EMBODIED AWARENESS, EMBODIED PRACTICE: A POWERFUL PATH TO PRACTICAL WISDOM

by

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Dedication

With gratitude to my friend, Dr. Alan Fogel

With love for my companion in life, Lawrence Randle

And with deep appreciation for my mother, Bobbi Blake

A human being is part of the whole, called by us "Universe," a part limited in time and space. He experiences himself, his thoughts and feelings as something separate from the rest, a kind of optical delusion of his consciousness. The striving to free oneself from this delusion is the one issue of true religion. Not to nourish the delusion but to try to overcome it is the way to reach the attainable measure of peace of mind. ~ Albert Einstein

In pursuit of knowledge, every day something is acquired. In pursuit of wisdom, every day something is dropped. ~ Lao Tzu

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Embodied Awareness, Embodied Practice: A Powerful Path to Practical Wisdom

Abstract

by

AMANDA BLAKE

The early twenty-first century zeitgeist has been characterized by a cultural and corporate fascination with leveraging mind-body practices such as meditation and yoga as tools for professional performance. At the same time, executive coaches trained in body-mind approaches to coaching make strong but as-yet unsubstantiated claims about the transformative power of body-based behavioral learning. Practitioner literature suggests that developing embodied self-awareness (ESA) enhances well-being, resilience, and relationships while building the emotional and social intelligence (ESI) that sets outstanding leaders apart from ordinary ones. These claims are consistent with theoretical relationships between brain, body, and behavior, but they have yet to be put to the empirical test.

This mixed methods research project seeks to challenge, clarify, and validate these claims by examining the antecedents and outcomes of embodied self-awareness through both a theoretical and an empirical lens. Starting with a qualitative study based on critical incident interviews and thematic analysis, the research proceeds to gather survey-based data from over 550 professional coaches about their experience of embodied self-awareness, its potential outcomes, and the activities likely to produce it. Using factor analysis and structural equation modeling, results show that ESA has strong

and significant effects on all dependent variables tested and that ESA can be cultivated through multiple avenues, including body-oriented coach training, yoga, meditation, and hands-on bodywork.

Ultimately, by triangulating across methods and studies three convergent conclusions emerge: (1) Body-oriented coach training appears to have stronger effects on ESA than more commonly practiced pursuits such as yoga, mindfulness, and bodywork; (2) Developing ESA strengthens one's capacity for resilience, adaptability, and flourishing; and (3) ESA builds interpersonal competencies including empathy, connectedness, and conflict management. These results confirm that developing ESA has a positive effect on ESI—a result that has implications for virtually anyone whose work requires strong emotional and relational capacity. Those in people-oriented helping professions such as coaches, clergy, therapists, educators, mind-body practitioners, leaders, and managers should take note of the value of embodied self-awareness as a powerful lever for cultivating the life and leadership skills that foster excellence and deepen satisfaction.

Keywords: embodied self-awareness; embodied cognition; 4E cognition; emotional intelligence; social intelligence; affective neurobiology; interpersonal neurobiology; opposing domains theory; coaching; leadership; management

CHAPTER 1: INTRODUCTION

Research Problem

Professionals in many fields—management, medicine, coaching, education, social work, pastoral care, and beyond—are charged with helping people learn, grow, and change their behavior for the better. This can be hard work for both client and practitioner, especially when the desired change targets longstanding behaviors. Many professionals in these kinds of change-support roles know what it's like when their patients, clients, or employees get stuck and fall short of earnestly desired changes that seem to lie perpetually out of reach.

In most of these helping professions,[1] the default approach to practice entails provoking thoughtful and sometimes life-changing insights through conversation, education, and information sharing. All of this is welcome and valuable, insofar as it goes. But often, this common approach fails to account for the holistic nature of behavioral, emotional, and relational learning. Investigations across a number of fields are now converging on an increasingly well-understood unity of mind and body that impacts many domains of life, including and especially our emotions, relationships, and behavior.

This mind-body unity invariably, and often invisibly, affects people's capacity to make desired changes in their lives. In nearly any kind of life change we may wish to make, our emotions, relationships, and habits of behavior play a pivotal role. The

[1] The American Psychological Association defines a helping professional as someone who addresses people's physical, psychological, intellectual, emotional, or spiritual well-being. "People who work with people," including leaders and managers inside of organizations, are often tasked with supporting development in these domains even when it is not a central part of their role. (American Psychological Association, n.d.)

outcomes of the research described here show that when people cultivate embodied self-awareness (ESA)—defined as the ability to pay non-judgmental attention to present-moment sensation, movement, and emotions (Blake, 2019; Fogel, 2009)—they build much-desired skills and capacities that support success in leadership and in life.

These findings matter for both practitioners and clients for two reasons. First, those charged with supporting others through processes of learning, growth, and change cannot be fully effective unless and until they understand the holistic nature of behavioral learning, as we will see in the pages ahead. Second, our attempts to support others are invariably affected by how we ourselves show up. Our ability to be present, listen deeply, and reflect on someone else's challenges with perspective and wisdom all affect our capacity to truly help. For this reason, a practitioner's state of being is inseparable from how they impact others. And as this research illustrates, our state of being is heavily impacted by ESA, making our own embodied self-awareness a critical component of how we help others learn, grow, and change.

What theorists say. The rapidly growing field of embodied cognition has articulated many paths whereby the body plays a constitutive role in linguistic, affective, and social cognition. It turns out our *perceptions* and *behavior* are affected in large and small ways by how we *sense* and *move* (Anderson, 2003; Barrett, 2017; Casasanto & Dijkstra, 2010; Lakoff & Johnson, 1999; Newen, Bruin, & Gallagher, 2018; Varela, Thompson, & Rosch, 2016; Ziemke, 2016). Furthermore, growing neurobiological[2] evidence illustrates both anatomical and functional distinctions between the kinds of

[2] The term "neuroscience" is typically used to refer to imaging studies of the brain. Here I use the term "neurobiology" to indicate that the brain is inherently embedded in a body-wide system that is constantly engaged in a perpetual feedback loop with the brain.

information processing that support task-oriented thinking on the one hand, and the sensory awareness that supports emotional and empathic kinds of knowing on the other (Craig, 2015; Fogel, 2009; Jack, Dawson, Begany, et al., 2013).

In addition, maps of the learning process in the brain overlap heavily with a principal tenet from experiential learning theory, namely that sensory experience supports and may even be required for learning and change (Zull, 2002). Simultaneously and independently, and consistent with early 20th-century philosophy (Dewey, 2015; James, 1884; James & Shook, 2011), researchers in education have also observed the importance of the body to learning (Barndt, 2019; Bennett, 2012; Doidge, 2007; Kolb & Kolb, 2017; Tobin & Tisdell, 2015). We also know that action-oriented practice—which implicates the body in learning in that it requires you to practice *doing* something new or different—is inextricably linked to successful intentional change (Boyatzis, 2006; Strozzi-Heckler, 1993). This convergence between theories of embodied *knowing* on the one hand, and theories of embodied *learning* on the other, strongly suggests that the body plays an essential role in behavior change.

Decades of work in developmental psychology have resulted in increasingly clear descriptions of the sensory, embodied, and non-linguistic processes of behavioral learning in childhood (Barrett, 2017; Fogel, 2011; Sapolsky, 2005; Siegel, 1999), and there is reason to believe that similar processes accompany behavioral learning in adulthood (Barndt, 2019; Bennett, 2012; Blake, 2018). Researchers in affective and interpersonal neurobiology consistently point to body-wide biological correlates of emotional states and relational experiences (Damasio, 2000; Schore & Schore, 2008),

lending further credence to the view that the body is inextricably bound up with behavior change.

In short, a wealth of research from a variety of fields indicates a striking likelihood that learning—particularly social, emotional, and behavioral learning—occurs in far more physical ways than we typically account for. This overlooked avenue to development may explain the common complaint that "*shelf*-help" books, leadership training programs, and even helping relationships too frequently fail to help as much or as often as desired. As one example, while we know the skills of emotional and social intelligence (ESI) can be learned, with only a few notable exceptions (Boyatzis & Cavanagh, 2018), most approaches to training ESI competencies fail to result in sustained improvement. While the most effective ESI training programs can result in up to 61% sustained improvement in ESI competencies, studies of leading corporate training and MBA programs top out at a whopping 11% rate of competency improvement (Boyatzis et al., 2017). These disappointing results appear to be due to a failure on the part of many programs to use more experiential training methods (Boyatzis et al., 2017; Boyatzis & Cavanagh, 2018). Given the importance of emotional and social intelligence to life satisfaction and leadership success (Goleman, 2005, 2007; Goleman, Boyatzis, & McKee, 2013), surely we can do better.

What practitioners say. Meanwhile, for decades practitioners in fields as distinct as management (Attan, Whitelaw, & Ferguson, 2017), dance (Whitelaw & Wetzig, 2008), manual therapy (Myers, 2014), martial arts (Heller & Surrenda, 1994; Palmer, 1999; Strozzi-Heckler, 2007) and somatic psychology, (Levine & Mate, 2010; Van der

Kolk, 2015) have made powerful claims that movement-based practices and embodied awareness facilitate emotional, behavioral, and relational change.[3]

Indeed, coaches who rely on body-oriented coaching methods frequently report that the body-oriented approach is the most valuable arrow in their quiver, and that embodied coaching produces the fastest and most lasting transformations for clients (Blake, 2018; Strozzi-Heckler, 2014; Whitelaw & Wetzig, 2008). I will explore the nature of body-oriented coaching more in the chapters that follow, but for now, I can briefly define this approach as a methodology in which the coach pays close attention to both their own sensations and the client's posture, gestures, and movements for hidden clues about emotions and habits of behavior and relating. In addition, research on the role of the body in PTSD and trauma recovery is gaining steady ground in the field of psychology (Blackstone, 2018; Levine & Mate, 2010; Rothschild, 2000; Treleaven, 2018; Van der Kolk, 2015; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005; Wolynn, 2016).

Reports from the field of manual therapy have shown marked and sustained reductions in both stress response and aggressive behavior through the healing power of touch (Field, 2003; Linden, 2016). Some touch-based bodywork modalities can initiate simple and sustained changes in posture that not only release unconsciously held physio-

[3] Somatic psychology is a form of psychotherapy that focuses on physical perception and the body as experienced from within. Body-oriented psychotherapy, dance therapy, and expressive arts therapy are closely related disciplines. Manual therapy includes but is not limited to massage therapy, and is also sometimes referred to as bodywork or "spatial medicine." Brand-name modalities include Rolfing or Structural Integration, Cranio-Sacral, Myofascial Release, Rosen Method, Bowen Method, Feldenkrais, certain approaches to physical therapy, and more.

emotional tensions but also appear to produce sustained positive emotional change (Cottingham, Porges, & Richmond, 1988; Myers, 2014; Schliep & Jäger, 2012).

In the domain of leadership, a chance discovery of correlations between dance archetypes and Jungian archetypes in the 1970s ultimately led to a series of movement-based practices to help leaders, physicians, and professional coaches more easily access each behavioral archetype to support different kinds of workplace activities (Blake, 2018; Whitelaw & Wetzig, 2008). Furthermore, multiple practitioners of aikido have translated their lessons from the martial arts mat to the office, teaching leaders how manage conflict more effectively (Heller & Surrenda, 1994; Palmer & Crawford, 2013; Strozzi-Heckler, 2003; Whitelaw, 2012) and contributing to a growing body of practitioner literature that links embodied practice to leadership development (Aquilina, 2016; Blake, 2018; Hamill, 2013; Palmer & Crawford, 2013; Strozzi-Heckler, 2007; Whitelaw & Wetzig, 2008).

What motivates this study. This wealth of practitioner observations reveals a tight correspondence with predictions from educational, neurobiological, and cognitive theories, providing ample reason to expect that anecdotes based in practice will hold up to rigorous testing. But while practitioners using embodied approaches to change make remarkable claims about results and outcomes, there remain many unanswered questions about the veracity and stability of these claims across varying sets of circumstances, and empirical testing has been scant to date. What behavioral, relational, and emotional outcomes does embodied learning reliably produce, for instance? Among the many possible approaches, which are the most effective? Are some approaches better than others at developing specific outcomes? Questions such as these remain unasked and unanswered. Meanwhile, practitioner claims about the efficacy of embodied approaches

to learning lack the robust empirical evidence required to tease out important nuances and distinctions in this impactful yet underutilized approach to adult development.

This mixed methods research project aims to close that gap by investigating the role of embodied self-awareness in behavioral, social, and emotional learning. In these studies, I define embodied self-awareness (ESA) as present-moment, non-judgmental attention to sensation, movement, and emotion, following the definition offered by Fogel (2009). Research on ESA indicates that it positively affects mental and physical health, and that it can be developed through hands-on, manual healing therapies as well as experiences of mindful movement (Fogel, 2009, 2020a, 2020b, 2020c, 2020d, 2021). However, while developing ESA seems to hold strong promise for behavioral change, we know very little about the potential for ESA to affect behavioral outcomes. We do not know as much as we should know about the relationship between embodied self-awareness, coaching, and leadership development, particularly given the growing interest in body-oriented practices as a coaching methodology. Nor do we have a strong understanding of what methods or activities reliably generate ESA. This leads us to the three primary questions we seek to answer with the following set of integrated studies:

> *Question 1 (Study 1): What is the relationship, if any, between embodied self-awareness and emotional and social intelligence?*
>
> *Question 2 (Study 2): What are the outcomes of developing embodied self-awareness?*
>
> *Question 3 (Study 3): What activities reliably produce or cultivate embodied self-awareness?*

Answering these questions has both scholarly and pragmatic implications. What we discover will inform practice by illuminating the role of embodied self-awareness in intra- and inter-personal behavior change, while simultaneously expanding on theory by

developing the nomological network for the relatively new construct of embodied self-awareness.

Relevance to Practice and Theory

Anyone tasked with helping others change their behavior, develop their capacity, and grow their maturity has a stake in the conclusions drawn from this research. Coaches, therapists, leaders, managers, nurses, social workers, clergy, yoga teachers, educators, bodyworkers, and those in similar kinds of professions will all find valuable insights here. It is worth noting that these conclusions also have relevance beyond the professional world, particularly for parents. Individuals pursuing personal growth for non-professional reasons are also likely to find these conclusions useful.

For instance, the results of this project indicate that embodied self-awareness grows resilience, emotional regulation, adaptability, and flourishing, as well as empathy, connectedness, and the ability to de-escalate and manage conflict. Personal and interpersonal skills such as these are vital in these uncertain times. Anyone who might directly benefit from—or is in a position to help others benefit from—these kinds of outcomes can leverage what they learn here.

To conduct the research, I sampled professional coaches working in executive, career, health, relationship, and team domains. While I believe these results will be relevant to all manner of helping professionals, I chose to study coaches for a very specific reason: while the coaching field primarily trains coaches using conventional insight-and-information approaches to supporting change, there is a subset that focuses on what is referred to variously as somatic, embodied, or body-oriented coaching. This type of coaching and coach training goes under a variety of brand names, but all share an

important characteristic: each guides its learners to pay close attention to their embodied states and that of their clients, particularly during emotionally charged relational situations such as standing up for oneself, saying yes (or no) to a significant invitation, or initiating challenging conversations. The availability of this unique type of training makes the professional coaching population one of the very few groups where we can identify individuals who are high in ESA alongside those who are low in ESA—an essential characteristic for detecting the presence of ESA and measuring its effects. Most other populations (e.g., managers, yoga teachers) are considerably more homogenous in their degree of embodied self-awareness, making it difficult or impossible to measure the differential effects of high versus low ESA and to tease out its effects.

