supported “connecting conversations, not just about work” that buffeted the

intensity and uncertainty they experienced externally. This feedback speaks to the importance of social connection in the midst of a crisis that will be examined in greater detail later in this chapter.

Implications and Recommendations

Combination of practices. As stated in Chapter 3, a bevy of research has been devoted to substantiating the importance of fostering post-conventional states of consciousness in leaders (Rooke & Torbert, 2005). Some research has been focused on the general aspects that could advance leaders to this stage, but little has been conducted to identify the specific, applied practices to move leaders in this direction (Baron & Cayer, 2011). This body of work brought together four domains of leadership development (mindfulness meditation, exercise, emotional intelligence, and creativity development) that have each been independently proven to have a positive impact on leadership efficacy. However, until now, these aspects have not been combined in a single treatment to determine their collective impact on leadership development. LPI results demonstrate that leaders who participated in this training quantitatively improved their leadership scores in all sectors and displayed the characteristics of post-conventional leaders. These traits include a marked capacity to question assumptions- also an aspect of a learning organization and represented in the LPI in Challenging the Process; consider the needs of many- another aspect of a learning organization- systems approach and represented in the LPI in Enabling Others to Act; are proactive, self-starting and are adept at leading change and creating vision- also an aspect of a learning organization- shared vision and represented in the LPI in Inspire a Shared Vision and Model the Way (Cook-Greuter, 2004; L. Harris & Kuhnert, 2008; Senge, 1990). Additionally, these leaders are able to handle complex issues, conduct change, support innovation, and are better facilitators of organizational learning- another aspect

of a learning organization- team learning (Merron et al., 1987; Rooke & Torbert, 1998; Senge, 1990).

Subjects reported that this particular combination of practices, an “inside-out” approach to personal and professional cultivation, was particularly useful to provide internal stability, centeredness, and reflection. They then were able to apply this insight and awareness to external relationships and circumstances to foster greater creative problem solving and adaptability, especially in light of great change and crisis. However, due to the combination of domains, we are unable to quantitatively determine the impact of each aspect. Nonetheless, qualitative data determined that 93% of respondents reported that mindfulness meditation was the most effective domain to manage their leadership challenges, while 7% reported that creative thinking was most impactful. Regarding the second most impactful aspect of the course, 70% noted gaining emotional intelligence, while 30% reported that the physical exercise component (tai chi). Regarding the third most impactful component of the course, 49% responded that the community of practice component was impactful, while 41% claimed that creative thinking was impactful to manage their leadership challenges.

Familiarity with aspects of the course. The participants that volunteered for this course entered with a novice background in each of the major domains represented. Figure 6, located in Chapter 4, graphically depicts their reported experience level upon entry to the course. The fact that many came with little prior experience may account for their open-mindedness to engage with the aspects represented throughout the course. What is noteworthy is that most respondents had some experience with mindfulness meditation, as it was not a wholly new concept or exercise. This may account for their willingness to maintain consistency with this practice and thereby produced the greatest perceived benefit. In contrast, very few had any prior experience

with the chosen exercise form, tai chi (chosen due to its benefits to body, mind, and spirit) and the level of novelty and unfamiliarity may account for the fact that it was perceived as least impactful to address their leadership challenges. Several subjects commented that they were interested in learning more about and practicing tai chi (and even found the program and software easy to use), however, they chose more familiar options that did not involve such a steep learning curve when carving out time for these practices on a daily basis. In future courses, alternative options could be given to provide participants with a selection of physical exercise choices to encourage greater participation and consistency.

Use of mindfulness meditation. Mindfulness appears to rise to the surface as the most effective strategy utilized in this work to positively impact leadership challenges and is aligned with previous research in this area (Thompson, 2018) that underscores its efficacy. Another theme that emerged was the bite-sized, easy-to-digest application chosen for this research, Sam Harris’s Waking Up Introductory Course. Subjects found this non-dogmatic, Vipassana-style meditation approach to be easy to practice and receive, especially for beginners. The application also has advanced meditations, which provided a range of exercises at all experience levels. Providing subjects with options that meet their level of prior experience is another key factor in optimized engagement.

Use of communities of practice. Respondents reported that the internal practices (meditation and exercise) provided them with a grounded framework in which to benefit from the external practices (emotional intelligence and creative thinking). An unexpected response was the benefit of the community of practice component of this design. This was not an original category that was offered to subjects as an aspect of the course to comment on in their responses; however, it emerged throughout the structured interviews as a “powerful context” that supported

the other areas of the course to be experienced with greater potency and accountability. The small groups facilitated the deepening and integration of the aspects of this course in their daily personal and professional lives. As Kirkpatrick and Kirkpatrick (1993) have explained, the majority of training resources are focused on the curriculum itself, but little goes into where the majority of the return on the investment is recognized- in the planning and integration of the coursework into daily life and habit creation.

Recommendations for organizations.

Specific benefits and aspects of communities of practice. The complex issues facing leadership today require advancing beyond skill acquisition and task mastery (Cook-Greuter, 2008). To find solutions to our most menacing problems, we must support leaders to develop an adaptive mindset, physical fortitude, emotional intelligence, and innovative capacities if we want to live more harmoniously with one another and the planet. Empowering leaders with these capacities is possible through company-supported (in the form of allocation of time and resources) communities of practice devoted to personal and professional growth. Notable researchers Cook-Greuter (2004) and Kegan (1982, 1984) note the importance of a support group and leveraging the reflection of others. Neuroleadership's advancements highlight the importance of the establishment of long-term habits through repetition, which moves these patterns to the basal ganglia, an older part of the brain to free up the prefrontal cortex for present-time execution (Rock & Schwartz, 2007). This research demonstrates that through inexpensive technology and skilled facilitation, virtual meetings can occur with participants around the globe to create a psychologically safe environment to foster trust, a sense of belonging, vulnerability, inter-dependency, reflective listening, the willingness to fail and ask for help, take responsibility,

challenge assumptions, and receive critical feedback that in turn creates nurturing partnerships and allies, and most of all, a humanizing, shared experience that we are all in this together.

The intent of these communities of practice (Wenger & Snyder, 2000) is to further embody the tenants of a learning organization (Senge, 1990) through accountability and practice of personal mastery, the advancement of emotional intelligence, and as an incubator for innovative ideas and creative solutions. As Rooke and Torbert's (2005) research noted, planned structured, developmental interventions are key to promote leadership efficacy and to provide a safe place the process the "shock of dissonance" that can come when attempting to advance a leader's consciousness. First, the COP must be intended in part on accountability to personal mastery (Senge, 1990) and transformational self-care. Facilitators must choose systems and applications that have a variety of options for various levels of experience to meet leaders at their current skill level and advance them further. These groups are critical to support advancing leader's newly acquired insights that can be supported by open-mindedness, critical feedback, and constructive debate (Torbert, 2004).

Leaders can benefit from having mindfulness meditation as a focal point for this practice to enhance overall awareness of one's experience and honing "non-conceptual awareness of physical, emotional and mental experiences" (Joiner & Josephs, 2007, p. 221). From this expansive perspective, leaders can experience a more neutral purview of reality, become more aware of their internal state of being, exercise greater executive functioning in the prefrontal cortex and less amygdala reactivity (Amsten, 2007, 2008). This study underscores the benefit that meditation has on stress reduction to liberate mental resources to deal with unanticipated obstacles and setbacks (Brendel et al., 2016). Together with a regular physical exercise component (again, with a variety of options to engage a range of physical capacity) to allay

stress and mitigate daily pressures (Neck et al., 2000), leaders can arrive in their positions with the ability to serve from a centered and resourced stance, ready to respond to the uncertainties of the world. Participants in this study explained that they would have benefitted from utilizing some kind of user-friendly, habit-tracking application to both enhance accountability and to gamify the results for the group. This commitment to vertical development (Cook-Greuter, 2004), can provide leaders with the psychological maturity and emotional and spiritual intelligence to meet the dynamic demands of our era.

This research illuminates that these communities of practice would also benefit from the inclusion of emotional intelligence education and exercises. Participants in this study highlighted the importance of developing greater self-awareness, self-regulation, social skills, empathy, and intrinsic motivation. This component is especially critical in our virtual, global ecology with remote staff and the inability to see and relate face-to-face. Developing trusting relationships doesn't just feel good; it is a major factor in promoting physical longevity (Buettner, 2017) and has been proven to translate to better performance and safety outcomes (Sinek, 2019).

The third component of the community of practice is the development of innovative ideas and creative solutions. Subjects reported the benefit of approaching difficult projects with enhanced creativity tools to create novel and useful strategies for the matter at hand. They also noted that having a safe environment to develop their ideas free of judgment or censorship was key to finding "paradigm-shifting" innovations. This group incubator can assist leaders in taking the "risks for the good of the unknown future" (Sinek, 2019, p. 199) in safe, micro-environments to test and develop their budding ideas and take on stretch assignments before attempting to scale their solutions. The development of a growth mindset, where risk and failure are encouraged and celebrated, is a key component of this success (Dweck, 2008). And in the world of great

technological advancements and disruptions, organizations would be well-served to incorporate proactive innovation, lest they are left without purpose and obsolete (Hess & Ludwig, 2017).

Leveraging the workplace for the benefit of all. Organizations have become a place of belonging and community for many and have come to provide the kind of structure, stability, inclusion, and kinship that is often provided by family, faith-based organizations, and neighborhoods. Furthermore, businesses have a responsibility in times of “normalcy” to provide a physically and psychologically safe place to work and earn a livelihood. However, there is a growing call to reconfigure corporate priorities to include a quadruple bottom line- people, planet, purpose, and profit. The inclusion of wellbeing of the workforce is not simply to optimize output and productivity but to behave in more sustainable (even regenerative), socially responsible ways to foster human resiliency, enhance the quality of work-life, and the communities in which they operate (Lawler, 2014). Since most of today’s highly-leveraged adults are not engaged in continuing education and professional development, (or in the case of millennials, are seeking this in the workplace), organizations may likely become the milieu for upgrading the human operating system.