However, sampling coaches is not without its limitations. The coaching profession tends to be highly focused on introspection and personal growth, making coaches a group that stands apart from the population at large in some important respects. This limits the degree to which we can extend our conclusions to other populations. That said, coaches share many job responsibilities and personal characteristics with other kinds of helping professionals. Many of the conclusions from this project will be generalizable to helping professions writ large, as well as to others whose responsibilities entail but do not exclusively focus on helping roles, such as leaders, managers, and HR professionals.

Results of this project also point to specific recommendations for coach training and skill development. Whether intended for professional coaches, managers using coaching approaches, or individuals who simply want to leverage coaching skills in their personal life, coach training programs and coaching-oriented leadership development programs have something to gain from these results. This research shows that body-

oriented coach training has a consistently stronger effect on the development of ESA than more commonly practiced activities such as yoga and meditation. Results also indicate that embodied self-awareness supports the development of critical skills for helping professionals, implying that body-oriented approaches ought to be woven into coach training from its inception. Coaches should prioritize body-oriented training, and coach training organizations should review their curricula and future programming with these results in mind.

In addition, other helping professionals may do well to cultivate embodied self-awareness as a path towards developing emotional and social intelligence. Leaders and managers, clergy and therapists, educators and nurses—in short, all those whose work involves supporting and developing others—would do well to understand and leverage the embodied roots of the emotional and social intelligence that undergirds success in their roles.

Organizations that invest in developing personal and interpersonal leadership capabilities amongst their staff—or that pay for and promote holistic health-and-wellness programs for employees—may find ideas here for how to strengthen the outcomes they seek. Developing embodied self-awareness has the potential to help individual employees perform their jobs more effectively while simultaneously supporting smoother group functioning. Thus, this research is also likely to be of interest to many HR professionals, leadership development trainers, and organization development consultants.

Finally, I expect the results of this study to enrich theory by expanding our understanding of experiential learning, emotional and social intelligence, and the relationship between them. This exploration of the role of the body in learning and

change also contributes to the literature on management theory, coaching, educational theory, and embodied cognition. Taken together, these studies construct a baseline model of a nomological net for embodied self-awareness, contributing a great deal to our understanding of this relatively new construct.

This research has given rise to these key discoveries:

- Identification of the behavioral (rather than health) outcomes of embodied self-awareness, including specific ESI competencies
- Identification of the most effective means by which to develop ESA
- Updates to current assumptions about the process of social and emotional learning
- Challenges and upgrades to the conventional models of coach training
- Construction of the nomological network for the embodied self-awareness construct

That said, the most important contribution of this research may well be its practical implications for the day-to-day work of coaches and other helping professionals and the resulting impact for their clients.

Approach to the Study

Embodiment is an inherently holistic concept. By definition, holistic phenomena connect discrete parts of a system. In this case, embodiment spans the distinct spheres we conventionally conceive of as “mind,” “body,” and “behavior.” The holistic nature of these phenomena means that a single method or a single study would almost certainly overlook important elements of the overarching research question. For this reason, I have chosen a holistic mixed methods approach that both captures the effects of ESA in practitioners’ own words and tests the validity of these individual descriptions across a much larger population. This mixed methods approach allows us to look through multiple

lenses at closely related questions, enabling us to surface important distinctions and strengthen the credibility of the conclusions we draw. The opportunity to conduct validity checks by comparing results between methods is particularly valuable given how understudied embodied self-awareness has been.

The project consists of three separate studies. Each study was conducted and written up as a standalone project that builds upon the preceding studies, resulting in some conceptual repetition between them. With apologies to the reader, I hope this inevitable repetition will serve as a valuable reinforcement of ideas rather than a distraction.

Figure 1 illustrates the research approach at a high level, using the QUAL and QUAN indicators of qualitative or quantitative approaches as described in Creswell and Plano Clark (2018).

Study 1. The first step was to conduct a qualitative exploration of the relationship between embodied self-awareness and emotional and social intelligence, seeking to understand participants' experiences of embodied self-awareness in their own words. Through 26 critical incident interviews followed by thematic analysis, this study found a strong relationship between embodied coach training (briefly defined above and more extensively in the following chapters) and specific ESI competencies. These results were supported by interrater reliability measures that exceeded 70%. Chapter 4 discusses this study and its findings.

Instrument development and data collection. Drawing on the results of this qualitative study as well as relevant literature and the research questions for Studies 2 and 3, I developed a self-report survey instrument to measure the presence of, outcomes of,

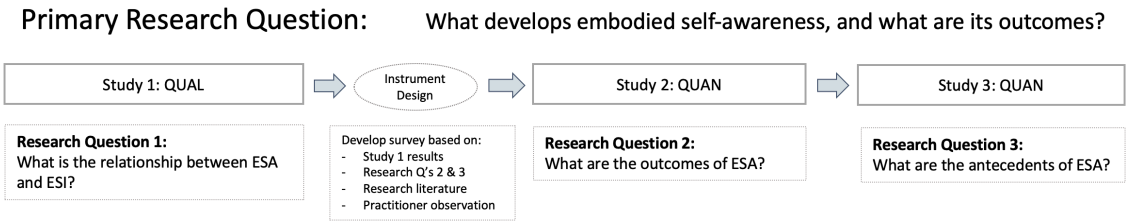
and antecedents of embodied self-awareness. I then collected data from over 700 professional coaches worldwide, ultimately narrowing the dataset to approximately 550 useable responses (the specific number varies by study).

Study 2. In Study 2, I hypothesized that ESA would have a positive effect on several outcome variables. I used factor analysis and structural equation modeling to analyze the data. Results indicated statistically significant ($p \leq .01$) outcomes in three *intra*personal constructs: flourishing, resilience, and adaptability ($\beta = .43$, .51, and .37, respectively), and in three *inter*personal constructs: empathy, connectedness, and conflict management ($\beta = .39$, .21, and .35). Chapter 5 reports detailed methods and results.

Study 3. In the third study, I used a separate subset of the same dataset to evaluate the antecedents of embodied self-awareness using structural equation modeling. Results indicated (1) no effect on ESA from dance or martial arts, (2) statistically significant ($p \leq .05$) effects on ESA from practicing yoga, meditation, and receiving hands-on bodywork ($\beta = .03$, .04, and .04, respectively), and (3) a statistically significant effect ($p \leq .05$) on ESA from embodied coach training ($\beta \geq .13$). This study is detailed in Chapter 6.

Integration. Chapter 7 examines the combined results of all three studies, triangulating and integrating the findings to identify and explain points of convergence and divergence. This mixed methods integration allows for big picture inferences and conclusions about what the mixed methods project says as a whole.

FIGURE 1
Summary of Mixed Methods Approach



Statement of Interest and Positionality

My interest in the nature of embodied self-awareness began during my studies to become a Master Certified Somatic Coach in the mid-2000s. Somatic coaching is one approach to the body-oriented coaching described above, in which a coach pays close attention to their own embodied state as well as that of their client. Although I had been coaching since the early 2000s and had by that point trained at five different coaching schools, I found the body-oriented approach far exceeded the value of my other coaching tools. Clients who had previously been stuck and struggling towards their desired changes were able to access new insights and new energy that sped their path to success. In fact, this past summer, a client I worked with for just two or three sessions back in 2008 reached out to tell me what a lasting and meaningful impact those few sessions had then and continue to have on her life. And that is when I was still relatively new at this! I have been doing body-oriented coaching long enough now that I am no longer surprised by responses such as these. Furthermore, I am convinced that such results stem from the power of the methodology rather than the practitioner's personality.

In addition to equipping me with more effective professional tools, I found my training as a body-oriented coach to be deeply transformative on a personal level. Although I was already a coach, and although I had spent over a decade as an elite-level

athlete and had been practicing yoga and meditation since the early 1990s, my body-oriented coach training affected me far more deeply than any of those prior experiences. After just a few months of training, I was already initiating more courageous conversations, speaking up to workplace bullies, and taking bigger and smarter risks on behalf of my dreams. I witnessed a similar depth of transformation in the colleagues with whom I shared the learning space, many of whom remain close personal and professional friends.

Despite these undeniably positive changes, I found myself mystified by embodied coaching. I was even somewhat skeptical about my own experience in the early years. At the time, it simply did not make sense to me that sitting, standing, moving, and sensing in new ways would lead to such profound changes in my actions and my relationships. Because my academic background was in human biology, I started spending my free time studying the new research in neurobiology, trying to sort out what was happening "under the hood" of embodied learning. This decade-long investigation ultimately led to the writing of *Your Body is Your Brain*, the book I published just as I entered the Doctor of Management program at Case Western Reserve University (Blake, 2018). My aim in joining the program—and my purpose with this research—has been to explore the experience of embodied self-awareness and embodied learning from a rigorous empirical perspective in order to lend greater clarity, nuance, and accuracy to the conclusions I had already drawn from theory and practice.

Of course, this background leads to a natural bias and even a professional incentive to find results that corroborate my prior conclusions. This is a risk for any researcher, of course. We invariably come to our projects with questions initiated by our

life experiences and curiosities, and bias can be embedded not only in the analysis of data but even in the questions themselves. To mitigate this inevitable bias, I did several things to guard the results against contamination, ensure the validity of each study, and help me remain open to seeing clearly what the data revealed.

In the first study, I measured interrater reliability by partnering with a fellow researcher whose background includes neither coaching nor embodiment. Without any training on the codebook, his coding had over 70% correspondence with my own. This not only confirmed the validity of the results; it also gave me confidence and peace of mind that even as a novice researcher, I was indeed staying true to the data and observing a real phenomenon, not just what I wanted or expected to find.

In the statistical analysis for Studies 2 and 3, I analyzed validity and reliability for all latent factors, tested for method bias, and interpreted those findings. While some expected multicollinearity did occur, the studies largely indicated strong convergent and discriminant validity and acceptable-to-strong reliability. I have also noted in each study the potential issues with self-report data and suggested further research that can address these issues. In addition, I am deeply grateful for my working partnership with data analyst Dr. Avi Turetsky, whose statistical skills kept me on the straight and narrow when my inexperience threatened to derail progress. All of these approaches to analysis helped build guardrails around my own bias, again lending greater confidence to the results.

Finally, I chose to use a mixed methods approach as another way to ward off the potential contaminating effects of researcher bias. Mixing methods enables an analysis of results across different samples and different types of data, with an intent to analyze and explain any notable convergence or discrepancies between studies. This kind of

triangulation between multiple studies and multiple methods reveals greater clarity about the big picture while simultaneously adding important nuances and strengthening the validity of conclusions across studies.

As it turns out, all three studies support fairly consistent conclusions. This is a strong indicator that the phenomena I have experienced personally, observed as a practitioner, and written about previously are not limited to my own narrow experience but are real, measurable, and hold true across wider populations. While these tests cannot guarantee that results are uncontaminated by my own bias, the multiple validity checks built into these studies should lend considerable confidence that the conclusions drawn herein are both legitimate and robust.

CHAPTER 2: THEORETICAL FRAMING & LITERATURE REVIEW

This chapter lays out the theoretical framework used to contextualize and guide this investigation. As a reminder, these are the three primary research questions:

> *Question 1: What is the relationship, if any, between embodied self-awareness and emotional and social intelligence?*
>
> *Question 2: What are the outcomes of developing embodied self-awareness?*
>
> *Question 3: What activities reliably produce or cultivate embodied self-awareness?*

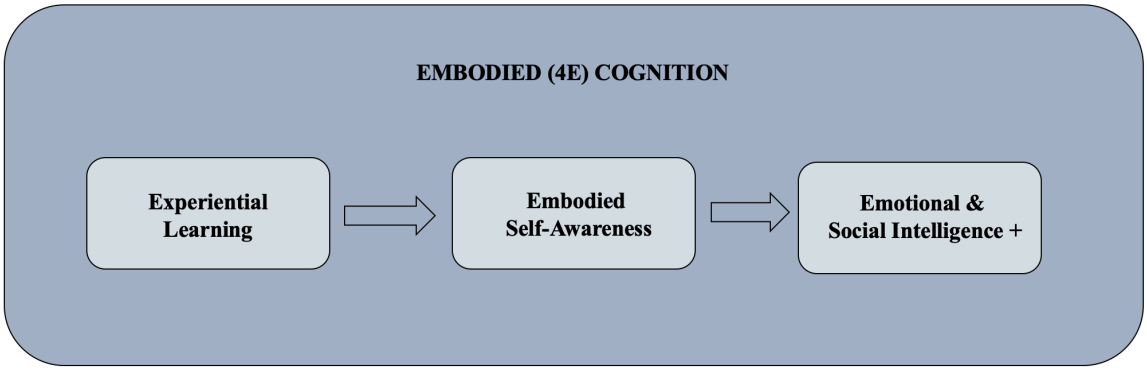
Below, I explore the theory and literature that informs both the development of the questions and the subsequent pursuit of the answers.

Theoretical Frame

Figure 2 depicts the theoretical framework for this set of studies. Underlying the entire enterprise is an empirically supported philosophical position that views cognition as an inherently embodied process. As described below, this view is backed by a large body of evidence from a diverse array of fields, including studies of vision, emotion, linguistics, and robotics, to name just a few. With that philosophical and empirical framework as a background condition, I propose that engaging in experiential learning in order to produce embodied self-awareness ultimately builds critical life and leadership capacities, including but not limited to emotional and social intelligence.

The remainder of this chapter is divided into sections that explore both the literature and the theory from each of the four areas depicted in Figure 2.

FIGURE 2
Theoretical Frame



4E Cognition

The growing field of 4E cognition frames cognition as a contextually dependent process that is inherently embodied, embedded, enactive, and extended. 4E cognition illustrates that human experiences of knowing are not merely propositional or informational, but also very much active, participatory, and contextualized. The 4E terminology is defined further below, following a brief tour of the history of cognitive science and the more recent emergence of 4E theories of cognition.

What is cognition? Colloquially, many people tend to conceive of the term "cognition" as equivalent to "thinking," associating it with the running internal narrative that accompanies us throughout our days. But the New Oxford American Dictionary defines cognition as "the mental action or process of acquiring knowledge or understanding through thought, *experience*, and the *senses*; …a perception, *sensation*, notion, or intuition" (emphasis added) (McKean, 2005). Notably, the very concept of cognition includes experience and sensory perception as core constituents. So right from the start, we can consider "understanding" to be "embodied" in a very basic sense.

Thus, cognition is much broader than "thinking" as we conventionally understand that term. It encompasses a range of human capacities, including attention, sensory perception, motor action, learning, language and language acquisition, memory, emotion, and more. Broadly speaking, cognition is about gathering information to guide behavior (Cambridge Cognition, 2015; Maturana & Varela, 1992; Simon, 1996). In any given moment, we are each immersed in an overwhelming amount of information. I am not referring here to the information overwhelm of the internet, although there is that, too. Rather, I am referring to the variety of colors on the trees, the sound of machinery buzzing, the taste of chocolate, the baby's cry in the next room, and the words you are reading as all of this is simultaneously going on. Cognition is the process of perceiving, filtering, processing, understanding, evaluating, and reasoning about this onslaught of incoming information and then knowing or choosing how to respond appropriately in each moment.

Three eras of cognitive science. Studies of cognition date back centuries and track the fascination with the human mind that seems to have been with us since the dawn of recorded history (and likely before). Aristotle was fascinated by our perceptual capabilities, as were many Enlightenment-era philosophers, most notably Descartes, Hume, Spinoza, Kant, and Locke. More recently, phenomenologists such as Heidegger, Merleau-Ponty, and William James (James, 1884; Merleau-Ponty, 2012; Sieler, 2012) have argued on behalf of the vital role of experience in our knowing of the world. Throughout all these explorations, one open question has remained a consistent fascination: what role does the physical body play in human cognition?