Going beyond Milton Friedman’s definition of capitalism and auspices of a business to make money for shareholders (Friedman, 1970), modern organizations have the opportunity to re-prioritize their focus. This includes providing a service by supporting a purpose that meets a societal need, provides value to its customers, care for the people run and operate the company and the communities where they work (and source these materials), and fiscal responsibility to the shareholders- in that order (Sinek, 2019). There is evidence that corporations are being invited to go beyond a self-willed agenda and into a socially-conscious, service-oriented, relationship-forward directive. The rise in the B-Corporation (for benefit) and Regenerative

Certification movements are indicators that companies are willing to voluntarily upgrade their practices to include quadruple-bottom-line, whole-systems oriented standards. The forward-thinking organizations that opt into this level of transparency and accountability are at the forefront of using enterprise as a mechanism to usher in new, adaptive systems to solve some of our social, economic, and ecological challenges.

For those most concerned with the fiscal impact of this proposal, as previously stated, the millennial workforce (the greatest percentage of workers- 35% according to a Pew Research Center [2018] analysis of U.S. Census Bureau data) values wellbeing, professional and personal development and are seeking a sense of mission and purpose (Gallup, 2017). Additionally, research such as this underscores that inexpensive technology tools in the hands of experienced facilitators who utilize the protocols outlined in this paper can render improvements in leadership efficacy in a short period of time (though it would behoove organizations to keep these communities intact for longer intervals). These improvements make for better decision-makers who establish trusted relationships and offer the goods and services to the customers who, in turn, pay for these goods and services. Simply put, a highly trained, loyal workforce makes a stronger company that earns greater profits.

Implications during great change and crisis.

Proactive measures. Taking into account recent events, the phrase, “The new normal” has become a common part of the popular vernacular, referring to a state of unrest, uncertainty, and unknown. These times require highly adaptive humans and those who lead them to navigate into uncharted territory and a willingness to rapidly reorient to changing terrain. This is a skill that requires practice, as it involves discomfort and can easily slip into a fight, flight, or freeze response (Amsten, 2007, 2008), poor impulse control, and decreased emotional self-regulation

(Goleman, 2010). According to research by Cook-Greuter (2004), under distress, leaders tend to digress into earlier stages of behavioral patterns. However, the current study displays that when leaders are joined together in trusting, cohesive ways, they not only maintain their composure but are able to continue to be in service and rally for the organization and the sake of the collective good.

If an organization was able to support and sponsor psychologically safe containers for risk-taking and innovation prior to an unforeseen change, leaders would have the experience and self-directed neuroplasticity to respond with agility in volatile times. Rock and Schwartz (2007) explain that with sustained attention, individual thoughts and new behaviors can become solidified into one's identity and can be shaped into new perceptions and ways of being in the world. This underscores the importance of planned, focused developmental opportunities and their biochemical impacts on the brain and habituated behaviors.

Times of crisis illuminates our patterns and habits prior to the event. These moments of distress when the stakes are high, and the margins of error are low tend to reveal our physical, mental, relational, fiscal health, and levels of preparedness (or lack thereof). Though it may appear that taking time from "regular" work duties to foster trust, invest in relationships, and develop, author Simon Sinek (2019) provides many case studies of how this act leads to enhanced performance over time. This wisdom was highlighted in the current research, as the coursework began six weeks prior to the stay-at-home mandate for the COVID-19 virus. The foundational groundwork in the form of a community of practice and accountability to personal practices enabled leaders to respond to devastating changes to their industry with a sense of "calm and centeredness." Or, as Abraham Lincoln said, "Give me six hours to chop down a tree, and I'll spend the first four sharpening the ax" (Abraham Lincoln Quotes, n.d., para. 1).

Furthermore, organizations can opt to incentivize leaders who display trust-building behavior. Instead of simply rewarding performance-based behavior, (which can lead to tendencies to inflate success, underreport failure, deceive, and drive the workforce toward fast-paced, profit-driven-at-any-cost goals), organizations can expand their key performance indicators to include aspects like character, teamwork, and integrity. Incentivizing leaders to invest in relationships and culture is a potent way to reward those who are committed to service.

Response-able measures. The aforementioned practices can deposit collateral in the form of social and creative resources in the proverbial account when leaders need to draw upon the fortitude needed to be able to respond- response-able in volatile times. In moments that call for swift action in response to an unforeseen event, these same communities of practice can be called upon to shift the focus to the concern at hand to process and provide a place for sharing of one's lived experience and meaning-making associations. In these contexts, there is an opportunity to meet leaders in their current action-logic and invite them to a more expansive perspective (Cook-Greuter, 2004). Though organizations cannot force human advancement in an area as intricate and nuanced as ego development, it is worth leveraging best practices to support leaders' progression into more advanced stages of awareness and functioning. The provision of safe environments to integrate rapid changes can help create better group cohesion and may stave off the loss of productivity due to despair, overwhelm inter-personal challenges, and isolation.

In the current study, the primary researcher opted to shift the focus of conversation during the small group meetings to allow members to share their fears, vulnerabilities, and receive peer support during a time of great fragility and uncertainty. At the conclusion of the course, several subjects commented on the benefit of this adaptation and appreciation for the opportunity to use the group to support them during the emerging challenges to become more

resilient. Several also explained that even prior to the topic of the pandemic, they appreciated the chance to share their experiences of the changes in leadership and the “loss of the company culture.” As a result, they were able to move toward acceptance of the new landscape of the organization and their role within it. This has implications for companies during times of change management, who may undergo restructuring, buy-outs, and procurements in the uncertain economic times ahead.

The topic of resiliency has become a primary focus in our current global socio-political, economic, ecological state of affairs. In times of tremendous turmoil and uncertainty, there are lifestyle choices and supportive measures that can be taken to ward off psychological, emotional, and physical distress and promote a sense of internal calm in the midst of the stormy waters. Resilience is not simply the ability to “bounce back,” but the inner fortitude necessary to continue to serve. To underscore the significance of the practices outlined in this paper, the American Psychological Association (2020) encourages the following to build resiliency in the face of trauma, crisis, and adversity:

- Building connections- including prioritizing relationships with compassionate and trusted individuals, especially in a group setting.
- Foster wellness- including taking care of your physical health (nutrition, rest, exercise, hydration), practicing mindfulness, and avoiding negative outlets.
- Find purpose- in the form of helping others, being proactive regarding self-discovery, and moving toward goals to maintain meaningful focus.
- Embrace healthy thoughts- including keeping things in perspective, challenging irrational thinking, moving to accept change, and maintaining a hopeful outlook.

Organizations would greatly benefit from fostering resiliency in their workforce to have the internal and external fortitude needed to weather what may likely be very stormy waters ahead, into the “unknown unknowns.” Leaders can make small and daily choices to encourage vertical development- and the mindset, habits, and practices that can create a context for the resolve to withstand volatile, uncertain, complex, and ambiguous (VUCA) circumstances (Bennett & Lemoine, 2014).

Challenges with the Design and Sample

As mentioned in Chapter 3, some of the challenges involved in previous studies looking to investigate the advancement of post-conventional leadership consciousness or ego development include small sample size and homogeneity of the race and gender of study participants, decreasing generalizability across populations. This study had a relatively small sample size ($n = 13$). However, there was a balance of women and men and a demographic profile that represents the statistics in the majority of U.S. companies, where women represent 47%, 77% Caucasian, 18% Latino, 12.3% African or African American (note that additional statistics on other ethnicities are not kept by the U.S. Bureau of Labor Statistics [2019]). In this study, women comprised 46% of the treatment group, and the ethnic backgrounds included 76% Caucasian, 8% African, 8% Eastern European, and 8% Middle Eastern. Though the treatment and the comparison groups had an equal number of participants ($n = 13$ in each group), rendering a balanced design, the comparison group’s demographics were not equivalent to the treatment group (but more representative of the U.S. population)- 31% female, and the ethnic backgrounds included 70% Caucasian, 15% African, 15% Latin American.

Due to the fact that the course was presented virtually and comprised of activities completed independently, not all participants attended each session (and there is no way to verify

that they watched the recorded sessions) and thereby, we cannot ascertain that each participant received each aspect of the course in full. The circumstances surrounding the COVID-19 virus outbreak had an impact on subject's participation in the form of new and emergent job stressors and duties, economic loss, as well as social and relational implications (in the form of loss of childcare and schooling options for children, physical distancing and stay-at-home mandates, and health and wellness concerns). However, the virtual tools used in the facilitation of this course, with international participants in a global organization, demonstrate that this kind of program and the results therein are available and effective.

Furthermore, a complication in this design is the combination of treatment domains into a single course. There is no way to isolate the quantitative benefit of each aspect of the treatment into implications for leadership efficacy. However, 92% of respondents reported that mindfulness meditation was the most effective domain to manage their leadership challenges, 7% reported that creative thinking was most impactful. Regarding the second most impactful aspect of the course, 70% noted gaining emotional intelligence, while 30% reported that the physical exercise component (tai chi). Regarding the third most impactful component of the course, 49% responded that the community of practice component was impactful, while 41% claimed that creative thinking was impactful to manage their leadership challenges.

Additionally, these leaders volunteered to participate in the study and were not randomly selected, thereby those who opted in may have had a predilection toward leadership development and training and could have contributed to a bias in their predisposition toward aspects represented in the course. However, as Figure 6 depicts, the group was fairly novice in all domains, and the success they experienced could have been accounted for in their "beginner's mindset" with an openness to engage in novel activities.

Finally, the primary researcher also served as the course instructor for this study. It is possible that confirmation bias was responsible for the results and improvements made by the subjects. However, a research assistant also played a significant role and subjects noted the positive effect they perceived on his contributions, thus mitigating the sole impact that the primary researcher had on subjects' behavior.

Limitations

This study poses several limitations. First, the use of the constructive-developmental theory as an underpinning theoretical perspective is a very linear model and does not account for leadership evolution that happens outside of predetermined stages. Regarding biases and assumptions, due to the fact that this researcher has had previous professional contact with the majority of these participants could potentially bias the results. There was also an assumption that participants would enter the study with intrinsic motivation to engage with the research and participate fully to recognize the potential impact and to gather comprehensive data. This pre-conception of outcomes by the primary investigator (the Hawthorne effect) could potentially impact outcomes, as the researcher is the primary investigator for the study. A research assistant was used, and an external auditor was incorporated to improve inter-rater reliability.

Furthermore, the study's results may involve multiple treatment inferences, as several modalities are being used in the coursework. To resolve this, the primary focal point of the course is mindfulness meditation and that the other three domains (physical exercise, emotional intelligence, and creativity) are accessed through the practice of mindfulness. Pre-test treatment interactions and observational accuracy is another limitation of this design, as subjects may alter their responses since they would have already been exposed to the measurement tool. The tool was administered several weeks in between and can thereby offset the potential retest familiarity.

Limited sample size is another limitation, as this study only included 26 total volunteers, rendering this a limited sample of the overall population. However, the demographics of the participation group closely mirrored the population of the 2019 U.S. Bureau of Labor Statistics reports of the current workforce in the United States (U.S. Bureau of Labor Statistics, 2019)

Additionally, the study involved the use of a self-assessment as a dependent variable to measure leadership efficacy. Despite the fact that it is commonplace in the leadership industry and corporate human resources departments to utilize self-evaluations, Conway and Huffcutt (1997) report low relationships between self-ratings and those by other people. They state that there is much higher agreement between all of the other rater groups (boss, peers, and direct reports) than between any of these groups and self-raters. Also, research by Meriac, Hoffman, Woehr, and Fleisher (2008) on assessment devices suggest that questionnaire measures of personality, interest, and past behavior evaluations can only provide what they term ‘signs’ of possible potential behavior. That is, questionnaire measures can only suggest what actual performance may look like, and require “leaps of inference” that may not translate into an accurate picture of a person’s actual behavior in various situations. In the nearly 2.8 million responses to the LPI online from 2007-2015, the relationship between self and observer scores on the LPI are mixed. In some studies, self-scores are reported to be higher than observer scores, and in other studies, the opposite is found. In many other instances, no significant differences between self and observer responses have been reported (Posner, 2016).

Also, the tool that was utilized was based on two prominent authors in the leadership development field. Despite the documented validity and reliability (Posner, 2016), this tool is only one measurement of leadership and is by no means a comprehensive perspective on leadership efficacy. The explanations of each of the domains of the assessment were quoted by

these researchers as the experts who created this tool and thereby are limited and biased in their perspective. Future studies should include alternative measurements to examine the results using another tool- this will be discussed in the recommendations for future studies section.

The final limitation is the length of the study, as 10 weeks can be a significant amount of time to engage participants. Additionally, due to the length of time and quantity of time required for regular engagement, there was a chance that participants would be unable to complete the entirety of the course. This was mitigated by the creation of accountability partners, the establishment of communities of practice, and intermittent follow up contact were made to keep subjects motivated and engaged, which resulted in all participant and comparison group volunteers completing the requirements for the study.

Recommendations for Future Research

Several subjects reported that they would like to participate in this course at a “normal” time in their professional experience. In other words, not during a global pandemic. Repeating the course during a more stabilized period may render different results and further insights about the efficacy of the aspects outlined in this paper. Participants explained that they would benefit from having their organization more formally sponsor the coursework to not only allocate and safeguard the time to participate but also to garner the moral support of the company and peers to integrate the practices into personal and professional life. Subjects also explained that they would be interested in opting into an advanced course and would prefer that the course be comprised of both colleagues and additional professionals to expand the breadth of the group.

Per the respondent’s feedback, future courses would also benefit from the inclusion of the following:

- Assignment of accountability partners and small groups from the onset and pairing these subjects during breakout sessions to build rapport and connection
- Inclusion of a tracking application to encourage accountability and team-wide gamification
- Provision of alternative physical exercise modality options to expand choices and increase engagement
- Consider a longer course, perhaps 12-16 weeks for the introductory version, and then sponsor ongoing communities of practice for further integration.
- Option to participate in an advanced-level course following the conclusion of the initial course, to include non-colleagues
- Inclusion of a time management module to encourage consistent participation amidst competing priorities
- Inclusion of a module on the integration of the information and practices to the teams that leaders oversee
- Company-sponsorship for the fiscal and time support to participate in the course

A follow-up LPI, six months following the conclusion of the research, will be considered to determine the long-term effects of the practices investigated in this study. Due to the particular stress and time constraints that the majority of the subjects were under (given the recent change in management), the LPI-Self version was selected over the LPI-360 (which includes peer and manager review). Though self-reporting tools are widely used in social science research, their accuracy is questionable, and more precise feedback is often given by a peer or direct manager (Eichinger & Lombardo, 2003). Future studies could benefit from the utilization of a 360-tool pending the company's bandwidth to do so, to provide third-party observations to compare

against self-reflections. Other tools such as the Washington Sentence Completion Test (WSCT) or the Leadership Maturity Profile (MAP), offered by Susanne Cook-Greuter's Vertical Development group could offer additional perspectives into leadership consciousness, albeit these tests are expensive and time-intensive to administer.

In light of the recent resurgence of racial and civil rights strife, it is evident that beneath the turmoil, there is a great deal of unresolved trauma and societal unrest in our country. Though organizations are not responsible for addressing deeply seeded mental and emotional health matters, they do have a duty to continually and persistently address issues of inequality, racism, and other forms of bias, violence, and discrimination related to gender, age, disability, religion, and sexual orientation. The formation of communities of practice can provide leaders and their team members a place to share, listen, witness, and problem-solve these insidious issues. Moving from transactional to transformational, actions such as these could help ameliorate the mindset that keeps these pernicious matters alive in the fabric of enterprises. There is a shared responsibility to address these matters at the organizational level to help our workforce learn to work together with greater harmony, dignity, and love.

Researcher Reflections

As someone who has been deeply involved in guiding transformational processes at individual, family, and small group levels, it was unclear whether these practices would stand up to measures of academic rigor and psychometric testing. The significance of the quantitative results, given the relatively short course time, were unanticipated, especially because the inclusion of a quantitative component was in question during the design process.

In light of the massive levels of personal and professional turbulence, it was surprising that all participants (even those who were laid off from the comparison group) completed the

course, and 14% even commented that they wished the course was longer. Equally impressive was the fact that in the height of global turbulence, participants presented with a calm and curious attitude- a steady state. In fact, there was a notable absence of overt fear and agitation. In alignment with Rock and Schwartz's (2007) tenants of neuro leadership, these subjects displayed the ability to solve problems and make decisions, the ability to regulate emotions, the ability to collaborate with others, and the ability to facilitate change. Furthermore, they demonstrated the kind of flexibility, tolerance for difference, reflection, and adaptability associated with advanced states of consciousness (Cook-Greuter, 2004).

Though there is no way to ascertain the subject's daily moods and attitudes, they consistently arrived with an inquisitive, honest, and receptive demeanor. Despite the financial impact (including searching for work after being laid off or adjusting to major pay cuts as a result of a furlough), social impact (including the need to relocate to new homes, suddenly homeschool their young children, caring for their ailing parents) and emotional impact (including being sequestered and/or isolated in tight quarters without respite), this group displayed immense tenacity and resourcefulness. This kind of resiliency in the face of adversity is the hope for this research, as we are in great need of capable humans ready to solve our intricate challenges so that we can leave the world worthy of our children's inheritance.

Conclusions

This study sought to investigate whether the advancement of leadership consciousness can be trained and developed in comprehensive, methodical ways in an organizational setting. This mixed-methods framework concluded that it is indeed possible to quantitatively and qualitatively advance leadership efficacy through engaging in a comprehensive development course in mindfulness meditation, physical exercise, emotional intelligence training, and creative

thinking. These aspects of human development have been independently investigated and proven to have a positive relationship on leadership efficacy, however, they have not been combined and nurtured through a community of practice prior to this current body of work. This inside-out approach to whole-human development offers a compelling solution to advance the manner in which our leaders are trained to rise to the occasion of our volatile socio-political and ecological landscape.

This research is grounded in ancient spiritual and philosophical wisdom, emerging neuroscience, and contemporary human development/ evolutionary psychology theory to provide an applied approach to advancing leadership consciousness. The study was conducted over a relatively short time frame to display significant change, however, not only did 100% of participants report an improvement of their leadership efficacy, but they also displayed statistically significant changes in all five domains of the Leadership Practices Inventory. Subjects involved in the coursework also advanced their LPI scores in the majority of domains in comparison to a group that did not receive the course. The domains that rendered statistically significant results underscored that the coursework supported participants to advance their ability to rally around a shared vision, challenging assumptions and mental models, and fostering trusting communities of practice.

The present investigation proposes that vertical development (i.e., physical and spiritual cultivation) facilitates new insights and perspectives to become laterally (i.e., emotional/relational and creativity/innovation) integrated into new ways of behaving. This is an inside-out approach where the ready to transform leader first commits to an inward journey and then applies these new perceptions into external environmental and organizational shifts.

These implications are especially noteworthy, given that the entirety of this research took place during the outbreak of a global pandemic in an industry that was arguably the first and most impacted by the virus. All subjects not only completed the entire 10-week program, but every respondent noted that the coursework supported them to cope with the immense pressure and uncertainty they faced with greater adaptability, resourcefulness, and resiliency. Participants resoundingly reported that this trusted cohort of colleagues provided positive social connections, normalization of their experiences, empathy, stability, and care in a time of physical distance and societal disarray.

Organizations would benefit from establishing ongoing communities of practice that provide psychologically safe, team learning environments to establish key aspects of a learning organization. Specifically, these groups would be dedicated to honing personal mastery, crafting a compelling shared vision, embracing holistic systems thinking, a container to challenge assumptions, and ideate creative solutions. Mindfulness meditation was notably the most effective practice to help participants gain greater self-awareness and, in tandem with the physical exercise, helped establish internal stability and “vertical” fortitude. Subjects noted that with this internal strength intact, they were better able to advance their emotional and relational capacities of self-regulation, empathy, and social awareness. The combination of these practices provided the conditions to foster greater creativity and innovation to their evolving leadership challenges.

Establishing these groups in times of “normalcy” can provide the endurance required during times of crisis to not only stave off burnout and breakdown, but the resolve to continue to serve the greater mission. Proactive preparations need to be established until they become deeply embedded in the mindset of the company culture. This kind of resiliency requires organizations

to shift toward a relationship-based, socially-conscious focus that reorients enterprise beyond the self-will and in service to the collective good.

Summary

Our human family is in need of exemplary leaders to solve problems that pose major threats to our continued existence as a species. Current research demonstrates that traditional leadership training methods are costly, inefficient, and ineffectively prepare leaders to meet the dynamic complexities we face. There is a clear call to advance our approach to cultivating masterful humans who are capable of leading organizations to solve our greatest predicaments. This research poses that advancing leadership consciousness is an answer to this quandary through comprehensive, whole-human development. The study builds on a complex understanding of human consciousness that stands at the nexus of spirituality, philosophy, neuroscience, and psychology. Building upon the best practices offered in each of these fields of investigation, this study sought to determine whether the advancement of leadership consciousness could be trained in methodical ways in an organizational setting.