Modern cognitive science attempts to answer this and other questions through its study of attention, perception, language, learning, artificial intelligence, consciousness, and more. A broadly interdisciplinary field that houses investigations in areas as distinct from one another as musicology, anesthesia, social perception, and robotics, cognitive science is sometimes criticized for its lack of cohesion and subsequent fluidity of terminology. But it is safe to say that cognition is a complex process that merits investigation from multiple angles. Although such breadth will inevitably be messy at times, ultimately, this broader view lends greater confidence to subsequent conclusions. In the final analysis, viewing the same phenomena through multiple lenses leads to more comprehensive and accurate descriptions.

The inception of the academic field of cognitive science dates to the 1950s, although it was not labeled as such until two decades later. The evolution of cognitive science—and our metaphors for cognition and the brain—have closely tracked the development of computer science. Interest in and investigation into the workings of the human mind accelerated in tandem with our novel creation of "thinking machines."

Era 1: Representation and computation. The first era of cognitive science proposed that cognition occurred through a process of representation and computation (Varela et al., 2016). This is the model of cognition that many of us will have learned in high school biology: when you see a flower, your brain represents that flower by making a mental picture of it and then computes what to do with it (pick it, fertilize it, admire it, etc.). This model of cognition was influenced by pioneering explorations of cybernetics (Ceruti & Damiano, 2018; Sinha, 2010) as well as the invention of massive calculating machines created by Alan Turing, John Von Neumann, and others during the 1930s and

1940s. These events spawned a rapid rise of research into computer systems, along with new ideas about decision making, language acquisition, and the brain (Ceruti & Damiano, 2018; Simon, 1996; Varela et al., 2016).

Era 2: Neural networks. In the 1970s, 1980s and 1990s, computer networks began to move from rare and specialized experimental, military, and corporate applications into more mainstream use, starting with localized networks and ultimately developing into non-local networks, including the internet as we know it today (Computer History Museum, n.d.). These developments challenged the prevailing input-output / representation-computation model, and suggested instead that networked connections might better explain how the human brain works and how cognition proceeds (Varela et al., 2016; Winograd & Flores, 2008). Simultaneously, scientists and engineers were developing increasingly sophisticated tools that allowed us to peer inside the living brain for the first time, and indeed, those imaging studies confirmed a highly networked view of the brain that had been hinted at previously but not fully confirmed. By the end of the 20th century, the network model of cognition had fully taken hold, substantially overshadowing although not altogether replacing the representational model.

Era 3: 4E cognition. In 1991, Francisco Varela, Evan Thompson, and Eleanor Rosch issued a direct challenge to the representational model with their groundbreaking book, *The Embodied Mind: Cognitive Science and Human Experience* (Varela et al., 2016). Their purpose was to spark a dialogue between cognitive science and Buddhist psychology—a dialogue that has since taken hold and become highly influential in both academic circles and mainstream society. The book explores cognitive science and Buddhist psychology in relation to phenomenology, emphasizing the centrality of lived

experience to the study of the mind. Through this marriage of Eastern and Western science and philosophy, the authors argue that cognition is an emergent process born of the interaction between self and other, body and world. “Cognition is not the representation of a pre-given world by a pre-given mind,” say Varela et al. (2016), but rather, the world we experience is constructed by ongoing acts of perception, interpretation, and action.

This enactive point of view emerged most famously out of research on vision, which demonstrated that the act of seeing required interpretive and not just mirroring parts of the brain (Maturana & Varela, 1992; Varela et al., 2016). Pointing to this and countless other examples from both cognitive science and Buddhist psychology, the authors argue that cognition is not the representation of an independent outside world, as once assumed. Rather, it is more accurately described as the emergence of an interdependent world through ongoing embodied perception, experience, and action. To wit: the red of an apple is not exclusively the property of the apple. Rather, it is a result of the combined interaction between the properties of the apple and the perceptual apparatus and abilities of the perceiver. A colorblind person or an animal that sees infrared light sees the same apple differently from a human with standard-issue retinas. Thus, cognition is simultaneously an embodied, embedded, and enactive process. It is also extended, as addressed further below.

Also during the 1990s, linguist George Lakoff and philosopher Mark Johnson teamed up to explore the relationship between embodiment, language, and cognition (Lakoff & Johnson, 1999). In their exhaustive cross-cultural study, Lakoff and Johnson (1999) illustrate that we only know the world—indeed, we only *can* know the world—

through metaphors that arise out of embodied experience. Take, for example, the difference between a relationship that feels "warm" or one that feels "cold." Or, you might say of an estranged friend, "there's been some distance between us lately." Temperature and distance are physical properties, and yet we regularly use them to describe emotional or relational qualities (Lakoff & Johnson, 1999, 2003). We even rely on such metaphors to describe projects and activities: this dissertation is "almost over the finish line," for instance. Metaphors rooted in our physical experience of the world are embedded in every language Lakoff and Johnson have studied. (Case in point: for a metaphor to be described as "rooted" is, in itself, an embodied metaphor.) Across languages, humans consistently use physical properties to describe abstract concepts, leading Lakoff and Johnson to argue persuasively that we cannot speak about, understand, or even make sense of the world except through our embodied experience of it. Cognition simply cannot proceed in the absence of such embodied metaphors.

These and other pioneering explorations (Newen et al., 2018; Noë, 2010) have led to the development of 4E cognition—a branch of cognitive science that proceeds from an understanding of cognition as a contextually dependent phenomenon. The brain is nested in a body that is nested in an environment… and each of these inseparable elements plays a critical role in cognition. Researchers in the field of 4E cognition view the mind as distributed throughout the entire body, and cognition as fundamentally *embodied*, *embedded*, *enactive*, and *extended* (Newen et al., 2018). Following Varela et al. (2016), 4E cognition takes the enactive view that cognitive processes depend upon and are constituted by interactions between the body (embodied) and its environment (embedded). A philosophy of enaction views the world that we inhabit as an interactive

process between an experiencer and the experienced. Perceptual, motor, and somatosensory systems all contribute to higher levels of knowing and abstraction, and many experiences of knowing depend upon one's physiology and morphology, as well as one's situatedness in a particular set of conditions (Clark & Chalmers, 1998; Noë, 2010).

For instance, by virtue of their specific anatomy, dogs experience and know the world through what we can only imagine must be a fascinating array of smells to which humans have no access. Bees know a world lit by infrared light, to which, again, humans have no direct access. On the other hand, humans have anatomy that allows for spoken language, which shapes the world we experience in ways our canine companions can just barely make sense of. Thus, an organism's specific physical properties dictate what aspects of the world it can experience and how.

From this point of view, cognition is understood not only as enactive—occurring as an ongoing process of interactions between body and world—but also as extended—in that cognition often expands beyond the body to incorporate other elements of one's environment. Take, for instance, the experience of striking a nail with a hammer. A 4E perspective would view the hammer itself as a critical and non-reducible aspect of cognition. The swing of the hammer and the feeling of making contact with the nail are embodied, embedded, enactive, and extended. Your embodied knowing of where the head of the hammer is and how to place it where you want it (hopefully on the head of the nail and not your thumb) are all inherently part of the process of cognition. There are undoubtedly people—skilled carpenters, for instance—who have more embodied intelligence in their use of hammers than others, such as your average garden-variety academic.

Perspectives from 4E cognition—sometimes referred to simply as "embodied cognition"—have much to offer regarding the role of the body in affective and relational forms of cognition. In fact, Carr et al. (2018) assert that "the recent exponential growth in embodiment research comes from its extension to social and emotional life." It is important to emphasize that the theoretical and philosophical propositions emerging from 4E cognition have been consistently validated by well-established empirical findings; indeed, 4E cognitive theory has grown directly out of empirical evidence. By way of illustration, Table 1 details just a handful of thousands of studies in the field of embodied cognition. These and other well-established empirical examples illustrate the body-mind-world unity that underpins the process of cognition.

TABLE 1
Some Empirical Evidence for 4E Cognition

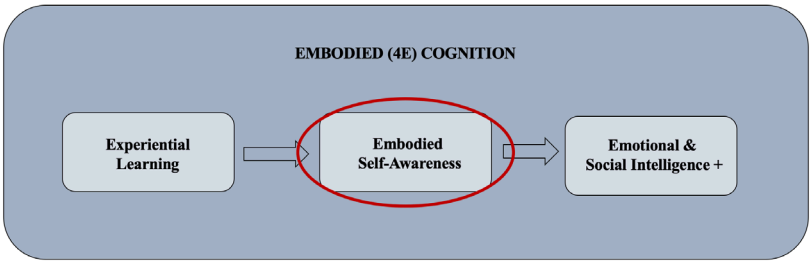
Area of Study	Finding	Reference
Memory	Upwards or downwards movements affect the recollection of positive or negative memories.	(Casasanto & Dijkstra, 2010; Dijkstra, Kaschak, & Zwaan, 2007)
Social	Holding a warm cup of coffee makes you feel "warmer" towards the person next to you.	(IJzerman & Semin, 2009; Schilder, IJzerman, & Denissen, 2014; Williams & Bargh, 2008)
Emotional, Social	Temporarily preventing the use of expression-related muscles of the face interferes with one's ability to assess others' emotional expressions.	(Carr et al., 2018: 533; Jospe, Flöel, & Lavidor, 2018)
Social	Perception is inextricably tied to action, and we simulate others' gestures and expressions inside our own bodies in order to understand others.	(Gallese, 2001; Iacoboni, 2009; Kohler et al., 2002)
Emotional, Social	Patients with brain lesions that prevent them from processing sensory information have lower social and emotional intelligence than patients who have lesions in other parts of the brain.	(Bar-On, Tranel, Denburg, & Bechara, 2003)

4E cognition is a complex, fascinating, and still relatively young field of discovery that houses many unresolved open questions within its large tent. At times,

conclusions seem to conflict with one another. For instance, some theorists view cognition as primarily a body-based process, whereas others emphasize elements of "the world" as central to cognition (Kiverstein, 2018). Despite such disagreements, scientists in the 4E field generally converge upon a definition of cognition that encompasses considerably more than brain-based representation and informational processing. Rather, cognition is understood to be an inherently embodied process embedded in a particular set of circumstances, relying on a dynamic enactive exchange between self and other to give rise to the world we experience. For our purposes here, it is enough to recognize that the field of 4E cognition lends a tremendous amount of both empirical and philosophical support to the idea that the body plays a fundamental, non-reducible role in perceiving, making sense of, and acting in the world, particularly in affective and relational domains. This way of understanding cognition sets the stage for our study of embodied self-awareness.

Theory of Embodied Self-Awareness

FIGURE 3
Theoretical Frame – Embodied Self-Awareness



Embodied self-awareness (ESA) is the focal construct of this set of studies, and thus reviewing what we know—and do not know—about the theory, neurobiology, and outcomes of embodied self-awareness is a critical starting point. ESA, defined above as

present-moment, non-judgmental attention to sensation, movement, and emotion, can be considered a specific aspect of 4E cognition. By definition, ESA is a particular way of *paying attention.* It is a *felt-sense* way of knowing one's experience through sensation and movement, rather than a *descriptive* way of knowing through language and ideas. For both cultural and neurobiological reasons that I will explore further below, this felt-sense embodied experience can often be ineffable, falling outside the descriptive capabilities of language (Barndt, 2019; Fogel, 2020a, 2020b, 2020c, 2020d). Given that, it is especially important to clearly define terms.

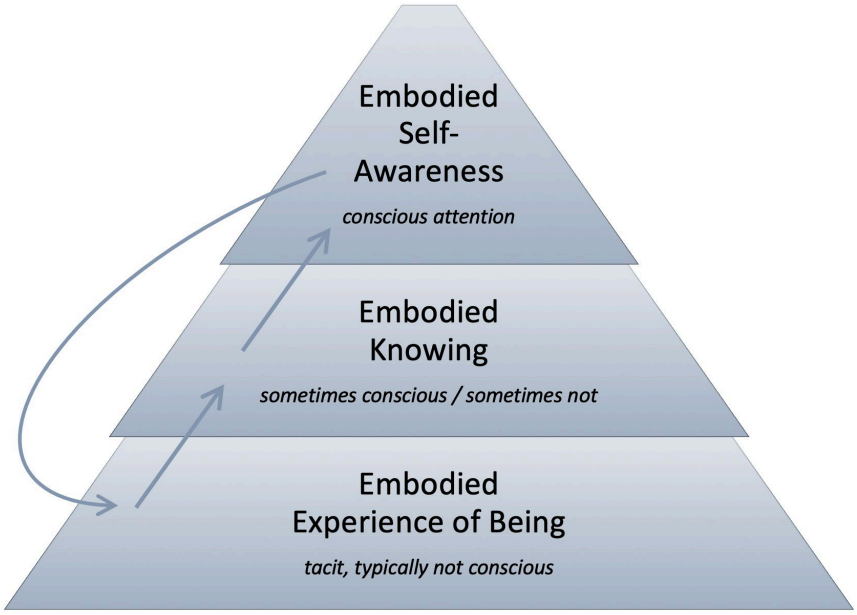
The related term *embodiment* often causes confusion since it can refer to multiple different aspects of living in a body. Leaning on the conclusions drawn from 4E cognition, we can view embodiment as a form of cognition—a way of knowing about self and world. Embodied knowing is the knowing that a cat has when you have stepped on its tail. It is the knowing that you have when you bang your shin on the coffee table, or when your heart flutters in your chest, or when you know yourself to be laughing. Embodied knowing is emphatically not an abstract *idea* but rather a phenomenological *experience.* It is tacit participatory knowledge (knowledge *that* or "know-*how*") rather than informational or propositional knowledge (knowledge *about* or knowledge of *facts*) (Varela, 1999). This kind of tacit knowledge is a natural kind, categorically different from knowledge of information.

Furthermore, to *embody* a quality or characteristic is to be a physical, tangible expression of that quality, whether it be intelligence, kindness, arrogance, or verve (McKean, 2005). For example, we say someone *embodies* confidence when their actions consistently and effortlessly reflect confidence. The quality of confidence seems to

emerge naturally out of the very core of their being. Thus, in addition to referring to a way of knowing, the term embodiment can also refer to a way of being.

I therefore define *embodiment* as a sensory, perceptual, felt-sense way of *being* and *knowing* in relationship to self, others, and the world. This definition synthesizes the comprehensive list of definitions detailed in Barndt (2019). Embodiment is related to but distinct from *embodied self-awareness*, which is a felt-sense way of *paying attention* to sensation, movement, and emotion. In other words, embodied self-awareness is what gives us conscious access to our lived experience of embodiment. It is the means by which we bring tacit felt-sense *embodied knowledge* of our moment-to-moment *experience of being* to the surface of our conscious awareness. This is illustrated in Figure 4.

FIGURE 4
Embodied Self-Awareness Makes Tacit Knowing Conscious



In the section on neurobiology below, I will explore why embodied experiences of being are often filtered out of our conscious awareness and how embodied self-awareness makes those states more available to our conscious mind. Becoming aware of our often hidden embodied knowing requires deliberately paying attention to embodied experience in a direct, non-verbal, sensory way (Barrett, 2017; Craig, 2003, 2015; Fogel, 2009; Schliep & Jäger, 2012).