This mixed-methods study took 13 mid-upper management leaders in an international organization through an integrative program consisting of mindfulness meditation, regular exercise, emotional intelligence education, and creative thinking training. This group's outcomes were compared to a group from the same organization that did not receive the course. All participants took a pre- and post-treatment Leadership Practices Inventory assessments and all course subjects also underwent a structured interview upon the completion of the course.

Descriptive statistical analysis of the LPI results rendered statistically significant change for all five domains of the LPI assessment for the treatment group and statistically significant results in the majority of domains in comparison to the group that did not receive the program.

All respondents reported perceived advancements in their leadership efficacy and explained that the combination of practices in the course provided them with practices to become nimble-minded, emotionally resilient, and physically fortified so that they could more aptly conjure innovative solutions to emerging problems. Contrary to the traditional leadership and training modalities that can be both costly and ineffective, this virtual, adaptive methodology can render robust results with skilled trainers and inexpensive technology. Organizations looking to remain relevant and in service would benefit from developing their teams in more agile ways, which in the face of global viruses and interpersonal strife, may require leaders to find inventive, virtual ways to keep their workforce resourced and connected.

This research demonstrates that it is possible to advance leadership efficacy in practical, applied ways that build upon our contemporary understanding of consciousness. If we want to see advanced capacities in our leaders, we need to advance the way we hone and develop them. Our current state of affairs has both illuminated the stubbornness and the adaptability of humanity. If organizations could take heed and the responsibility needed to do their part to advance human development, great inroads toward inter-dependent harmony could be found. In the wise words of Cornel West, “None of us alone can save the nation or the world. But each of us can make a positive difference if we commit ourselves to do so” (West, 1993, p. 103).

REFERENCES

- Abraham Lincoln quotes. (n.d.). Retrieved from https://www.brainyquote.com/quotes/abraham_lincoln_109275
- Akrivou, K., & Bradbury-Huang, H. (2015). Educating integrated catalysts: Transforming business schools toward ethics and sustainability. *Academy of Management Learning & Education, 14*(2), 222-240. <https://doi.org/10.5465/amle.2012.0343>
- Aldana, S. G. (2001). Financial impact of health promotion programs: A comprehensive review of the literature. *American Journal of Health Promotion, 15*, 296-320. <https://doi.org/10.4278/0890-1171-15.5.296>
- Alexander, C. N., Davies, J. L., Dixon, C. A., Dillbeck, M. C., Druker, S. M., Oetzel, R. M., . . . Orme-Johnson, D. W. (1990). Growth of higher stages of consciousness: Maharishi's Vedic psychology of human development. In A. Alexander, R. M. Oetzel, & J. M. Muehlman (Eds.), *Higher stages of human development: Adult growth beyond formal operations* (pp. 286-341). New York, NY: Oxford University Press.
- Alexander, C. N., Druker, S. M., & Langer, E. J. (1990). Introduction: Major issues in the exploration of adult growth. In C. Alexander & E. Langer (Eds.), *Higher stages of human development* (pp. 3-32). New York, NY: Oxford University Press.
- Allers, R. (1944). Microcosmos: From Anaximandros to Paracelsus. *Traditions, 11*, 319-407. <https://doi.org/10.1017/s0362152900017219>
- American Psychological Association. (2020). *Building your resilience*. Retrieved from <https://www.apa.org/topics/resilience>
- Amsten. A. F. T. (2007). *Amsten Lab: Research*. Retrieved from <http://info.med.vale.edu/neurobio/amsten/Research.html>
- Amsten. A. F. T. (2008, March). *The mental sketchpad: Why thinking has its limits*. Symposium conducted at the 2008 North American NeuroLeadership Summit, New York, NY.
- Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management, 40*(5), 1297-1333. <https://doi.org/10.1177%2F0149206314527128>
- Armstrong, D. M. (1968). *A materialist theory of the mind*. New York, NY: Humanities Press.
- Ashby, F. G., Isen, A. M., & Turken, A. U. (1999). A neuropsychological theory of positive affect and its influence on cognition. *Psychological Review, 106*(3), 529-550. <https://doi.org/10.1037/0033-295x.106.3.529>
- Baars, B. J. (1998). *A cognitive theory of consciousness*. New York, NY: Cambridge University Press.

- Barker, E. H., & Torbert, W. R. (2011). Generating and measuring practical differences in leadership performance at post-conventional action-logics. In A. H. Pfaffenberger, P. W. Marko, & A. Combs (Eds.), *The post-conventional personality: Assessing, researching, and theorizing* (pp. 39-56). New York, NY: State University of New York Press.
- Baron, C., & Cayer, M. (2011). Fostering post-conventional consciousness in leaders: Why and how? *Journal of Management Development*, 30(4), 344-365. <https://doi.org/10.1108/02621711111126828>
- Bartone, P., Snook, S., Forsythe, G., Lewis, P., & Bullis, C. (2007). Psychosocial development and leader performance of military officer cadets. *The Leadership Quarterly*, 18, 490-504. <https://doi.org/10.1016/j.leaqua.2007.07.008>
- Barutta, J., Gleichgerrcht, E., Cornejo, C., & Ibáñez, A. (2010). Neurodynamics of mind: The arrow illusion of conscious intentionality as downward causation. *Integrative Psychological and Behavioral Science*, 44, 127-143. <https://doi.org/10.1007/s12124-010-9117-8>
- Bass, B. M. (1988). The inspirational process of leadership. *Journal of Management Development*, 7, 21-31. <https://doi.org/10.1108/eb051688>
- Bass, B. M., & Avolio, B. J. (1993). Transformational leadership: A response to critiques. In M. M. Chemers & R. Ayman (Eds.), *Leadership theory and research: Perspectives and directions* (pp. 49-90). San Diego, CA: Academic Press.
- Basseches, M. (1984). *Dialectical thinking and adult development*. Norwood, NJ: Ablex.
- Beck, D., & Cowan, C. C. (1996). *Spiral dynamics: Mastering values, leadership, and change: Exploring the new science of memetics*. Cambridge, MA: Blackwell Business.
- Bennett, N., & Lemoine, G. J. (2014, January). What VUCA really means for you. *Harvard Business Review*. Retrieved from <https://hbr.org/2014/01/what-vuca-really-means-for-you>
- Bennis, W. G. (2005). How business schools lost their way. *Harvard Business Review*, 83(5), 96-104. Retrieved from <https://hbr.org/2005/05/how-business-schools-lost-their-way>
- Berg, C., & Sternberg, R. J. (2003). Multiple perspectives on the development of adult intelligence. In J. Demick & C. Andreoletti (Eds.), *Handbook of adult development* (pp. 103-119). https://doi.org/10.1007/978-1-4615-0617-1_6
- Berger, P. L., & Luekmann, T. (1967). *The social construction of reality: A treatise in the construction of sociology*. Garden City, NJ: Anchor.
- Bergson, H. (1988). *Matter and memory*. New York, NY: Zone Books.

- Berrios, G. E., & Markova, I. S. (2003). The self and psychiatry: A conceptual history. In T. Kircher & A. S. David (Eds.), *The self in neuroscience and psychiatry* (pp. 9-39). <https://doi.org/10.1017/cbo9780511543708.002>
- Block, N. (1995). On a confusion about a function of consciousness. *Behavioral Brain Science*, *18*, 227-287. Retrieved from <https://www.cambridge.org/core/journals/behavioral-and-brain-sciences/article/editorial-commentary/33E32A1D6E61B9E7B3D81EAE49BC4B9B>
- Block, N. (2011). Perceptual consciousness overflows cognitive access. *Trends Cognitive Science*, *15*, 567-575. <https://doi.org/10.1016/j.tics.2011.11.001>
- Bohm, D., & Edwards, M. (1991). *Changing consciousness exploring the hidden source of the social, political and environmental crises facing our world*. San Francisco, CA: Harper.
- Bohm, D., & Peat, F. (1987). *Science, Order, and Creativity. A Dramatic New Look at the Roots of Science and Life*. New York, NY: Bantam Books.
- Brendel, W. (2016). Mindfulness based consulting. In D. Jamieson, A. Buono, & R. Barnett (Eds), *Consultation for organizational change* (Vol. II, pp. 129-152). Charlotte, NC: IAP Publishers.
- Brendel, W., Hankerson, S., Byun, S., & Cunningham, B. (2016). Cultivating leadership dharma. *Journal of Management Development*, *35*(8), 1056-1078. <https://doi.org/10.1108/jmd-09-2015-0127>
- Briskin, A., Erickson, S., Ott, J., & Callanan, T. (2009). *The power of collective wisdom and the trap of collective folly*. San Francisco: Berrett-Koehler.
- Brown, B. (2011). *Conscious leadership for sustainability: How leaders with late-stage action logic design and engage in sustainability initiatives* (Doctoral dissertation). Retrieved from http://integralthinkers.com/wp-content/uploads/Brown_2011_Conscious-leadership-for-sustainability_Full-dissertation_v491.pdf
- Buettner, D. (2017). *Blue zones solution*. Washington, DC: National Geographic.
- Bunge, M. (1991). A skeptic's beliefs and disbeliefs. *New Ideas in Psychology*, *9*, 131-149. [https://doi.org/10.1016/0732-118x\(91\)90017-g](https://doi.org/10.1016/0732-118x(91)90017-g)
- Caesar, V., & Caesar, C. A. (2005). *The high achiever's guide to happiness*. Thousand Oaks, CA: Corwin Press.
- Calleman, C. J. (2004). *The Mayan calendar and the transformation of consciousness*. Rochester, VT: Bear and Co.
- Capps, E., Page, T. E., & Rouse, W. H. D. (Eds.). (1923). *Hippocrates* (vol. 2; W. H. S. Jones, trans.). London, UK: William Heinemann.