But it is important to draw a distinction between being *consciously* aware of an embodied state and being *conceptually* aware. Embodied self-awareness is distinct from conceptual self-awareness, both neurobiologically and phenomenologically (Blake, 2018; Fogel, 2021). Since embodiment is an inherently non-linguistic experience—an experience that is *felt* rather than *thought about*—people frequently find it difficult to speak about or describe, even when they are fully aware of their sensory experience. So, becoming conscious of an embodied state is not necessarily equivalent to being able to name or conceptually describe that state. We can increase our embodied knowing in felt-sense ways without necessarily being able to easily articulate that knowing (Barndt, 2019; Van der Kolk, 2015). When we speak about that felt-sense experience, it is almost impossible to do so without relying on some form of embodied metaphor (Lakoff & Johnson, 1999).

Even when that knowing remains experiential rather than descriptive, gaining greater access to it carries many benefits, particularly for mental and physical health. For instance, enhancing embodied self-awareness can reduce chronic pain, increase emotional awareness, reduce emotional reactivity, support healthier movement patterns, and release and heal the effects of trauma (Craig, 2003, 2015; Levine & Frederick, 1997;

Mehling, 2016; Mehling et al., 2014; Myers, 2014; Payne, Levine, & Crane-Godreau, 2015; Schliep, Findley, Chaitow, & Huijing, 2012; Van der Kolk, 2015). However, while evidence strongly supports the beneficial effects of ESA for health outcomes, very little is known about the behavioral and action-oriented effects of ESA that we examine in this study. And we know less than we should about how to develop the life-enhancing capacity of ESA.

While the original research on embodied self-awareness approached the concept as a unidimensional construct, we now know that there are at least three states of ESA: dysregulated, modulated, and restorative (Fogel, 2020a, 2020b, 2020c, 2020d). To distinguish between these states, we can briefly describe them as follows:

- *Dysregulated ESA* – a state of either hypo- or hyper-arousal in which we are acutely aware of physical and emotional discomfort. Expressed either as a feeling of lethargy (hypo-arousal) or agitation (hyper-arousal), dysregulated ESA is often accompanied by a feeling of being emotionally or behaviorally out of control.
- *Modulated ESA* – a state of shifting back and forth between deliberate conscious embodiment and task focus. Attentive to embodied states while engaged in other activities. Regular brief attentional check-ins with awareness of and adjustment to embodied states.
- *Restorative ESA* – a state of deep, wordless presence with whatever emotions or sensations are arising: joy, grief, anger, pleasure, excitement. Embodiment commands one's full attention and is frequently experienced as a state of deep connection and/or associated with a sense of meaning or spirituality.

For the sake of simplicity, this project uses the terms ESA and embodied self-awareness to refer to modulated ESA, except where otherwise noted.

Neurobiology of Embodied Self-Awareness

While the emphasis here is on the brain and nervous system, it is critical to bear in mind that the neural networks under discussion do not end in a vacuum. The entire distributed brain is *embedded* in the rest of the body, such that every nerve cell comes into contact with either another nerve cell, or cells from some other tissue in the body, or both (Carter et al., 2009; Parker, 2007). For as long as we are alive, the back-and-forth signals along nerve cells and neural networks are in perpetual two-way communication with organs, connective tissue, bone, skin, muscle, hormones, and more. It is the nature of nerves to carry information either from these tissues to the brain, as in the case of perception, or to these tissues from the brain, as in the case of motor action (Carter et al., 2009; Carter & Frith, 1999). While we are about to focus on the brain and nervous system, it is important to bear in mind that this system is not an abstraction floating in space, but rather a multidirectional communication system embedded in a living body that is perceiving and interacting with the world.

Interoceptive, proprioceptive, and autonomic networks. Embodied self-awareness is essential for accessing embodied knowing because embodied experience is—both by biological design and by cultural convention—not always easily available to our conscious awareness (Blake, 2018; Craig, 2015). We can see this by examining the neural correlates of embodied self-awareness, which occur in three body-wide networks that span the entire distributed nervous system: the interoceptive, proprioceptive, and autonomic networks (Fogel, 2021). A review of these networks makes it clear that the

felt-sense knowing of embodiment is a system-wide, whole-body experience. It also makes it clear how these experiences stay in the shadows of our awareness unless and until we pay closer attention. These sensory-oriented networks are both anatomically and phenomenologically distinct from the thinking-oriented networks described in the following section (Boyatzis, Rochford, & Jack, 2014; Fogel, 2021; Jack, Dawson, Begany, et al., 2013; Rochford, Jack, Boyatzis, & French, 2017). This distinction will become important as we explore how one can develop their capacity for embodied self-awareness.

Interoception is defined as "the sense of the physiological condition of the body" (Craig, 2003). It includes sensations like itch, pain, heat, hunger, dizziness, tingling, trembling, strength, exertion, weakness, tension, and nausea. These sensations typically have an affective element that motivates behavior to support homeostasis (Schliep et al., 2012). A sensation of butterflies in the stomach or the warm flush that accompanies embarrassment are familiar examples of interoceptive sensations. The interoceptive network includes the peripheral nervous system, the insula, the anterior cingulate cortex, the orbitofrontal cortex, and the ventromedial prefrontal cortex (Craig, 2015; Fogel, 2009). It also incorporates signals from the autonomic nervous system, discussed in more detail below.

Most interoceptive information remains unconscious unless and until something significant occurs to bring it into conscious awareness (Craig, 2015; Fogel, 2009; Price & Hooven, 2018). Interoceptive nerve cells are small compared with some other kinds of nerve cells, and they are unmyelinated, which means signals travel more slowly than other nerve cells (though still within microseconds) (Craig, 2003, 2010; Schliep & Jäger,

2012). From an evolutionary biology perspective, this is highly adaptive. It allows us to respond to internal sensations primarily via unconscious automatic homeostatic processes, which frees up conscious attention to focus on the rapidly changing world around us. Interoceptive signals do enter our conscious awareness from time to time, often due to an event that generates strong interoceptive sensations (e.g., illness, intense emotion) or because we deliberately pay attention (e.g., through embodied self-awareness) (Craig, 2015; Fogel, 2009).

Interoception also remains out of sight due to cultural factors that train us not to pay attention to embodied signals, although this varies by culture. West Africans and East Asians test higher on measures of interoceptive awareness than Europeans and Americans, most likely due to differing cultural norms regarding holistic approaches to health and well-being (Chentsova-Dutton & Dzokoto, 2014; Ma-Kellams, 2014). Interoceptive awareness also varies by profession and tends to be higher for professionals who work with mind-body modalities (Mehling, 2016; Mehling, Acree, Stewart, Silas, & Jones, 2018). The important point here is that while our interoceptive capacity is innate, our degree of daily access to interoceptive information is learned. This fact becomes increasingly relevant as we dive into questions of how to develop embodied self-awareness.

Critically, emotions have been theorized to be a combination of this below-conscious interoceptive sensation and conceptual interpretation (Barrett, 2017; Craig, 2010). Returning to the example of "butterflies in the stomach," you can see how such a sensation might indicate a variety of things such as hunger, illness, excitement, or fear. Determining the *meaning* of sensation is fundamentally an interpretive act of cognition,

and very often, the interpretation itself occurs below conscious awareness (Barrett, 2017; Craig, 2015; Fogel, 2009). We often move to scratch an itch without consciously realizing we are doing so.

Similarly, subtle undercover interoceptive sensations that barely reach our conscious awareness prompt emotion-laden interpretation and subsequent action (or, colloquially speaking, "knee-jerk" *reactions*) to the events of our lives (Blake, 2018; Fogel, 2021). Someone sneers at you, and you turn away or speak sharply before you even realize what you are doing. In this way, body, emotions, actions, and social exchange are all tightly linked. As Robert Zajonc puts it, "There are practically no social phenomena that do not implicate affect in some important way. Affect dominates social interaction, and it is the major currency in which social intercourse is transacted. The vast majority of our daily conversations entail the exchange of information about our opinions, preferences, and evaluations. And affect in these conversations is transmitted not only by the verbal channel but by nonverbal cues as well—cues that may, in fact, carry the principal components of information about affect. It is much less important for us to know whether someone has just said 'You are a friend' or 'You are a fiend' than to know whether it was spoken in contempt or with affection." (Zajonc, 1980: 153)

As Zajonc (1980) points out, this affective and relational kind of knowing is principally non-verbal and therefore embodied. This is one reason why increased interoceptive awareness is associated with stronger emotional regulation (Gootjes, Franken, & Van Strien, 2011; Payne et al., 2015; Price & Hooven, 2018). When we bring emotionally laden sensations into conscious awareness, we gain choices about how to respond to them (Blake, 2018; Fogel, 2021).

Proprioception is the perception of the body's position in space. It includes body schema—the feeling of where your body begins and ends—as well as posture, balance, gesture, expression, walking, dancing, and assessing the distance between self and objects (Blake, 2018; Blakeslee & Blakeslee, 2008; Fogel, 2009). Proprioception shares a bi-directional relationship with emotion (Blakeslee & Blakeslee, 2008; Payne et al., 2015). The body's shape in space can *express* or *reflect* emotion, and it can also *generate* emotion. William James famously suggested that actions produce emotions: we don't just run because we're scared; sometimes, we're scared because we're running (James, 1884). For instance, a common startle response includes involuntarily gasping and lifting the shoulders. A person who habitually holds tension in their neck and shoulders will generate subtle proprioceptive signals to the brain that are associated with—and can produce—a subtle background state of anxiety (Blakeslee & Blakeslee, 2008; Gellhorn, 1964; Stepper & Strack, 1993; Taylor, 2011). A similar thing occurs if your hips are chronically tilted in the same direction as a submissive dog hiding its tail (Cottingham et al., 1988). Put more simply, how we sit, stand, and move can directly affect our emotional state (Palmer & Crawford, 2013).

The proprioceptive network consists of spindle cells in the muscles throughout the body, sensory nerves embedded in connective tissue, the vestibular system in the inner ear, the somatosensory cortex, and the ventromedial prefrontal cortex in the brain (Blakeslee & Blakeslee, 2008; Fogel, 2009). This network also coordinates tightly with the visual network to support movement and balance (Carter et al., 2009). Like interoception, proprioception tends to remain in the background of conscious awareness during most of daily life (Blakeslee & Blakeslee, 2008; Fogel, 2009).

Autonomic nervous system sensations include arousal and fatigue, the pace of the breath, the beating of the heart, and the churning of the gut. The autonomic nervous system (ANS) plays a critical role in our perception of safety and danger and our response to stress (Porges, 2004, 2009). It includes the sympathetic (arousal), parasympathetic (relaxation), and enteric (gut) branches of the nervous system. The sympathetic nervous system is often referred to as the fight or flight system, although it is also engaged when we are at work or play. The parasympathetic nervous system, often referred to as the "rest-and-digest" part of our system, also has a stress response. Under extreme threat, the parasympathetic nervous system allows us to freeze and dissociate—or mentally "check out"—as a psychologically self-protective move (Porges, 2009).

The ANS also encompasses a third branch known as the enteric (gut) nervous system, or what is colloquially referred to as the "second brain." The enteric nervous system innervates the entire length of the gut. The gut communicates with the brain by way of the vagus nerve, which is comprised of 80% to 90% afferent nerve fibers and thus sends nine messages to the brain for every message it receives (Carter et al., 2009). The enteric nervous system is the only part of the body that can operate independently of the brain in the head (Gershon, 2003; Mayer, 2011, 2016). While we tend to think of the brain as the "central command center" of the body, in actual fact, it spends more time listening to the gut than telling it what to do.

Furthermore, the enteric nervous system not only directs our digestion; it is increasingly understood to play a critical role in mood and psychology (Gershon, 2003; Mayer, 2011, 2016). The rich connections between gut, mood, and mind make it clear that the gut is not only a significant part of how the ANS functions but also a vital part of

the process of embodied cognition. As with interoception, autonomic processes function primarily to keep the body in homeostasis, automatically and unconsciously adjusting the internal physiological thermostat. We may be dimly, acutely, or not at all aware of a sensation (e.g., the churning gut or the internal sense of warmth or the sweat of nerves). However, regardless of how aware we are of those sensations, they will induce emotional evaluations and guide our subsequent actions and behavior (Craig, 2015; Fogel, 2009). This happens without conscious involvement unless and until we choose to pay attention, at which point we open up the opportunity to respond with conscious awareness rather than with impulsive reactivity (Blake, 2018; Price & Hooven, 2018).

Embodied self-awareness entails paying attention to sensation (interoceptive and autonomic), movement (proprioception), and emotion (an automatic, unconscious approach/avoid interpretation of our embodied state). All of these networks constantly produce quiet "whispers" of sensation—embodied ways of being and knowing that largely remain below conscious awareness until something goes awry. At times, these sensations will rise to the surface of conscious awareness and command our attention until we take care of the physical, emotional, or relational issue that has produced them (Barrett, 2017; Craig, 2015; Fogel, 2009). Embodied self-awareness brings these unconscious sensations into conscious awareness, per the process illustrated in Figure 4.

Analytic and empathic networks. While embodied self-awareness is an essential aspect of cognition, there is a long intellectual history dating all the way back to Plato and the ancient Greeks that presumes reason is a "higher," "better," "more human," or "more evolved" cognitive capacity than emotion. Even today, this assumption is embedded in many well-known psychological theories. For instance, dual process theory

(Evans, 2003; Kahneman, 2013) divides the brain into system 1 (a fast and intuitive thinking system) and system 2 (a slower, more deliberate reasoning system). Although dual process theory generally holds both systems as critical for human functioning, the slower reasoning system is often elevated over the faster and more intuitive system 1. Assertions that system 1 is fixed, unchangeable, and/or under the control of the more rational and deliberative system 2 are common (Evans, 2007; Evans & Stanovich, 2013). Similarly, the popular triune brain model grew out of an assumption that the evolution of different aspects of the brain culminated in the pièce de résistance of evolution—namely, the human ability for conceptual thought and logical, analytical forms of reason (Barrett, 2017).

However, more recent studies of the brain reveal two reasoning networks that clearly operate on equal footing and call the old "reason over emotion" presumption into question on empirical grounds. For instance, Damasio's (1994, 2000) work on the somatic marker hypothesis shows reason and emotion to be clearly intertwined. Similarly, opposing domains theory describes two mutually suppressive brain-based neural networks that govern two different and equally essential kinds of reasoning: analytic and socioemotional (Boyatzis et al., 2014; Jack, Dawson, Begany, et al., 2013). These networks, known as the "task positive" (TPN) and the "default mode" (DMN), were discovered in 1997 during brain scan studies that asked people to focus on a series of tasks with breaks in between. On the breaks between tasks, blood flow in the brain receded from the task positive network and redirected towards an entirely different network—what ultimately came to be called the "default mode" (Raichle et al., 2001; Shulman et al., 1997).

Since the time of this discovery, we have learned that one typically cannot engage in both analytic task-focused and default socioemotional reasoning at once; a healthy brain toggles between them. These networks occupy two distinct functional and anatomical poles in the brain that have very few and perhaps no connections between them (Alves et al., 2019; Rochford et al., 2017). These two reasoning networks are also anatomically and phenomenologically distinct from the interoceptive, proprioceptive, and autonomic sensory networks described above (Craig, 2015; Jack, Dawson, Begany, et al., 2013; Schliep et al., 2012).

The analytic network, or TPN, is engaged during periods of focused attention, task completion, and problem solving. This network supports conceptual understanding and "grasping" of concepts and ideas. It is engaged in all acts of analytic reasoning, including logical, causal, mathematical, and other forms of nonsocial reasoning (Rochford et al., 2017). The analytic network includes the insula, sensorimotor cortex, anterior cingulate cortex, and dorsolateral prefrontal cortex (Jack, Dawson, Begany, et al., 2013; Jack, Dawson, & Norr, 2013). It is involved in thinking *about* sensations—generating words, thoughts, ideas, and stories about what we feel. The TPN plays a role in helping us *describe* our sensations. It also plays an important role in focused attention on the body, such as in concentrating on a precise golf swing or focusing on the breath during meditation. However, it is not what allows us to *sense* and *interpret the meaning* of our felt-sense experience. That job belongs to the DMN, along with the subcortical interoceptive, proprioceptive, and autonomic networks. As Alan Fogel eloquently puts it, referring to the analytic mode of thinking conducted by the TPN, "The disconcerting news is that your thinking self—full of ideas, compelling and addictive, often highly

educated and intelligent—literally has *no idea* what you are really feeling! Felt experience is not an idea or a thought, and you can't arrive there by any logical, rational route." (Fogel, 2021: 20).

Analytic thinking has undeniably brought us many gifts. Skyscrapers, silicone chips, and science are all gifts of the TPN, which allows us to plan, engineer, and create. But there are some myths and misunderstandings about analytical knowing, chief among them the mistaken assumption that analytical reasoning is what cognition *is.* An unstated assumption in our politics, board rooms, and educational institutions presumes that analytical, intellectual, task-focused knowing is not only the only kind of knowing that *matters*, but that it is the only kind of knowing that *exists.*

In actual fact, nothing could be further from the truth. As explored below, our default mode for socioemotional reasoning is an equally critical kind of knowing. But this mistaken assumption is an easy mistake to make because when the task positive mode is switched on, we generally cannot perceive from a default mode perspective. These two networks are largely mutually suppressive; when one is engaged, the other typically is not. Like the TPN, default mode reasoning is a highly sophisticated, equally well-evolved thinking system, but it is generally inaccessible during task-focused activities (Boyatzis et al., 2014; Jack, Dawson, Begany, et al., 2013).

The default mode or <u>empathic network</u> is frequently referred to as the default because this network is typically seen when a research participant is "off task" or "at rest"—in other words, in a "default" mode. It supports a more spontaneous form of thinking than the laser-focused task positive mode, and was first observed during activities like daydreaming, mind wandering, rehearsing, and rehashing. It got its name

from neuroscientists who were testing analytical tasks, and was for a number of years considered to be the resting state of the brain (Raichle et al., 2001). However, more recent research shows that the empathic network is not merely a resting state; rather, it engages in a highly sophisticated form of social and emotional reasoning (Jack, Dawson, Begany, et al., 2013).

The empathic network helps us recognize our sensations and emotions and identify the emotions of others, allowing us to engage in a form of socioemotional reasoning that supports activities like ethical decision making and intuitive problem solving. When the default mode network is engaged, we are more open to new ideas and more available for learning (Boyatzis et al., 2014; Rochford et al., 2017). As the largest of the functionally correlated brain networks, the empathic network includes dozens of brain structures, particularly the posterior cingulate cortex, the medial parietal cortex, the dorsomedial prefrontal cortex, and the lateral inferior parietal and superior temporal cortices (Alves et al., 2019; Jack, Dawson, Begany, et al., 2013; Rochford et al., 2017).

The subcortical anatomy that supports interoceptive, proprioceptive, and autonomic experience is not exclusive to humans but rather a central feature of mammalian biology. And as far as we can tell, the DMN also appears to be a functionally correlated network in rats, chimpanzees, monkeys, and other mammals (Barks, Parr, & Rilling, 2015; Kojima et al., 2009; Lu et al., 2012). The default mode network that processes and makes meaning of body-wide information appears to be particularly sophisticated and well-developed in humans. The DMN underpins our ability to sense our own internal state, know our own emotions, understand our place in social relationships, and decide what to do about all of that. It helps us make sense of, think about, and reason

about the body-wide felt-sense information that arises in the interoceptive, proprioceptive and autonomic networks, translating felt-sense experience into sophisticated socioemotional reasoning. This combination of embodied sensing and default mode processing is a crucial, non-reducible aspect of cognition that is inherently embodied and explicitly non-analytical. "We do not simply inhabit our bodies, we literally use them to think with," writes Jay Seitz (2000: 23). This kind of empathic and emotional reasoning is distinct from the kind of reasoning involved in math or science, and it is a crucial aspect of cognition: our capacity to discern and make choices about how to respond to the world. It is just as highly evolved, sophisticated, malleable, and educable as the analytic network (Bornemann, Herbert, Mehling, & Singer, 2015; Farb, Segal, & Anderson, 2013; Jack, Boyatzis, Khawaja, Passarelli, & Leckie, 2013), finally putting socioemotional reasoning on equal footing with analytic reasoning, and overthrowing a long and misguided hierarchy of reason over emotion.

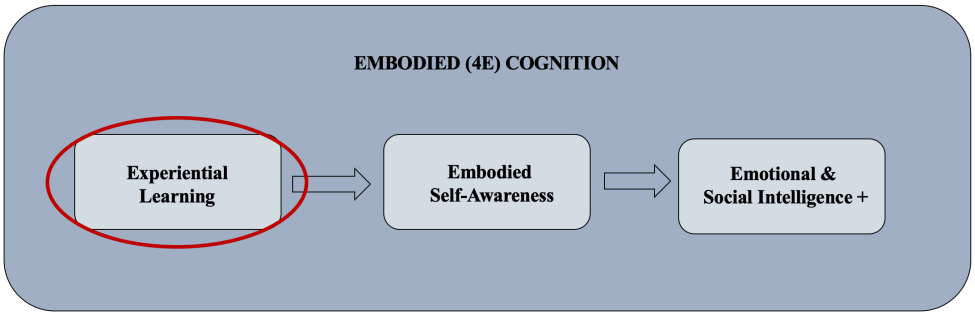
From this, we can conclude that there is a type of knowing (embodied knowing) and a related type of thinking (socioemotional reasoning) that is essential to functioning well in the world. And it is explicitly *not* analytical. In fact, it suppresses and is suppressed by analytical thought. This calls into question our standard operating assumptions, most of which are based on analytic reasoning and thereby overlook the embodied, emotional, and empathic aspects of cognition that are required for living well. These neurobiological facts issue a clarion call for re-valuing and re-educating this part of our intelligence.

But how, then, shall we do that? There has been little research thus far into how to develop embodied self-awareness; an open question that the present research seeks to

answer. But given what we know about the brain, we can safely surmise that analytical approaches to developing felt-sense embodied knowing and socioemotional reasoning will inevitably fall short, if not fail altogether. Not only does analytical education address the parts of the brain that are irrelevant for social and emotional learning, it actually *suppresses* the biology involved in embodied knowing and socioemotional reasoning. More than missing the mark, this educational approach actually exacerbates the challenge of social and emotional learning by placing the relevant target of the learning entirely out of sight. Theories of 4E cognition, embodied self-awareness, and opposing domains all point to the requirement that social and emotional learning must directly address embodied, emotional and empathic forms of knowing and reasoning on their own experiential terms.

Experiential Learning

FIGURE 5
Theoretical Frame – Experiential Learning



Theories of experiential learning. Helping professionals are typically in the business of helping people learn (i.e., acquire new skills and knowledge) and change (i.e., alter behavior). While change may sometimes occur spontaneously, for the most part,

there is no true, actionable learning without change. Similarly, intentional change rarely occurs in the absence of learning (Boyatzis, 2006; Boyatzis & Akrivou, 2006).

In order to educate emotional and relational skills, one needs to be put in situations where they arise. And evidence suggests that after a lifetime of emphasizing linguistic thoughts over physical sensations, most people need support to become more aware of their moment-to-moment embodied state (Fogel, 2021; Price & Hooven, 2018). Thus, experiential learning is key to educating the empathic, interoceptive, and proprioceptive networks.

However, the vast majority of education and training exclusively addresses the analytic network. Lectures, discussion, reading, writing, and many classroom-based exercises emphasize the linguistic realm of *thinking about* rather than the embodied realm of *experiencing how*. Emotional and relational behavior are inherently embodied, and yet our entire education model steers us in the opposite direction. Given this, it is no surprise that we see such a wide gap in ESI training effectiveness (Boyatzis et al., 2017).

In attempting to develop behavioral skills such as ESI competencies, this standard approach to learning falls short in several ways. First, following the lessons of 4E cognitive science, educational approaches that emphasize information delivery simply overlook a great deal of human cognitive capacity. An overemphasis on analytic approaches to development not only neglects socioemotional reasoning; by failing to engage the empathic network, it can actually reduce openness to learning (Boyatzis et al., 2014; Rochford et al., 2017). Furthermore, when the learning primarily or exclusively addresses the analytic network, it fails to involve the very networks involved in the phenomenological experience of emotions and relationships. Emotional and relational

experience depends upon interoceptive, autonomic, and proprioceptive networks, and yet these go unaddressed. Finally, because the analytic network and the empathic network are anatomically distinct and non-overlapping, and because the interoceptive and proprioceptive networks are similarly distinct from these reasoning networks, translating learning from the analytic network to the other networks may be difficult if not impossible. This makes sense given the mutually suppressive anatomy of the TPN and DMN, and it is also consistent with practitioner reports about the difficulty of both articulating embodied experience and translating intellectual learning into embodied action (Beilock, 2015; Blake, 2018; Palmer & Crawford, 2013; Rome, 2014). Researchers have often pointed out the ineffability of embodied experience (Barndt, 2019; Fogel, 2009, 2020a, 2020b, 2020c, 2020d; Newen et al., 2018). This makes it very challenging for the learner taking in analytically based informational content to translate their new conceptual understanding into embodied action in everyday life.

I therefore hypothesize that in order to be successful, any kind of training or coaching that seeks to develop behavioral, emotional, and relational learning must (1) engage the empathic network in order to facilitate openness to learning, and (2) incorporate methods of embodied learning that directly address the interoceptive, proprioceptive, and autonomic aspects of emotional and relational responsiveness. These networks represent the neurobiological correlates of the phenomenological experience of emotions and relationships. Without including these essential underpinnings in the learning, any attempt to develop emotional and social intelligence remains just at the level of an idea, leaving the *embodiment* of the learning well out of reach. Below, I

explore three theories of learning and change that can support people in coming to embody social and emotional intelligence.

Experiential learning theory. Experiential learning theory (ELT) is rooted in the pragmatic philosophies of John Dewey and William James, with notable contributions from Kurt Lewin, Jean Piaget, Carl Rogers, Carl Jung, Mary Parker Follett, and Paolo Friere (Kolb & Kolb, 2017: 7). David Kolb is widely credited with formalizing the experiential learning cycle in the 1960s, when he was charged with curriculum development for an organizational psychology course for MBA students at MIT's Sloan School of Management. Kolb articulated a process of learning that repeatedly cycles through four phases: concrete experience, reflective observation, abstract hypothesizing, and active testing (see Figure 6). ELT insists that learning requires a type of active engagement that goes beyond information delivery. Decades later, the biologist James Zull discovered and then mapped out how Kolb's learning cycle mirrors the brain's anatomy and our natural learning process, as illustrated in Figure 7 (Zull, 2002).

FIGURE 6
Experiential Learning Cycle

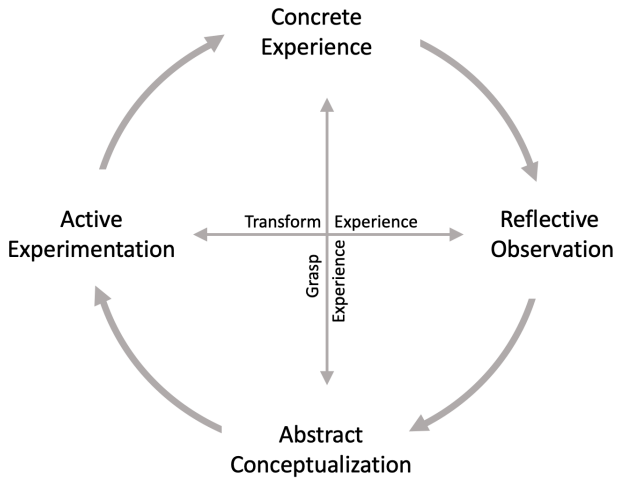


Image Source: Kolb and Kolb (2017). Adapted and used with permission from the authors.

FIGURE 7
Map of Experiential Learning and the Brain

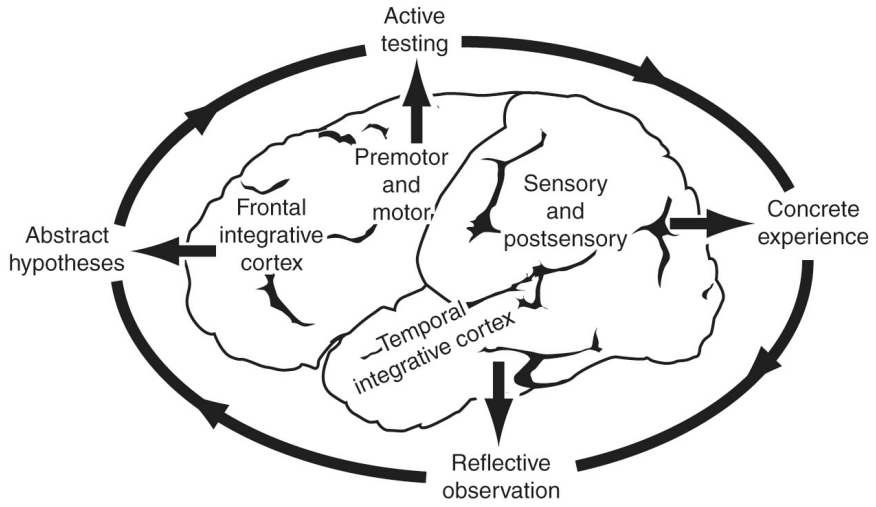


Image Source: Reprinted from *The Art of Changing the Brain: Enriching the Practice of Teaching by Exploring the Biology of Learning* by James E. Zull (Sterling, VA: Stylus Publishing, LLC) with permission of the publisher, Copyright © 2002, Stylus Publishing, LLC.

Because the concrete experience and active testing parts of the learning cycle are inherently sensory, movement-based, active parts of the learning process, ELT dovetails nicely with the embodied cognition proposition that the mind is distributed throughout the body (Kolb & Kolb, 2017: 76–79). Recently, a newly developed scale to measure experiential learning identified embodiment as one of the core elements of that learning (Stock & Kolb, 2020). However, while ELT inherently involves concrete, sensory experience, it does not necessarily entail a focus on the interoceptive and proprioceptive elements of emotional and behavioral learning. For instance, math students might be taken into a forest to measure the girth of trees and stumps as a concrete way of learning about circumference, radius, and diameter. This makes mathematics lessons more sensory and experiential, and for many students, more memorable and more fun. It rounds out the

otherwise analytical process of learning math. But it does not—and it need not—involve attending to one's internal sensations and movements.