- Chalmers, D. J. (1995). Facing up to the problem of consciousness. *Journal of Consciousness Studies*, 2, 200-219. Retrieved from <https://www.ingentaconnect.com/content/imp/jcs/1995/00000002/00000003/653>
- Churchland, P. M. (1995). *The engine of reason, the seat of the soul: A philosophical journey into the brain*. Cambridge, MA: The MIT Press.
- Cianciolo, A. T., Matthew, C., Sternberg, R. J., & Wagner, R. K. (2006). Tacit knowledge, practical intelligence, and expertise. In K. A. Ericsson, N. Charness, P. J. Feltovich, & R. R. Hoffman (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 613–632). <https://doi.org/10.1017/CBO9780511816796.035>
- Consciousness. (n.d.). In *Merriam-Webster.com dictionary*. Retrieved from <https://www.merriam-webster.com/dictionary/consciousness>
- Conway, J. M., & Huffcutt, A. I. (1997). Psychometric properties of multisource performance ratings: A meta-analysis of subordinate, supervisor, peer, and self-ratings. *Human Performance*, 10(4), 331-360. https://doi.org/10.1207/s15327043hup1004_2
- Cook-Greuter, S. R. (1999). *Postautonomous ego development: A study of its nature and measurement* (Unpublished doctoral dissertation). Harvard University, Cambridge, MA.
- Cook-Greuter, S. R. (2004). Making the case for a developmental perspective. *Industrial and Commercial Training*, 36(7), 275-281. <https://doi.org/10.1108/00197850410563902>
- Creswell, J. W. (2004). *Educational Research. Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (2nd ed.). Upper Saddle River, NJ: Pearson Education.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Crotty, M. (1998). *The foundations of social research*. Thousand Oaks, CA: Sage Publications.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York, NY: Harper & Row.
- Daft, R. L. (2005). *The leadership experience* (3rd ed.). Cincinnati, OH: South-Western.
- Dehaene, S. (2014). *Consciousness and the brain*. New York, NY: Penguin Books.
- Deloitte University Press. (2016). *Global human capital trends*. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/HumanCapital/gx-dup-global-human-capital-trends-2016.pdf>
- Dennett, D. C. (1991). *Consciousness explained*. Boston, MA: Brown and Co.

- Depraz, N., Varela, F., & Vermersch, P. (2003). *On becoming aware: A pragmatics of experiencing*. Philadelphia, PA: John Benjamins.
- Descartes, R. (1989). *Ouevres de Descartes* (C. Adam & P. Tannery, Eds.), Paris, France: Vrin. (Original work published 1641)
- Development Dimensions International. (2018). *Global leadership forecast*. Retrieved from <https://www.ddiworld.com/research/global-leadership-forecast-2018>
- Drath, W., & Palus, C. (1994). *Making common sense: Leadership as meaning-making in communities of practice*. Greensboro, NC: Center for Creative Leadership.
- Dweck, C.S. (2008). *Mindset: the new psychology of success*. New York, NY: Ballantine Books.
- Ego. (n.d.). In *Merriam-Webster.com dictionary*. Retrieved from <https://www.merriam-webster.com/dictionary/ego>
- Eichinger, R. W., & Lombardo, M. M. (2003). Knowledge summary series: 360-degreeassessment. *Human Resource Planning*, 26(4), 34-44.
- Eigel, K. (1998). *Leader effectiveness: A constructive developmental view and investigation*. Athens, GA: University of Georgia.
- Farah, M. J. (2005). Neuroethics: The practical and the philosophical. *Trends in Cognitive Sciences*, 9(1), 34-40. <https://www.sciencedirect.com/science/journal/13646613>
- Fisher, D., & Torbert, W. (1991). Transforming managerial practice: Beyond the achiever stage. *Research in Organizational Change and Development*, 5, 143-173. <http://hdl.handle.net/2345/3986>
- Fisher, D., Rooke, D., & Torbert, W. (2000). *Personal and organisational transformations through action inquiry*. Boston, MA: Edge Work Press.
- Forrester, J. (1961). *Industrial dynamics*. Cambridge, MA: Productivity Press.
- Forsythe, G., Snook, S., Lewis, P., & Bartone, P. (2002). Making sense of officership: developing a professional identity for 21st century Army officers. In D. M. Snider, G. L. Watkins, & L. J. Matthews (Eds.), *The future of the army profession* (pp. 357-378). New-York, NY: McGraw-Hill.
- Fortuna, J., & Scharf, T. (2003). ACOEM Expert Panel. Health-related workplace productivity measurement: general and migraine-specific recommendations from the ACOEM Expert Panel. *Journal of Occupational and Environmental Medicine*, 45(4), 349-359. <https://doi.org/10.1097/01.jom.0000063619.37065.e2>
- Freud, S. (1915). *The unconscious*. Retrieved from <http://dravni.co.il/wp-content/uploads/2014/01/Freud-S.-1915.-The-Unconscious.-.pdf>

- Friedman, M. (1970). *A Friedman doctrine: The social responsibility of business is to increase its profits*. New York, NY: New York Times.
- Gallup. (2017). *What Millennials want from work and life*. Retrieved from <http://news.gallup.com/businessjournal/191435/millennials-work-life.aspx>
- Ghoshal, S. (2005). Bad management theories are destroying good management practices. *Academy of Management Learning and Education*, 4, 75-92. <https://doi.org/10.5465/amle.2005.16132558>
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Boston, MA: Houghton Mifflin.
- Glomb, T., Duffy, M. K., Bono, J. E., & Yang, T. (2011). Mindfulness at work. *Research in Personnel and Human Resources Management*, 30, 115-157. [https://doi.org/10.1108/s0742-7301\(2011\)0000030005](https://doi.org/10.1108/s0742-7301(2011)0000030005)
- Goleman, D. (2010). *Emotional intelligence: Why it can matter more than IQ*. London, UK: Bloomsbury.
- Goleman, D., & Lippincott, M. (2017, September). Without emotional intelligence, mindfulness doesn't work. *Harvard Business Review*. Retrieved from <https://hbr.org/2017/09/sgc-what-really-makes-mindfulness-work>
- Gong, Y., Huang, J. C., & Farh, J. L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Academy of Management Journal*, 52(4), 765-778. <https://doi.org/10.5465/amj.2009.43670890>
- Graves, C. W. (1970). Levels of existence: An open system theory of values. *Journal of Humanistic Psychology*, 10(2), 131-155. <https://doi.org/10.1177/002216787001000205>
- Graves, C. W. (1974). Human nature prepares for a momentous leap. *The Futurist*, 8(2), 72-85. Retrieved from <http://www.global-change-seminar.org/raps/Graves1974Article.pdf>
- Guba, G. E., & Lincoln, Y. S. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Hambrick, D. C., Finkelstein, S., & Mooney, A. C. (2015). Executive job demands: New insights for explaining strategic decisions and leader behaviors. *The Academy of Management Review*, 30(3), 472-491. <https://doi.org/10.5465/amr.2005.17293355>
- Harari, Y. N. (2018). *21 lessons for the 21st century*. New York, NY: Spiegel & Grau.
- Harris, L., & Kuhnert, K. (2008). Looking through the lens of leadership: A constructive developmental approach. *Leadership & Organization Development Journal*, 29(1), 47-67. <https://doi.org/10.1108/01437730810845298>
- Harris, S. (2019). *Waking up*. Retrieved from <https://wakingup.com/>

- Harung, H., Travis, F., Blank, W., & Heaton, D. (2009). Higher development, brain integration, and excellence in leadership. *Management Decision*, 47(6), 872-894.
<https://doi.org/10.1108/00251740910966631>
- Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1994). *Emotional contagion*. New York, NY: Cambridge University Press.
- Hess, E., & Ludwig, K. (2017). *Humility is the new smart*. Oakland, CA: Berrett-Koehler.
- Hogan, C. L., Mata, J., & Carstensen, L. L. (2013). Exercise holds immediate benefits for affect and cognition in younger and older adults. *Psychology of Aging*, 28(2), 587-594.
<https://doi.org/10.1037/a0032634>
- Hurt, B. L. (1990). Psychological education for teacher-education students: A cognitive-developmental curriculum. In V. L. Erickson & J. M. Whitely (Eds.), *Developmental counseling and teaching* (pp. 339-347). Monterey, CA: Brooks/Cole.
- IBM. (2010). *IBM 2010 Global CEO Study: Creativity selected as most crucial factor for future success* [Press release]. Retrieved from <https://www-03.ibm.com/press/us/en/pressrelease/31670.wss>
- Isen, A. M., Daubman, K. A., & Nowicki, G. P. (1987). Positive affect facilitates creative problem solving. *Journal of Personality and Social Psychology*, 52(6), 1122-1131.
<https://doi.org/10.1037/0022-3514.52.6.1122>
- Ivanka, E. (1939). Hugo de Balma and the history of the theory of mysticism from the 12th to the 16th century. *Theologiai Tanulmányok*, 6, 58-121.
- Jack, A. I., Rochford, K. C., Friedman, J. P., Passarelli, A. M., & Boyatzis, R. E. (2019). Pitfalls in organizational neuroscience: A critical review and suggestions for future research. *Organizational Research Methods*, 22(1), 421-458.
<https://doi.org/10.1177/1094428117708857>
- Joiner, B., & Josephs, S. (2007). *Leadership agility: Five levels of mastery for anticipating and initiating change*. San Francisco, CA: Jossey-Bass.
- Kaplan, T. (2020). Dr. Cornel West weighs in on the state of race in America amid riots over Floyd death. *Fox News*. Retrieved from <https://www.foxnews.com/media/dr-cornel-west-on-whether-us-can-break-down-racial-barriers>
- Kegan, R. (1982). *The evolving self: Problem and process in human development*. Cambridge, MA: Cambridge University Press.
- Kegan, R. (1994). *In over our heads: The mental demands of modern life*. Cambridge, MA: Harvard University Press.
- Kegan, R., & Lahey, L. (2009). *Immunity to change: How to overcome it and unlock potential in yourself and your organization*. Boston, MA: Harvard Business Press.

- Kim, J. (1998). *Mind in a Physical World: An Essay on the Mind-Body Problem and Mental Causation*. Cambridge, MA: MIT Press.
- Kirkpatrick, D. L., & Kirkpatrick, J. D. (1993). *Evaluating training programs: The four levels* (1st ed.). San Francisco, CA: Berrett-Koehler.
- Koplowitz, H. (1984). A projection beyond Piaget's formal operations stage: A general system stage and a unitary stage. In M. Commons, F. Richard, & C. Armon (Eds.), *Beyond formal operations: Late adolescents and adult cognitive development* (Vol. 1, pp. 279-295). New York, NY: Praeger.
- Kuhnert, K. W., & Lewis, P. (1987). Transactional and transformational leadership: A constructive/developmental analysis. *Academy of Management Review*, *12*, 648-657. <https://doi.org/10.5465/amr.1987.4306717>
- Laerd Statistics. (2017). *Statistical tutorials and software guides*. Retrieved from <https://statistics.laerd.com>
- Lafferty, C. L., & Alford, K. L. (2010). NeuroLeadership: Sustaining research relevance into the 21st century. *SAM Advanced Management Journal*, *75*, 32-40. Retrieved from <https://samnational.org/sam-advanced-management-journal/>
- Lally, P., Van Jaarsveld, C. H. M., Potts, H. W. W., & Wardle, J. (2010). How are habits formed? Modeling and habit formation in the real world. *European Journal of Social Psychology*, *40*, 998-1009. <https://doi.org/10.1002/ejsp.674>
- Lawler, E. E. (2014). Sustainable effectiveness and organization development: Beyond the triple bottom line. *OD Practitioner*, *46*(4), 65-67. Retrieved from https://ceo.usc.edu/wp-content/uploads/2014/07/2014-06-G14-06-640-Sustainable_Effectiveness_Org_Development.pdf
- Lewis, C. S. (1960). *Studies in words*. Lansridge, UK: Cambridge University Press.
- Lewis, P., Forsythe, G., Sweeney, P., Bartone, P., Bullis, C., & Snook, S. (2005). Identity development during the college years: Findings from the West Point longitudinal study. *Journal of College Student Development*, *46*, 357-73. <https://doi.org/10.1353/csd.2005.0037>
- Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Pragmatic controversies, contradictions and emerging confluences revisited. In N. K. Dezin & Y. S. Lincoln. *The SAGE handbook of qualitative research* (4th ed., pp. 97-128). Thousand Oaks, CA: Sage.
- Lindebaum, D., & Fielden, S. L. (2011). 'It's good to be angry': Enacting anger in construction project management to achieve perceived leader effectiveness. *Human Relations*, *64*(3), 437-458. <https://doi.org/10.1177/0018726710381149>

- Lindebaum, D., & Zundel, M. (2013). Not quite a revolution: Scrutinizing organizational neuroscience in leadership. *Human Relations*, 66(6), 857-877. <https://doi.org/10.1177/0018726713482151>
- Locke, K. (2007). *Ego development: The nine stages theory of Loevinger*. Retrieved from <https://the-mouse-trap.com/2007/12/24/ego-development-the-nine-stages-theory-of-loevinger/>
- Loeppke, R., Hymel, P. A., Lofland, J. H., Pizzi, L. T., Konicki, D. L., Anstadt, G. W., . . . Scharf, T. (2003). Health-related workplace productivity measurement: General and migraine-specific recommendations from the ACOEM expert panel. *Journal of Occupational and Environmental Medicine*, 45, 349-359. <https://doi.org/10.1097/01.jom.0000063619.37065.e2>
- Loevinger, J. (1976). *Ego development*. San Francisco, CA: Jossey-Bass.
- Loevinger, J., & Blasi, A. (1976). *Ego development*. San Francisco, CA: Jossey-Bass.
- Lovelace, K. J., Manz, C. C., & Alves, J. C. (2007). Work stress and leadership development: The role of self-leadership, shared leadership, physical fitness and flow in managing demands and increasing job control. *Human Resource Management Review*, 17, 374-387. <https://doi.org/10.1016/j.hrmr.2007.08.001>
- Lowe, K. B., Kroeck, K. G., & Sivasubramaniam, N. (1996). Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature. *The Leadership Quarterly*, 7(3), 385-415. [https://doi.org/10.1016/s1048-9843\(96\)90027-2](https://doi.org/10.1016/s1048-9843(96)90027-2)
- Lynch W., & Riedel J. E. (2001). *Measuring employee productivity: A guide to self-assessment tools*. Scottsdale, AZ: The Institute for Health and Productivity Management.
- Manners, J., Durkin, K., & Nesdale, A. (2004). Promoting advanced ego development among adults. *Journal of Adult Development*, 11, 19-27. <https://doi.org/10.1023/b:jade.0000012524.32002.8d>
- Maslow, A. H. (1962). *Toward a psychology of being*. Princeton, NJ: Van Nostrand.
- Masten, A. S. (2018). Resilience theory and research on children and families: Past, present, and promise. *Journal of Family Theory & Review*, 10, 12-31. <https://doi.org/10.1111/jftr.12255>
- McCauley, C. D., Drath, W. H., Palus, C. J., O'Connor, P. M., & Baker, B. A. (2006). The use of constructive-developmental theory to advance the understanding of leadership. *The Leadership Quarterly*, 17(6), 634-653. <https://doi.org/10.1016/j.leaqua.2006.10.006>
- McEwan, B. S., & Lasley, E. (2002). *The End of Stress as we Know it*. Washington, DC: Joseph Henry Press.

- Megerian, L. E., & Sosik, J. J. (1996). An affair of the heart: Emotional intelligence and transformational leadership. *Journal of Leadership Studies*, 3(3), 31-48. <https://doi.org/10.1177/107179199700300305>
- Meriac, J. P., Hoffman, B. J., Woehr, D. J., & Fleisher, M. S. (2008). Further evidence for the validity of assessment center dimensions: A meta-analysis of the incremental criterion-related validity of dimension ratings. *Journal of Applied Psychology*, 93(5), 1042-1052. <https://doi.org/10.1037/0021-9010.93.5.1042>
- Merron, K., Fisher, D., & Torbert, W. (1987). Meaning making and management action. *Group & Organization Studies*, 12(3), 274-286. <https://doi.org/10.1177/105960118701200304>
- Miller, M. E., & Cook-Greuter, S. R. (Eds.). (1994). *Transcendence and mature thought in adulthood: The further reaches of adult development*. Landham, MD: Rowman & Littlefield.
- Mintzberg, H., & Sacks, D. (2004). The MBA menace. *Fast Company*, 83, 31-32. Retrieved from <https://www.fastcompany.com/magazine>
- Mizner, A. (n.d.). *Discover Taiji*. Retrieved from www.discovertaiji.com
- Moore, S., Grunberg, L., & Greenberg, E. (2004). Repeated downsizing contact: The effects of similar and dissimilar layoff experiences on work and well-being outcomes. *Journal of Occupational Health Psychology*, 9(3), 247-257. <https://doi.org/10.1037/1076-8998.9.3.247>
- Moshman, D. (2003). Developmental change in adulthood. In J. Demick & C. Andreoletti (Eds.), *Handbook of adult development* (pp. 43-59). New York, NY: Kluwer Academic.
- Murphy, L., & Pepper, L. (2003). Effects of organizational downsizing on worker stress and health in the United States. In C. Peterson (Ed.), *Work stress: Studies of the context, content and outcomes of stress: A book of readings* (pp. 53-71). <https://doi.org/10.4324/9781315223339-4>
- Neck, C. P., Mitchell, T. L., Manz, C. C., Cooper, K. H., & Thompson, E. C. (2000). Observations-fit to lead: is fitness the key to effective executive leadership? *Journal of Managerial Psychology*, 15(8), 833-841. <https://doi.org/10.1108/02683940010694323>
- Nohl, A.-M. (2009). *Interview und dokumentarische methode: Anleitungen für die forschungspraxis*. <https://doi.org/10.1007/978-3-658-16080-7>
- Northouse, P. G. (2016). *Leadership*. Thousand Oaks, CA: Sage Publications.
- Odin, S. (1982). *Process-metaphysics and Hua-yen Buddhism: A critical study of cumulative penetration vs. interpenetration*. Albany, NY: SUNY Press.

- Oizumi, M., Albantakis, L., & Tononi, G. (2014). From the phenomenology to the mechanisms of consciousness: integrated information theory 3.0. *PLoS Computational Biology*, *10*(5). <https://doi.org/10.1371/journal.pcbi.1003588>
- Pew Research. (2018, April 11). *Millennials are the largest generation in the U.S. labor force*. Retrieved from <https://www.pewresearch.org/fact-tank/2018/04/11/millennials-largest-generation-us-labor-force/>
- Pfaffenberger, A. H., Marko, P. W., & Combs, A. (2011). *The postconventional personality*. Albany, NY: State University of New York Press.
- Piaget, J. (1948). *The moral judgment of the child*. Glencoe, IL: Free Press.
- Piaget, J. (1954). *The construction of reality in the child*. London: Routledge & Kegan Paul.
- Posner, B. Z. (2016). Investigating the reliability and validity of the leadership practices inventory. *Administrative Sciences*, *6*(4), 1-23. <https://doi.org/10.3390/admsci6040017>
- Posner, B. Z., & Kouzes, J. M. (1988). Development and validation of the leadership practices inventory. *Educational and Psychological Measurement*, *48*(2), 483-496. <https://doi.org/10.1177%2F0013164488482024>
- Posner, B. Z., & Kouzes, J. M. (2017). *The leadership challenge workbook*. New York, NY: John Wiley & Sons.
- Quatro, S. A., Waldman, D. A., & Galvin, B. M. (2007). Developing holistic leaders: Four domains for leadership development and practice. *Human Resource Management Review*, *17*(4), 427-441. <https://doi.org/10.1016/j.hrmr.2007.08.003>
- Ringleb, A. H., & Rock, D. (2008). The emerging field of neuroleadership. *NeuroLeadership*, *1*(1), 3-19. Retrieved from <https://membership.neuroleadership.com/neuroleadership-journal/>
- Rock, D., & Schwartz, J. (2007). The neuroscience of leadership. *Reclaiming Children & Youth*, *16*(3), 10-17. Retrieved from <https://cyc-net.org/cyc-online/cyconline-sep2010-rock.html>
- Rooke, D. (1997). Organisational transformation requires the presence of leaders who are strategists and magicians. *Organisations and People*, *4*, 16-23.
- Rooke, D., & Torbert, W. R. (1998). Organizational transformation as a function of CEOs' developmental stage. *Organization Development Journal*, *16*(1), 11-28. Retrieved from https://www.isodc.org/OD_journal/
- Rooke, D., & Torbert, W. R. (2005). Seven transformations of leadership - leaders are made, not born, and how they develop is critical for organizational change. *Harvard Business Review*, *83*(4), 67-76. Retrieved from <https://hbr.org/2005/04/seven-transformations-of-leadership>