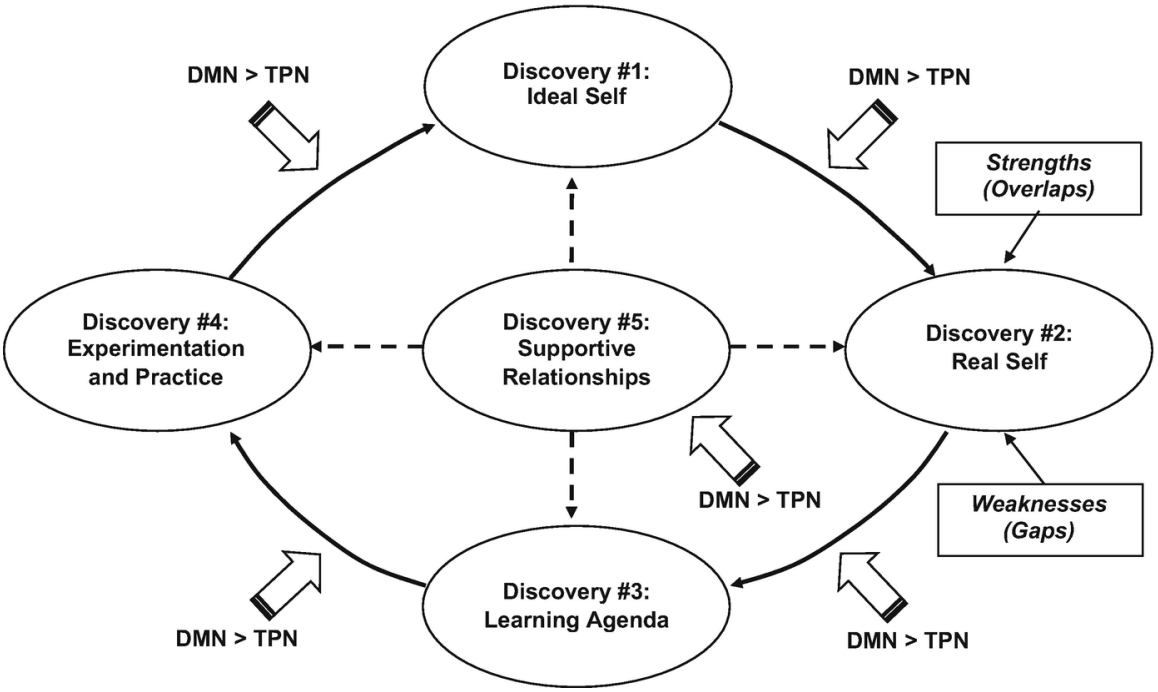
In contrast, emotional, behavioral, and relational experiences inherently involve interior experiences of sensation and movement. Thus, this kind of behavioral learning likely requires some sort of felt-sense embodied attention in order to succeed. This begs the question: How can the lessons of experiential learning be applied to social and emotional development? How can we leverage the relationship between body, brain, and behavior and the connections between sensation, movement, and emotion to help people grow and change?

Intentional change theory. This research project focuses on a sample of professional coaches. Regardless of the topic or focus, the primary purpose of coaching is to help clients make *sustained desired change* (Taylor, Passarelli, & Van Oosten, 2019). Fortunately, the basic process of coaching is already experiential, engaging clients in action-learning cycles in their own lives. Clients meet with coaches to discuss everyday concerns and leave coaching sessions armed with new actions, practices, and behaviors to experiment with. Then they return to the coaching conversation to explore what they have discovered while experimenting in their own lives. This action-reflection-action cycle maps well to the ELT cycle described above, making coaching an inherently experiential—although not necessarily embodied—process.

Intentional change theory describes the means by which this action-reflection cycle can be successfully applied to personal change (as opposed to, say, learning math). According to the theory, five emergent and non-linear elements combine to support sustained change: (1) articulation of an ideal self, (2) identification of the gap between

the ideal and current reality, (3) mapping a learning agenda to develop in the direction of the ideal, (4) creating opportunities to practice, experiment, and learn, and (5) cultivating trusting relationships that support growth in the direction of the ideal (Boyatzis, 2006; Boyatzis & Akrivou, 2006). The process is illustrated in Figure 8.

FIGURE 8
Intentional Change Theory



Boyatzis' model of intentional change. DMN = Default Mode Network, TPN = Task-Positive Network
Image Source: Boyatzis and Cavanagh (2018). Used with permission from the lead author.

The intentional change process creates a self-directed learning agenda rooted in the client's deeply held vision for themselves. Notably, as Boyatzis and Cavanagh argue (2018), at every stage in this process, the empathic and embodied reasoning of the DMN must be invoked as a way to counterbalance the analytical focus of the TPN. The felt-sense process of socio-emotional reasoning underpins the successful application of intentional change theory.

In most types of coaching, the coach's job is to help the client clearly articulate their latent vision and support them in developing a coherent and achievable plan for getting there. Articulating a genuinely meaningful and compelling vision is critical to *desired* change, whereas a well-formed learning agenda supports *sustained* change. While coaches may not always explicitly rely upon intentional change theory—indeed, they may not even be familiar with it—the most common structure of a coaching engagement faithfully reproduces the ICT process by evoking awareness and facilitating growth for the client (International Coach Federation, 2020a).

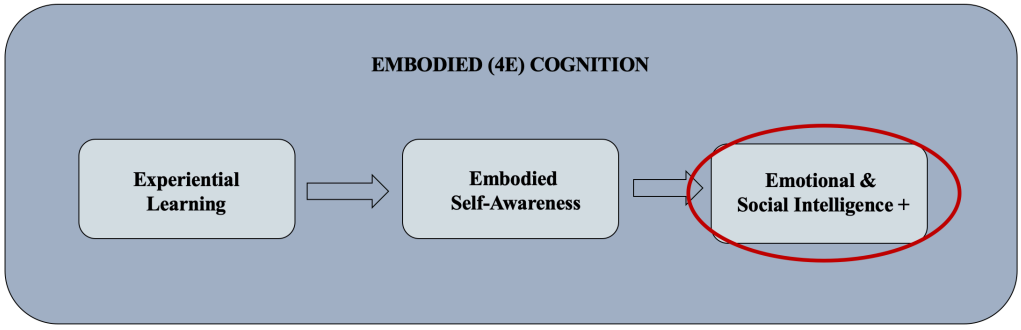
Self-determination theory. Coaching clients who have articulated a meaningful vision and have mapped out a compelling learning agenda tap into a source of intrinsic motivation that gives rise to persistence in the face of obstacles and challenges (Taylor et al., 2019). Deci and Ryan (2000) distinguish intrinsic motivation—finding value in an activity as an end in itself—from extrinsic motivation, in which an activity is pursued as a means to an end. It is the difference between a doctor who is primarily motivated by a desire to care for her patients versus a doctor who is primarily motivated by her paycheck. Self-determination theory (SDT) finds that intrinsically motivated people are more confident, persistent, and creative, and they experience greater well-being and higher overall performance (Taylor et al., 2019).

Self-determination theory (SDT) suggests that intrinsic motivation is rooted in three universal human needs: the need for autonomy, for relatedness, and for competence. Coaching that evokes the five elements of intentional change supports these needs. Clients *autonomously* set a meaningful vision and learning agenda, *cultivate relationships*

with skilled and caring others who support them in their goals and have satisfying opportunities to build and demonstrate *competence* as they learn and grow.

Emotional and Social Intelligence

FIGURE 9
Theoretical Frame – Emotional & Social Intelligence +



A wealth of data over more than four decades makes it clear that strong emotional and social intelligence predicts leadership effectiveness, positively impacts employee satisfaction and turnover, and increases satisfaction with life (Goleman, 2005, 2007; Goleman et al., 2013). Competencies such as the ability to name and regulate emotions, to empathize, and to influence and inspire all have clear positive effects on both leadership effectiveness and life outcomes (Boyatzis et al., 2017; Goleman, 2005, 2007).

The elements of social and emotional intelligence can be viewed at multiple levels: as a trait-level disposition, as an aspect of self-image or self-perception, and at the level of behavior, where actions are evident in one's everyday life (Boyatzis, 2018). In this research project, we are primarily interested in how people develop the capacity for ESI behaviors. ESI competencies include awareness-based and action-based behaviors on behalf of self and other (Blake, 2018). Figure 10 summarizes these competencies.

FIGURE 10
Emotional and Social Intelligence Competencies

	AWARENESS	*ACTION*
Emotional Intelligence – SELF	emotional self-awareness*	achievement orientation adaptability emotional self-control positive outlook
Social Intelligence – OTHERS	empathy organizational awareness	coach & mentor conflict management influence inspirational leadership teamwork

Attempting to study all of these behaviors at once would likely overwhelm study participants and risk a high degree of multicollinearity. Instead, we have taken a subset of competencies as an indicator of the presence of ESI as a whole: adaptability, emotional self-control, empathy, and conflict management. These competencies were selected because they have been shown to be learnable (Boyatzis & Cavanagh, 2018) and have a high degree of correlation with emotional self-awareness (Boyatzis et al., 2017), which embodied self-awareness seems likely to support.

Affective and interpersonal neurobiology. Although space considerations require a selective approach to this literature review, it is worth briefly noting that the fields of affective and interpersonal neurobiology lend additional empirical support to the claim

that emotional and relational life are inherently embodied. Extensive research over decades of investigation has gone into mapping out the neurobiology of emotion (Berntson, Sarter, & Cacioppo, 2003; Goleman, 2011; LeDoux, 1998) and relational life (Gallese, 2001; Jospe et al., 2018; Schore, 2009; Siegel, 1999, 2018). For the purposes of this present set of studies, we take these bodies of research as further evidence of the now well-established fact that emotions and relational life are inherently embodied. Interested readers are referred to the works cited here if they wish to further pursue these lines of inquiry.

The Core Theoretical Proposition

The central premise at the heart of this project suggests that the behavioral outcomes described by theories of emotional and social intelligence are best developed by learning that is embodied, experiential, intrinsically motivated, and rooted in a vision of one's ideal self and ideal life. The theoretical logic leading to this conclusion proceeds from the premises established above.

<u>Established Premises</u>

1. Our way of knowing and understanding the world is inherently embodied.
2. Emotional and relational perceptions, experiences, and behavior are also inherently embodied.
3. Due to the structure of the brain and nervous system, these embodied, emotional, and empathic ways of being mostly operate outside of conscious awareness.
4. Becoming consciously aware of these ways of being results in numerous benefits to mental and physical health.

5. In order to become consciously aware of these ways of being, one must develop embodied self-awareness.

Propositions and Proposals

1. Because of premises 1–5 above, cultivating embodied self-awareness ought to strengthen emotional and social intelligence.
2. Because of the ways the brain and body are involved in behavioral learning, analytical learning is insufficient to develop ESA. Embodied, emotional, experiential learning is required.
3. Because sustained desired change in behavior relies upon intrinsic motivation, it is essential that the learning process be meaningfully intrinsically motivated.

Therefore

In order to effectively develop embodied self-awareness and its concomitant benefits, one must engage in intrinsically motivated experiential learning that embeds the cultivation of ESA in the context of one's whole life, tying the learning to a personally meaningful sense of purpose as well as one's emotional and relational habits of behavior.

In other words, the basic theoretical argument behind this set of studies is this: when people are *intrinsically motivated* to make *sustained desired change* and they have the opportunity to learn *experientially* about their typically unconscious *embodied, emotional* and *relational* ways of being in the world, then they are set up well to develop their *social and emotional intelligence,* thereby improving both their leadership capacity and their life outcomes.

CHAPTER 3: RESEARCH DESIGN AND METHODS

This chapter begins by laying out the logic used to select the sample and unit of analysis. It goes on to unpack the choice of mixed method design, the reasons for that choice, and a summary of the approach to each of the three studies included in the project.

Sampling

Purposive sample of professional coaches. This research program relies on purposive sampling of professional coaches, guided by the thinking laid out in Onwuegbuzie & Collins (2015) and Palinkas et al. (2015). The sample emphasizes leadership and executive coaches and also includes health coaches, relationship coaches, and life coaches. Specific sampling procedures for each study are described in Chapters 4, 5, and 6. In this overview of the research design, it is worth reviewing the reasons why I chose to focus on professional coaches in particular.

The population of professional coaches is one of very few populations—and perhaps the only one—that has a varied mix of individuals who both *have* and *have not* trained to develop embodied self-awareness. Other populations tend to be more homogenous in this regard. For instance, most leaders, educators, or technology professionals typically do *not* have training in ESA, whereas most yoga teachers, dance instructors, or martial artists do. Studying a homogenous population like this would make it difficult to tease out the unique effects of embodied self-awareness, as it would be hard to identify those who are stronger or weaker in ESA.

Furthermore, it is relatively easy to differentiate between coaches who have substantial ESA-based training from those who do not. While most coach training

schools still use conventional teaching methods that heavily emphasize informational learning, a few stand out as uniquely focused on embodied learning. While this does not rule out the possibility that conventionally trained coaches may have developed ESA elsewhere in their lives, sampling coaches that both have and have not been to these body-oriented schools provides a good starting point for assessing the differences that ESA can make. In short, coaches have both enough similarities amongst them to be a cohesive population and enough identifiable differences in terms of ESA training that we can readily distinguish its effects. This makes professional coaches a very attractive population to sample for this research. Each of the three studies included in this project takes advantage of this training difference by sampling coaches who both have and have not been embodiment-trained.

Embodied coach training. I briefly described embodied coach training earlier; here, it warrants further elaboration. In this set of studies, I use the terms *embodied coach training*, *embodied leadership training*, *body-oriented coach training*, and *embodied coaching* to refer to a particular approach to learning that engages embodied self-awareness as a constitutive component of developing deeper self-awareness and supporting behavioral change. In the field of management education, there is often quite a bit of overlap between coach training and leadership development. This is true for both university and industry-sponsored programs, and embodied coach training is no exception. For the sake of simplicity and because I sampled coaches for this study, I primarily use the term *embodied coach training* to refer to the embodied approach to learning that is this project's focus. However, it is important to bear in mind that whether

one's purpose is leadership development, personal growth, or coaching skills development, embodied coach training follows the same basic process.

Essentially, the approach consists of attentively sensing and proactively responding to one's own embodied state, often in challenging or otherwise emotionally charged settings. For example, embodied coach training might involve evoking a felt-sense yearning for desired change; in other words, an *embodied* sense of the ideal self as described by intentional change theory. Or it might involve experiencing and paying close attention to the startle response that can be evoked by receiving a negative email. It might address the felt sense of frustration that accompanies a typically vague and unsettling request from one's boss. Or it might involve making a bold statement or a big commitment, initiating a difficult conversation, or inviting greater authenticity by taking a risk and being more authentic yourself.

In each of these kinds of situations—the sorts that come up for each of us in everyday life—our bodies react. Whatever the particular scenario might be, in embodied coaching, the idea is to familiarize yourself with the *whole* of your response—body, mind, and mood—and to choose how to respond from that more informed standpoint. This is the process of bringing the typically unconscious embodied information into conscious awareness in order to develop greater choice. Along with this comes deeper education in what your own embodied signals might mean, how and when to trust those embodied signals (and how to know when they might be leading you astray), and how to adjust to support more effective action when the sensations feel intense or overwhelming.

The first aim of body-oriented coach training is to help the learner familiarize themselves with their own embodied responses and practice techniques for managing

these responses in the moment. And of course, when applied to coaching as opposed to leadership development, the ultimate goal is to help coaches learn to work in similar ways with their clients. Although this approach has many variations and goes by many names,[4] what these diverse methods share in common is a focus on helping learners develop embodied self-awareness as a path towards better decision making and more values-aligned behavior. This sort of coaching entails a kind of eyes-open embodied mindfulness embedded in the context of one's life that evokes both conceptual and embodied self-awareness at once (Blake, 2018).

Generalizability and external validity. Because of the sampling process (see each individual study for details), I am confident that we can comfortably generalize from the study sample to the population of coaches as a whole. Coaches are also a good proxy for other kinds of helping professionals that share overlapping job characteristics. Therapists, clergy, nurses, educators, managers, and many other kinds of people-oriented professionals also rely on "soft skills" such as empathy, presence, connection, resilience, and self-awareness to do their jobs well. To the degree we see a relationship between embodied self-awareness and the competencies that all helping professionals rely upon, we have the opportunity to generalize to other types of helping professionals.