- Rosch, E. (1999). Reclaiming concepts. *The Journal of Consciousness Studies*, 6(11-12), 61-77. Retrieved from <https://www.ingentaconnect.com/content/imp/jcs/1999/00000006/f0020011/990>
- Rosch, E. (2008). Beginner's mind: Paths to the wisdom that is not learned. In M. Ferrari & G. Potworowski (Eds.), *Teaching for wisdom: Cross-cultural perspectives on fostering wisdom* (pp. 135-162). https://doi.org/10.1007/978-1-4020-6532-3_8
- Rosette, D., & Ciarrochi, J. V. (2005). Emotional intelligence and its relationship to workplace performance outcomes of leadership effectiveness. *Leadership and Organization Development Journal*, 26(5), 388-399. <https://doi.org/10.1108/01437730510607871>
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, 25(3), 293-315. <https://doi.org/10.1002/job.248>
- Schwartz, J. M., Stapp, H. P., & Beauregard, M. (2005). Quantum physics in neuroscience and psychology: A neurophysical model of mind-brain interaction. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 360(1458), 1309-1327. <https://doi.org/10.1098/rstb.2004.1598>
- Scott, G., Leritz, L. E., & Mumford, M. D. (2004). The effectiveness of creativity training: A quantitative review. *Creativity Research Journal*, 16(4), 361-388. https://doi.org/10.1207/s15326934crj1604_1
- Searle, J. R. (1992). *The rediscovery of the mind*. Cambridge, MA: MIT Press.
- Searle, J. R. (1993). The problem of consciousness. *Consciousness and Cognition*, 2, 310-319. <https://doi.org/10.1006/ccog.1993.1026>
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York, NY: Doubleday/Currency.
- Shamir, B. (1991). The charismatic relationship: Alternative explanations and predictions. *The Leadership Quarterly*, 2, 81-104. [https://doi.org/10.1016/1048-9843\(91\)90024-v](https://doi.org/10.1016/1048-9843(91)90024-v)
- Shkuroko, Y. S. (2013). The compatibility between sociological and cognitive neuroscientific ideas on consciousness: Is a neurosociology of consciousness possible? *Integrated Psychological and Behavioral Science*, 47(1), 123-41. <https://doi.org/10.1007/s12124-012-9224-9>
- Sinclair, A. (2015). Possibilities, purpose and pitfalls: Insights from introducing mindfulness to leaders. *Journal of Spirituality, Leadership and Management*, 8(1), 3-11. <https://doi.org/10.15183/slm2015.08.1112>
- Sinek, S. (2009). *Start with why*. New York, NY: Penguin Books.
- Sinek, S. (2019). *The infinite game*. New York, NY: Portfolio/Penguin.

- Sinnott, J. D. (1996). The developmental approach: Post-formal thought as adaptive intelligence. In F. Blanchard-Fields & T. M. Hess (Eds.), *Perspectives on cognitive change in adulthood and aging* (pp. 358–83). New York, NY: McGraw-Hill.
- Sparks, K., Faragher, B., & Cooper, C. L. (2001). Well-being and occupational health in the 21st century workplace. *Journal of occupational and organizational psychology*, 74(4), 489-509. <https://doi.org/10.1348/096317901167497>
- Sterman, J. D. (1989). Modeling managerial behavior: misperceptions of feedback in dynamic decision-making. *Management Science*, 35(3), 321-339. <https://doi.org/10.1287/mnsc.35.3.321>
- Strang, S., & Kuhnert, K. (2009). Personality and leadership developmental levels as predictors of leader performance. *The Leadership Quarterly*, 20, 421-33. <https://doi.org/10.1016/j.leaqua.2009.03.009>
- Subramaniam, K., Kounios, J., Parrish, T. B., & Jung-Beeman, M. (2008). A brain mechanism for facilitation of insight by positive affect. *Journal of Cognitive Neuroscience*, 21(3), 415-432. <https://doi.org/10.1162/jocn.2009.21057>
- Tai chi. (n.d). In *Merriam-Webster.com dictionary*. Retrieved from <https://www.merriam-webster.com/dictionary/tai%20chi>
- Thompson, T. (2018). Mindfulness and leadership: Benefits and insights. *OD Practitioner*, 50(1), 56-57. <https://search-ebscohost-com.lib.pepperdine.edu/login.aspx?direct=true&db=a9h&AN=127118791&login.asp%3fcustid%3ds8480238&site=ehost-live&scope=site>.
- Tichy, N. M., & Ulrich, D. (1984). The leadership challenge: A call for the transformational leader. *Sloan Management Review*, 26, 59-68.
- Tononi, G., Boly, M., Gosseries, O., & Laureys, S. (2016). The neurology of consciousness: an overview. In S. Laureys, O. Gosseries, & G. Tononi (Eds.), *The neurology of consciousness* (pp. 407-461). <https://doi.org/10.1016/b978-0-12-374168-4.00028-9>
- Tononi, G., Boly, M., Massimini, M., & Koch, C. (2016). Integrated information theory: from consciousness to its physical substrate. *Nature Reviews Neuroscience*, 17, 450-461. <https://doi.org/10.1038/nrn.2016.44>
- Tononi, G., & Koch, C. (2015). Consciousness: Here, there and everywhere? *Philosophical Transactions of the Royal Society B: Biological Sciences*, 370(1668). Retrieved from <https://doi.org/10.1098/rstb.2014.0167>
- Torbert, W. (1987). *Managing the corporate dream: Restructuring for long-term success*. Homewood, IL: Dow Jones-Irwin.

- Torbert, W. (1994). Managerial learning, organizational learning: A potentially powerful redundancy. *Management Learning*, 25(1), 57-70. <https://doi.org/10.1177/1350507694251004>
- Torbert, W. (1999). *The power of balance: Transforming self, society, and scientific inquiry*. San Francisco, CA: Sage.
- Torbert, W. (2004). *Action inquiry: The secret of timely and transforming leadership*. San Francisco, CA: Berrett-Koehler.
- Training Industry. (2020, April 1). *Size of the training industry*. Retrieved from <https://trainingindustry.com/wiki/outsourcing/size-of-training-industry/>
- U.S. Bureau of Labor Statistics. (2019). *Labor force statistics from the current population survey*. Retrieved from <https://www.bls.gov/cps/cpsaat11.htm>
- Van Knippenberg, B., Van Knippenberg, D., De Cremer, D., & Hogg, M. A. (2005). Research in Leadership, self, and identity: A sample of the present and a glimpse of the future. *The Leadership Quarterly*, 16, 495-499. <https://doi.org/10.1016/j.leaqua.2005.06.006>
- Varela, F. J., Maturana, H. R., & Uribe, R. (1974). Autopoiesis: The organization of living systems, its characterization and a model. *Biosystems*, 5(4), 187-196. [https://doi.org/10.1016/0303-2647\(74\)90031-8](https://doi.org/10.1016/0303-2647(74)90031-8)
- Varela, F. J., Thompson, E., & Rosch, E. (1991). *The embodied mind: Cognitive science and human experience*. Cambridge MA: MIT Press.
- Vincent, N., Ward, L., & Denson, L. (2015). Promoting post-conventional consciousness in leaders: Australian community leadership programs. *The Leadership Quarterly*, 26(2), 238-253. <https://doi.org/10.1016/j.leaqua.2014.11.007>
- Walach, H. (2007). Mind-body-spirituality. *Imprint Academic Mind & Matter*, 5(2), 215-240.
- Wenger, E., & Snyder, W. M. (2000). Communities of practice: The organizational frontier. *Harvard Business Review*, 78(6), 139-146. Retrieved from <https://hbr.org/2000/01/communities-of-practice-the-organizational-frontier>
- West, C. (1993). *Race matters*. Boston, MA: Beacon Press.
- Wortman, M.S. (1982). Strategic Management and Changing Leader-Follower Roles. *Journal of Applied Behavioral Science*, 18(3), 371-383. <https://doi.org/10.1177/002188638201800310>
- Wilbur, K. (1983). *Up from Eden: A transpersonal view of human evolution*. Boulder, CO: Shambhala.
- Wilbur, K. (2000). *The collected works of Ken Wilbur, Volume 8*. Boston, CO: Shambhala.

Wilson, E. O. (1998). *Consilience: The unity of knowledge*. London, UK: Little, Brown and Company.

Wilson, T. D. (2004). *Strangers to ourselves*. Cambridge, MA: Harvard University Press.

World Economic Forum. (2015). *Outlook on the global agenda 2015*. Retrieved from <http://reports.weforum.org/outlook-global-agenda-2015/>

Zeman, A. (2004). Theories of visual awareness. In C. A. Heywood, D. A. Milner, & C. Blakemore (Eds.), *The roots of visual awareness* (pp. 321-329). Amsterdam, Netherlands: Elsevier.

Zhong, J. Y. (2016). What does neuroscience research tell us about human consciousness? An overview of Benjamin Libet's legacy. *The Journal of Mind and Behavior*, 37(3/4), 287-309. Retrieved from <https://www.jstor.org/stable/44631774>

APPENDIX A

Sample of the Leadership Practices Inventory

Sample of Leadership Practices Inventory (from Kouzes & Posner, 1993a)

1. Sets a personal example of what he/she expects of others
2. Talks about future trends that will influence how our work gets done
3. Seeks out challenging opportunities that test his/her own skills and abilities
4. Develops cooperative relationships among the people he/she works with
5. Praises people for a job well done
6. Spends time and energy making certain that the people he/she works with adhere to the principles and standards that we have agreed on
7. Describes a compelling image of what our future could be like
8. Challenges people to try out new and innovative ways to do their work
9. Actively listens to diverse points of view
10. Makes it a point to let people know about his/her confidence in their abilities
11. Follows through on promises and commitments he/she makes
12. Appeals to others to share an exciting dream of the future
13. Searches outside the formal boundaries of his/her organization for innovative ways to improve what we do
14. Treats others with dignity and respect
15. Makes sure that people are creatively rewarded for their contributions to the success of projects
16. Asks for feedback on how his/her actions affect other people's performance

17. Shows others how their long-term interests can be realized by enlisting in a common vision
18. Asks “What can we learn?” when things don’t go as expected
19. Supports the decisions that people make on their own
20. Publicly recognizes people who exemplify commitment to shared values
21. Builds consensus around a common set of values for running our organization
22. Paints the “big picture” of what we aspire to accomplish
23. Makes certain that we set achievable goals, make concrete plans, and establish measurable milestones for the projects and programs that we work on
24. Gives people a great deal of freedom and choice in deciding how to do their work
25. Finds ways to celebrate accomplishments
26. Is clear about his/her philosophy of leadership
26. Spends time and energy making certain that the people he/she works with adhere to the principles and standards that we have agreed on
27. Speaks with genuine conviction about the higher meaning and purpose of our work
28. Experiments and takes risks, even when there is a chance of failure
29. Ensures that people grow in their jobs by learning new skills and developing themselves
30. Gives the members of the team lots of appreciation and support for their contributions

APPENDIX B

Behavioral Adult Participant Informed Consent

IRB #: 19-11-1214

Participant Study Title: Advancing Leadership Consciousness

Formal Study Title: Advancing Leadership Consciousness

Authorized Study Personnel

Principal Investigator: Jessica Shinnars, M.S.