Furthermore, coaches have a professional responsibility to "walk their talk." It is an axiom in the coaching profession that coaches must first experience for themselves any methodology that they subsequently share with their clients. You simply cannot be an effective coach with a merely abstract understanding of your clients' experience. Thus,

[4] For example: body intelligence, somatic coaching, embodied leadership, presence-based coaching, Zen leadership, focusing, Hakomi, and Gestalt, to name a few.

the coaching population typically has direct experience of the tools, techniques, and methodologies that their more broadly representative clients are exposed to, making them a reasonable test case for what their clients may experience using similar techniques. Consequently, with some important precautions described below, conclusions drawn from a sample of coaches ought to be more broadly generalizable to other kinds of audiences as well.

That said, studying a sample of coaches is not without its limitations. By nature, coaches tend to have a higher-than-average interest in personal growth. This may skew results in the direction of a larger effect size than we might see in the population at large, and it suggests caution in extrapolating results. Nevertheless, when examining a phenomenon under the microscope for the first time, it is wise to identify the most obvious and clear examples before trying to distinguish subtleties. So, while this limitation is important to bear in mind, it may ultimately benefit this initial baseline study in the end.

With all of that being said, it is important to point out that while this research project has implications for coaches themselves and the coaching profession as a whole—particularly in the realm of coach training—this is *not* a study of coaching procedures or coaching effectiveness. The phenomenon under investigation is embodied self-awareness, not coaching. While the heterogeneity of the coaching profession with respect to ESA makes coaches an excellent unit of analysis, extrapolating learnings to the coaching profession and beyond calls for a light touch.

Mixed Methods Design

Following the methodological taxonomy laid out in Creswell and Plano Clark (2018), this study uses an exploratory sequential mixed methods approach to investigate the antecedents to and outcomes of embodied self-awareness. Before describing the studies at hand and the reasons for a mixed methods approach, exploring the options for investigating embodied self-awareness will provide valuable context.

An ideal study of embodied self-awareness would integrate first-person, second-person, and third-person data, as none of these data types can be reduced to one another. Each tells us something unique about the phenomena under investigation (Tressoldi, Facco, & Lucangeli, 2017). As a holistic phenomenon rooted in one's lived experience and affecting one's behavior and relationships, embodied self-awareness cries out for such a holistic approach to investigation. Ideally, a researcher would simultaneously gather data on (1) how an individual reports their own experience of embodied self-awareness (first-person data), (2) what close others observe and report about them (second-person data), and (3) any changes in neurobiological, hormonal, and other physiological measures as a result of developing ESA (third-person data). This approach allows for triangulation between self-report, other-report, and biological measures, vastly increasing confidence in and precision of results. An ideal study would take baseline measures from each of these three perspectives once at the beginning of an intervention designed to grow embodied self-awareness, and again at a second point some weeks, months, or years down the line after study participants have had an opportunity to develop their skills. While that ideal study is beyond the scope of this project, it lays out a compelling path for future research.

As a first step, the present studies aim to establish a baseline picture of the nomological network for the ESA construct by exploring multiple complementary first-person measures of embodied self-awareness. This baseline is aimed at both describing and predicting the behavioral and experiential outcomes of developing ESA, as well as identifying the training and practices that cultivate it. I have chosen to employ an exploratory mixed methods approach for several reasons:

1. Embodied self-awareness is, by definition, a holistic experience involving emergent states of one's entire body-mind (Craig, 2015; Fogel, 2009). Emergent holistic phenomena are by definition hard to break down into their component parts. A mixed methods design allows for a more comprehensive approach to considering holistic research questions from as many different angles as possible within the given resource constraints.
2. While practical considerations limit this project to self-report data, a mixed methods design enables triangulation between different kinds of self-report data, strengthening the validity of the results (Creswell & Plano Clark, 2018; Tashakkori & Creswell, 2007). In this case, integration of both qualitative descriptions of lived experience and quantitative counts of behaviors, demographics, and other characteristics allows us to either confirm or disconfirm findings from each independent study. This not only lends additional precision to the integrated findings, but ultimately offers more confidence in the validity of the end results.
3. In order to build the nomological network for the relatively new construct of embodied self-awareness, the approach to inquiry should employ methods that

emphasize both breadth and rigor. An exploratory mixed methods approach provides both by casting a wide net across methodological disciplines (breadth) while calling for comparison of results across multiple complementary studies (rigor). This broad exploratory approach helps us more clearly understand the phenomena under investigation, a step that moves the field from anecdotal and descriptive understandings of embodied self-awareness towards a validated construct situated within a well-articulated nomological network. This creates a more solid base from which future lines of inquiry may confidently expand into new territory.

Figure 11 illustrates the mixed methods design used for this project. Study 1 (denoted as QUAL, following Creswell (2018)) explores the lived experience of two groups of coaches: those who have developed embodied self-awareness as part of their training and those who have not. This starting point allows for a deeper, richer, and more rigorous understanding of the outcomes of body-oriented coach training vis-à-vis its alternatives. This serves as both a check on the practitioner literature as well as a way to systematically differentiate between embodied and conventional approaches to coach training, a distinction that had not yet been explored at the time of this study. Research question 1 investigated *the relationship between embodied self-awareness and emotional and social intelligence (RQ1)*.

In order to test, validate, and extend the results from Study 1, I developed a hypothesized model (see Figure 12) and designed a survey instrument to collect data from a much larger sample. Guided by the research questions for Study 2 and Study 3 on the antecedents and outcomes of ESA, I developed an instrument comprised of constructs

drawn not only from the outcomes of the qualitative study but also from outcomes suggested by management literature, practitioner literature, and practitioner experience. While the results of Study 1 formed the basis of the model and measures for the two quantitative studies that followed, I also chose to extend beyond these initial results in order to paint a fuller picture of the nomological net for ESA.

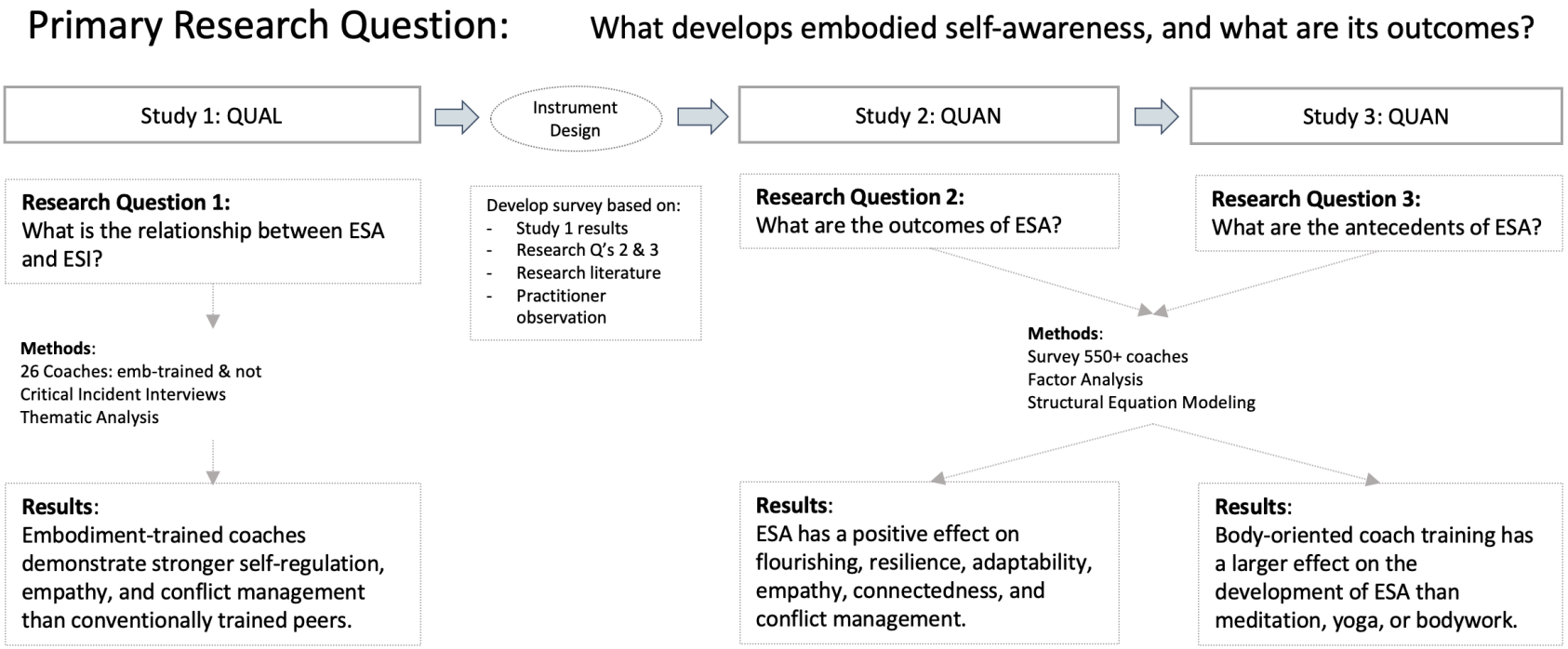
Once the hypothesized model was constructed and the instrument was designed, I began data collection for both Study 2 and Study 3 (denoted as QUAN, following Creswell & Plano Clark, 2018). Following data collection, I used factor analysis and SEM to explore *the outcomes of developing embodied self-awareness (RQ2)*. Results revealed a strong correspondence between Study 1 and Study 2, which was conducted with a much larger and more representative sample. Study 3 relied on the same dataset to evaluate *the antecedents of embodied self-awareness (RQ3)*. Here again, I found strong correspondence between Study 1 results and Study 3 results, suggesting that body-oriented coach training has powerful effects on one's embodied self-awareness.

Individually, each independent study answers a different question about embodied self-awareness: What is the lived experience of those who have spent time developing it? What are the training and practice-based antecedents to ESA? What are the behavioral, psychological, and experiential outcomes? Together, this collection of studies begins to paint a picture of the entire nomological net of the relatively new embodied self-awareness construct. The two quantitative studies expand the initial qualitative sample size beyond the original 26 interviewees from two coach training schools to include over 550 survey respondents from dozens of schools, while complementing descriptive data with statistical analysis. The larger sample size and use of different methods lends

confidence to the results of Study 1, particularly since there was such strong correspondence between the findings of all three studies. While self-report methods necessarily demand a cautious and somewhat skeptical eye, triangulating between multiple methods and samples helps build confidence in the validity and generalizability of the results while expanding our understanding of the big picture.

The basic research outline is illustrated in Figure 11. Further details on each independent study can be found below and in Chapters 4, 5, and 6. Details on the integration and triangulation between these three studies are reported in Chapter 7.

FIGURE 11
Mixed Methods Research Approach



Exploratory Study Sequence

In this exploratory sequential mixed methods approach, each study builds upon the one that precedes it, culminating in a comprehensive view of the full nomological network for the embodied self-awareness construct. The project proceeds from one study to the next, as detailed below. Completed studies and their results can be found in Chapters 4, 5, and 6.

Study 1 – Phenomenological exploration of embodied self-awareness. The first study, a qualitative study completed in 2018, aimed to answer the question: *What is the relationship between embodied self-awareness and emotional and social intelligence?* I began with a qualitative approach in order to explore a phenomenon consistently reported in practitioner literature and observation (Palmer & Crawford, 2013; Strozzi-Heckler, 2003; Whitelaw & Wetzig, 2008), but which had rarely been studied using rigorous scientific methodology (Attan et al., 2017; Barndt, 2019; Bennett, 2012). Starting here allowed me to ground the investigation of the inherently experiential phenomena of ESA in the phenomenology of people's direct lived experience. This was a critical first step prior to extending the investigation to a wider audience.

Using critical incident interviews, I interviewed two groups of coaches. One group (n=14) had substantial training in body-oriented coaching methods: 15+ days of training over one or more years from a specific body-oriented coach training school. The other group (n=12) had a similar level of training from a coach training school that uses more traditional information-based approaches. The interview protocol was designed to elicit the lived experiences of both groups on four dimensions: a stressful situation, an

argument, an event where they felt a sense of connection, and a spiritual experience (with the definition of spiritual left open to individual interpretation).

Thematic analysis of the interview transcripts revealed differences between the two groups on several dimensions. Coaches from the more body-oriented coach training school demonstrated greater embodied self-awareness, stronger self-regulation, and better conflict management, as well as slightly stronger empathy than their conventionally trained peers. Interrater reliability indicated validity of $\geq 70\%$ for each of these findings. The group of body-oriented coaches also appeared to have a stronger sense of connectedness, and they indicated a sense of having access to a reserve of resources or personal strength that the conventionally trained group did not mention.

Model development and instrument design. Building on Study 1, I constructed a hypothesized structural model of the antecedents to and the outcomes of ESA. This model, shown in Figure 12, incorporates findings from Study 1 and forms the basis for both Study 2 and Study 3. The construct of central interest, ESA, is conceived of as a mediator between certain types of training and/or practices and certain types of behavioral and experiential outcomes. This model was constructed based on several inputs.

First, it was clear that the next step in the investigation would be to clearly articulate and validate the antecedents to and outcomes of embodied self-awareness with a much larger and more representative sample. Starting with that overarching research objective and drawing on the Study 1 results, the model needed to contain several things:

1. A test of embodied coach training as a predecessor to ESA, since Study 1 revealed a difference between embodied and conventional coach training.

2. Tests of the ESI-based competencies found in Study 1, including empathy, conflict management, and emotional self-control.
3. Tests of findings that were not ESI-specific, including connectedness and the sense of support from a larger source, both of which were strongly represented in the embodiment trained group but not in the conventionally trained group.

I did not want to presume that the initial study had captured all possible variables, so I also felt it was wise to look beyond the Study 1 results to capture more of the nomological net for ESA. To do this, I reached out to half a dozen coaching colleagues with significant training in body-oriented coaching with the question: What are the outcomes of building embodied self-awareness? I collected their responses into themes and checked those themes against the Study 1 results, the practitioner literature on embodied coaching, and the management literature on emotional and social intelligence. This resulted in three categories from which to select the outcome variables for the model: intra-personal – experiences internal to oneself, inter-personal – relational experiences one has with others, and trans-personal – experiences that go beyond a sense of personal identity. Table 2 maps the outcomes of these conversations, the Study 1 findings, and the literature to the variables selected for Studies 2 and 3.

TABLE 2
Evidence Influencing Selection of Constructs for Subsequent Studies

	Study 1 Finding	Antecedents: Study 3	Outcomes: Study 2
1	Embodied coach training develops embodied self-awareness.	Training: degree of embodiment	
2	ESA increases emotional regulation.		Resilience Adaptability
	2a Manage difficult emotions more effectively. **2b** Use physical shifts to support an emergent shift in perspective and a more resourceful state.		
3	ESA increases capacity for conflict management and empathy.		Empathy Conflict Management
	Additional Influences	**Antecedents: Study 3**	**Outcomes: Study 2**
	Sense of connectedness. *^		Connectedness
	Invisible source of support. *^		Nondual Awareness
	Sense of purpose and well-being. ^		Flourishing
	Differences between embodiment-trained coaches and yoga teachers. *	Yoga… and other mind-body practices	

* Supported by Study 1 supplemental findings. See Chapter 4 for details.
^ Supported practitioner literature and conversations with expert colleagues.