Invitation

You are invited to take part in this research study. The information in this form is meant to help you decide whether or not to participate. If you have any questions, please ask.

Why are you being asked to be in this research study?

You are being asked to be in this study because you are in middle to upper level management and leadership. You must be 18 years of age or over to participate.

What is the reason for doing this research study?

This research is designed to investigate the effectiveness of a comprehensive leadership development program on leadership performance.

What will be done during this research study?

You will be asked to complete a self-assessment leadership profile and will then begin a 10-week leadership development program that includes participation in: mindfulness meditation practices, tai chi practices, emotional intelligence training, creativity training and stretch assignments at work to integrate these domains into the workplace. All activities will take place via video conferences and software applications. At the end of the study, you will be asked to take the same self-assessment leadership profile and participate in a structured interview with our research team.

What are the possible risks of being in this research study?

There are no known risks to you from being in this research study.

What are the possible benefits to you?

Benefits of participation may include decreased mental and emotional stress and heightened cognitive and relational experiences and increased creative expression. However, you may not get any benefit from being in this research study.

What are the possible benefits to other people?

The benefits to science and/or society may include advancement of ways that organizational leaders are trained and developed to meet emergent and high pressured demands.

What will being in this research study cost you?

There is no cost to you to be in this research study.

Will you be compensated for being in this research study?

There is no compensation for involvement in this study.

What should you do if you have a problem during this research study?

Your welfare is the major concern of every member of the research team. If you have a problem as a direct result of being in this study, you should immediately contact one of the people listed at the beginning of this consent form. Your participation is voluntary and you can stop at any time.

How will information about you be protected?

Reasonable steps will be taken to protect your privacy and the confidentiality of your study data. However, because you are being recruited from your place of work, there is a small risk that there may be a breach in confidentiality. We will uphold ethical standards to keep your data confidential and will not share any identifying data with your employer.

The data will be stored electronically through a secure server and will only be seen by the research team during the study. Any other data will be stored on a password protected hard drive and locked in a secure cabinet. Data will be securely stored for 3 years and then destroyed for security purposes.

The only persons who will have access to your research records are the study personnel, the Institutional Review Board (IRB), and any other person, agency, or sponsor as required by law. No identifying data will be shared with your employer. The information from this study may be published in scientific journals or presented at scientific meetings but the data will be reported as group or summarized data and your identity will be kept strictly confidential.

What are your rights as a research subject?

You may ask any questions concerning this research and have those questions answered before agreeing to participate in or during the study. For study related questions, please contact the investigator(s) listed at the beginning of this form.

For questions concerning your rights or complaints about the research contact the Institutional Review Board (IRB):

Phone: [REDACTED] Email: [REDACTED]

What will happen if you decide not to be in this research study or decide to stop participating once you start?

You can decide not to be in this research study, or you can stop being in this research study (“withdraw”) at any time before, during, or after the research begins for any reason. Deciding not to be in this research study or deciding to withdraw will not affect your relationship with the investigator or with Pepperdine University. You will not lose any benefits to which you are entitled.

Documentation of informed consent

Participant Feedback Survey

To meet Pepperdine University's ongoing accreditation efforts and to meet the Accreditation of Human Research Protection Programs (AAHRPP) standards, an online feedback survey is included below:

<https://forms.gle/nnRgRwLgajYzBq5t7>

Participant Name:

(Name of Participant: Please print)

Participant Signature:

Signature of Research Participant

Date

Investigator certification:

My signature certifies that all elements of informed consent described on this consent form have been explained fully to the subject. In my judgment, the participant possesses the capacity to give informed consent to participate in this research and is voluntarily and knowingly giving informed consent to participate.

Signature of Person Obtaining Consent

Date

APPENDIX C

Experimental Research Participant Bill of Rights

Experimental Research Subjects Bill of Rights California Law, under Health & Safety Code 24172, requires that any person asked to take part as a subject in research involving a medical experiment, or any person asked to consent to such participation on behalf of another, is entitled to receive the following list of rights written in a language in which the person is fluent. This list includes the right to:

1. Be informed of the nature and purpose of the experiment.
2. Be given an explanation of the procedures to be followed in the medical experiment, and any drug or device to be utilized.
3. Be given a description of any attendant discomforts and risks reasonably to be expected from the experiment.
4. Be given an explanation of any benefits to the subject reasonably to be expected from the experiment, if applicable.
5. Be given a disclosure of any appropriate alternative procedures, drugs or devices that might be advantageous to the subject, and their relative risks and benefits.
6. Be informed of the avenues of medical treatment, if any, available to the subject after the experiment if complications should arise.
7. Be given an opportunity to ask any questions concerning the experiment or the procedures involved.
8. Be instructed that consent to participate in the medical experiment may be withdrawn at any time and the subject may discontinue participation in the medical experiment without prejudice.
9. Be given a copy of the signed and dated written consent form.
10. Be given the opportunity to decide to consent or not to consent to a medical experiment without the intervention of any element of force, fraud, deceit, duress, coercion, or undue influence on the subjects decision.

SIGNATURE OF RESEARCH PARTICIPANT

I have read the information provided above. I have been given a chance to ask questions. My questions have been answered to my satisfaction and I agree to participate in this study. I have been given a copy of this form.

Name of Participant Signature of Participant Date

SIGNATURE OF INVESTIGATOR

I have explained the research to the participants and answered all of his/her questions. In my judgment the participants are knowingly, willingly and intelligently agreeing to participate in this study. They have the legal capacity to give informed consent to participate in this research study and all of the various components. They also have been informed participation is voluntarily and that they may discontinue their participation in the study at any time, for any reason.

Name of Person Obtaining Consent

Signature of Person Obtaining Consent Date

(Include Only One of the two signature lines, depending upon the scope of your study as well as potential participants)

APPENDIX D

LPI Permission Letter

April 13, 2018

Dear Ms. Shinnars:

Thank you for your request to use the LPI®: Leadership Practices Inventory® in your research.

This letter grants you permission to use either the print or electronic LPI [Self/Observer/Self and Observer] instrument[s] in your research. You may reproduce the instrument in printed form at no charge beyond the discounted one-time cost of purchasing a single copy; however, you may not distribute any photocopies except for specific research purposes.

If you prefer to use the electronic distribution of the LPI you will need to separately contact Joshua Carter ([REDACTED]) directly for further details regarding product access and payment. Please be sure to review the product information resources before reaching out with pricing questions. Permission to use either the written or electronic versions is contingent upon the following: (1) The LPI may be used only for research purposes and may not be sold or used in conjunction with any compensated activities; (2) Copyright in the LPI, and all derivative works based on the LPI, is retained by James M. Kouzes and Barry Z. Posner. The following copyright statement must be included on all reproduced copies of the instrument(s); “Copyright © 2013 James M. Kouzes and Barry Z. Posner. Published by John Wiley & Sons, Inc. All rights reserved. Used with permission”; (3) One (1) electronic copy of your dissertation and one (1) copy of all papers, reports, articles, and the like which make use of the LPI data must be sent promptly to my attention at the address below; and, (4) We have the right to include the results of your research in publication, promotion, distribution and sale of the LPI and all related products.

Permission is limited to the rights granted in this letter and does not include the right to grant others permission to reproduce the instrument(s) except for versions made by nonprofit organizations for visually or physically handicapped persons. No additions or changes may be made without our prior written consent. You understand that your use of the LPI shall in no way place the LPI in the public domain or in any way compromise our copyright in the LPI. This license is nontransferable. We reserve the right to revoke this permission at any time, effective upon written notice to you, in the event we conclude, in our reasonable judgment, that your use of the LPI is compromising our proprietary rights in the LPI.

Best wishes for every success with your research project.

Cordially,

Ellen Peterson

Permissions Editor



APPENDIX E

IRB Approval Letter

Date: January 23, 2020

Protocol Investigator Name: Jessica Shinnars

Protocol #: 19-11-1214

Project Title: Advancing Leadership Consciousness

School: Graduate School of Education and Psychology

Dear Jessica Shinnars:

Thank you for submitting your application for expedited review to Pepperdine University's Institutional Review Board (IRB). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials.

As the nature of the research met the requirements for expedited review under provision Title 45 CFR 46.110 of the federal Protection of Human Subjects Act, the IRB conducted a formal, but expedited, review of your application materials.

Based upon review, your IRB application has been approved. The IRB approval begins today January 23, 2020, and expires on January 22, 2021. The consent form included in this protocol is considered final and has been approved by the IRB. You can only use copies of the consent that have been approved by the IRB to obtain consent from your participants. Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Please be aware that changes to your protocol may prevent the research from qualifying for expedited review and will require a submission of a new IRB application or

other materials to the IRB. If contact with subjects will extend beyond January 22, 2021, a continuing review must be submitted at least one month prior to the expiration date of study approval to avoid a lapse in approval. A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual at community.pepperdine.edu/irb. Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this scholarly pursuit.

Sincerely,

Judy Ho, Ph.D., IRB Chair

cc: Mrs. Katy Carr, Assistant Provost for Research

APPENDIX F

Human Subjects Training Certificate



This is to certify that:

Jessica Shiners

Has completed the following CITI Program course:

Graduate & Professional Schools HSR

**Graduate & Professional Schools - Psychology Division Human
Subjects Training**

1 - Basic Course

Under requirements set by:

Pepperdine University

(Curriculum Group)

(Course Learner Group)

(Stage)

Completion Date Expiration Date Record ID

09-Jan-2019 08-Jan-2022 29979167



CITI

Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w02cb26ef-d3cb-4456-ad9c-5b24564042e1-29979167

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).