Intrapersonal constructs. As I sought out well-validated scales to use in the survey, I determined that the items used to measure the ESI construct of emotional self-control, an intrapersonal construct, had too much multicollinearity with the measure of ESA and would ultimately confound results. To measure ESA, I used a well-validated scale of bodily awareness called the Multidimensional Assessment of Interoceptive Awareness (MAIA) (Mehling et al., 2018). The MAIA includes measures of emotional awareness and self-regulation that overlap significantly with emotional self-control items as measured by the Emotional and Social Intelligence Competency Inventory (Boyatzis et al., 2017). Drawing on the broader input from colleagues and literature, I retained the

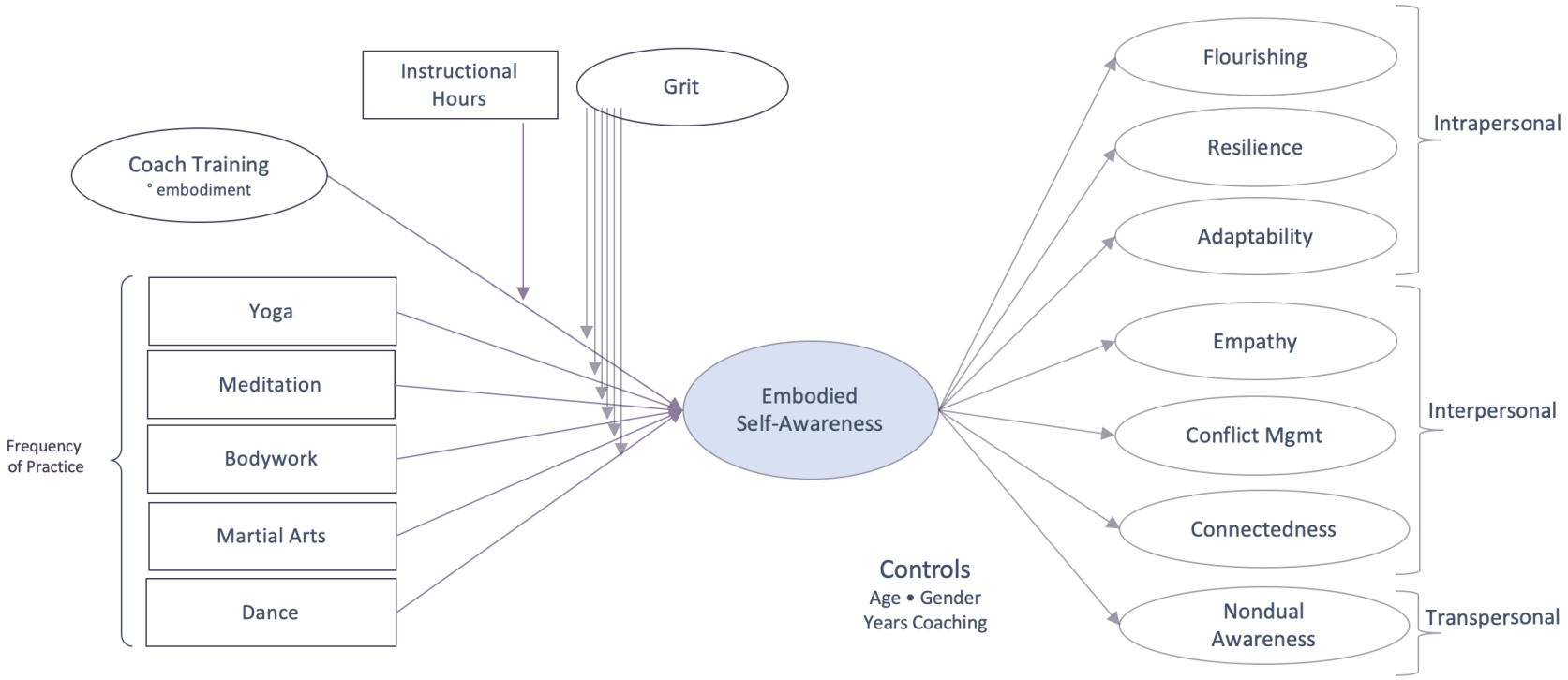
MAIA items and instead selected two related constructs as dependent variables: Adaptability, which is an interpersonal construct from the ESCI scale, and Resilience (Smith et al., 2008), which was mentioned by each of the half-dozen expert colleagues surveyed and is also heavily represented in practitioner and empirical literature on this topic (Blake, 2019; Fogel, 2021; Strozzi-Heckler, 2007; Whitelaw, 2012). Colleagues also consistently pointed to a sense of deeper purpose, meaning, and personal well-being, which empirical research supports (Barndt, 2019), but which was not directly explored in Study 1. I therefore added a measure of Flourishing to the hypothesized model.

Interpersonal constructs. Study 1 revealed Empathy and Conflict Management as differentiators between those with and without embodied coach training. I chose to use the relevant constructs from the ESCI scale to measure these two variables (Boyatzis et al., 2017). I also added a measure of Connectedness, since this came up both as a key differentiator in Study 1 as well as in the survey of expert colleagues.

Transpersonal constructs. In conversation with colleagues and in studying the literature, I investigated several possible measures of the transpersonal aspect of ESA. I sought a measure that would capture the Study 1 finding of strength from a larger source, which is an observation shared by many colleagues in the embodiment space and which is consistent with the historical roots of many mind-body practices that have emerged out of wisdom streams and religious traditions (Blackstone, 2008; Fogel, 2021; Kornfield, 2009; Palmer, 1999; Palmer & Kornfield, 2010). I considered several possible measures, including Awe (Bonner, 2015; Yaden et al., 2019) and Mystical Experience (Barrett, Johnson, & Griffiths, 2015; Hood, 1975). Ultimately, I settled on Nondual Awareness as the best measure for this outcome of ESA (Hanley, Nakamura, & Garland, 2018).

Antecedents. In addition, I felt that simply looking at the degree of embodiment of coach training as an antecedent to ESA would fail to complete the nomological network by excluding other critical paths to developing ESA. For instance, empirical research indicates that touch-based mind-body modalities support the development of ESA (Fogel, 2020a, 2020b, 2020c, 2020d). Logic suggests that other popular practices such as mindfulness or yoga may do the same. In addition, much of the inspiration for body-oriented coach training has emerged from the practice of dance or martial arts. In order to build a more complete nomological net, it was important to include these practices as potential antecedents. Finally, since personal characteristics and one's approach to study, practice, and learning will always affect their results, I proposed Grit, a well-known moderator of learning, as a moderator to all of the antecedents. The full model is depicted in Figure 12.

FIGURE 12
Hypothesized Model of the Antecedents and Outcomes of ESA



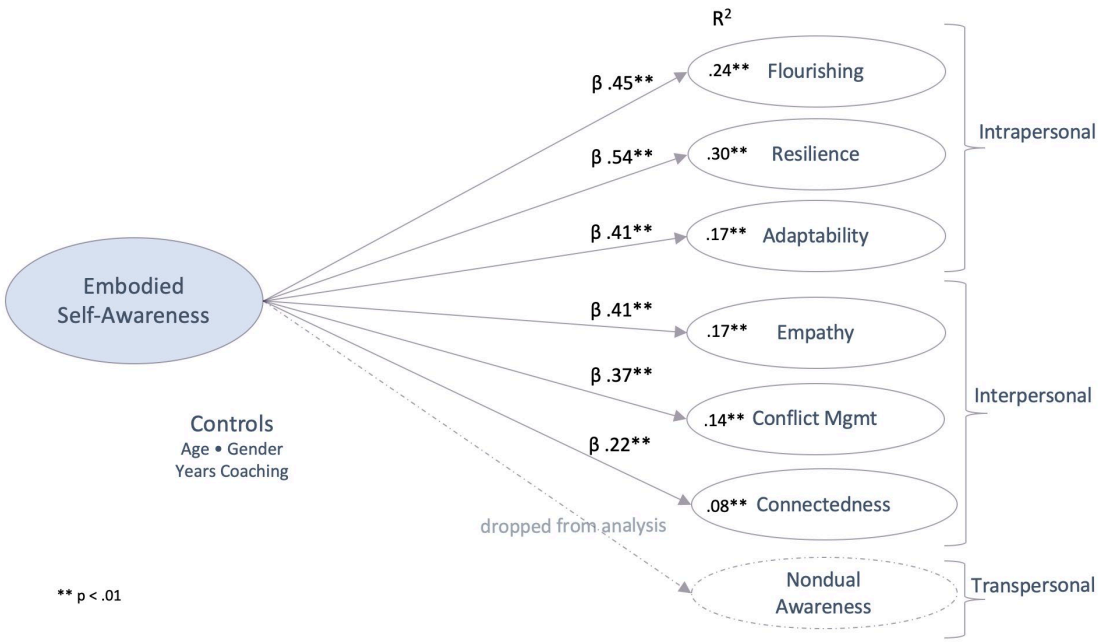
Studies 2 and 3 – Data collection. Using this model, data for Study 2 and Study 3 was collected simultaneously in a single survey during the summer of 2020. The survey included previously validated scales for each hypothesized construct, demographic questions, and controls. Eight coaching organizations agreed to send a survey link to their email list. The average response rate was 8.9%, which resulted in approximately 550 useable responses (the specific number varies by study). Of the participating organizations, six were coach training schools focused on embodied coaching, and two were professional associations for coaches. One-third (33%) of the sample came from the body-oriented coach training schools. While there are no data on what segment of the broader coaching population has engaged in embodied coach training, my own years of experience in the field, along with consultation among colleagues who collectively represent over 100 years of experience, lead me to believe that the 33% is an oversampling of perhaps 5% to 10%. This slight oversampling should serve to make the phenomena of ESA more easily measurable without compromising the interpretability of results.

Study 2 – Statistical analysis of the outcomes of ESA. The second study aimed to answer the question: *What are the outcomes of embodied self-awareness?* Specifically, the study tested hypotheses that propose a positive relationship between Embodied Self-Awareness and Flourishing, Resilience, Adaptability, Empathy, Conflict Management, Connectedness, and Nondual Awareness.

Here, I used the rightward half of the model to test the effects of embodied self-awareness on the dependent variables. I used both exploratory and confirmatory factor analysis to establish the validity of the measurement model, followed by structural

equation modeling to test causality. The outcomes supported nearly all hypothesized relationships. Figure 13 illustrates the results (** = p<.001). Details are reported in Chapter 5.

FIGURE 13
Study 2 Model and Results – Outcomes of ESA

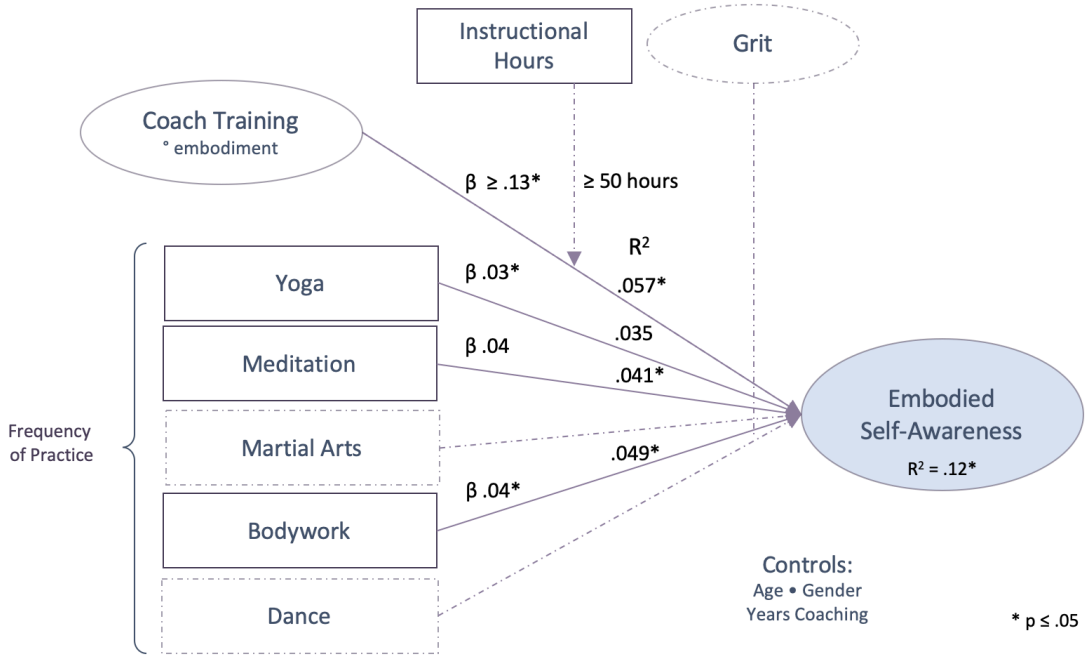


Study 3 – Statistical analysis of the antecedents of embodied self-awareness. The third study sought to answer the question: *What are the antecedents of embodied self-awareness?* Specifically, I wanted to explore how different approaches to coach training and mind-body practice affect ESA. Based on the results of Study 1 and my own experience as a practitioner, I expected to find that body-oriented coach training has a positive effect on ESA. However, I did not know what "dose" of embodiment is required to develop ESA, either in terms of the degree of embodiment of the program or in terms of length of time. The study was designed to shed light on this question. Furthermore,

since many coaches engage in a variety of mind-body practices out of personal and professional interest, I also explored how these additional practices might affect ESA.

Additionally, Study 1 indicated stronger ESI outcomes for embodiment-trained coaches than for certified yoga teachers (see Supplemental Findings, Chapter 4). This surprising finding led me to hypothesize a stronger effect size for the impact of embodied coach training on ESA than for other mind-body practices. This integration between studies highlights the strength of the exploratory mixed methods approach, which allowed me to ask bolder and more provocative questions such as this one. Figure 14 illustrates the hypothesized model and the results for Study 3.

FIGURE 14
Study 3 Model and Results – Antecedents of ESA



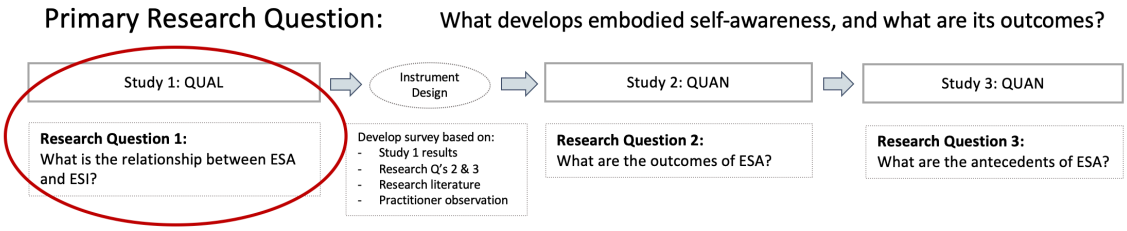
Outline of Remaining Chapters

The upcoming three chapters correspond to each independent study of this larger mixed methods project. Chapter 4 details the theory, methods, analysis, and findings for Study 1. Similarly, Chapters 5 and 6 outline the details of the second and third studies, respectively. Each of these chapters is written in such a way that it can be read as a stand-alone, independent study. Hence, the reader should anticipate some repetition between chapters. The hope is that this will reinforce the strength of a mixed methods approach that triangulates among several studies to draw more robust conclusions. Although I conceived of and led this research project, I enjoyed substantial collaboration and support throughout. As a reflection of that collaboration, some of the upcoming chapters are written with the pronoun "we." Finally, Chapter 7 integrates the findings from each of the three studies and suggests paths for future research.

CHAPTER 4: EMBODYING EMOTIONAL AND SOCIAL INTELLIGENCE

This chapter details the theory, methods, and findings for Study 1, an inductive investigation into the relationship between embodied self-awareness and emotional and social intelligence. Figure 15 illustrates where this study fits in relationship to the others.

FIGURE 15
Research Question 1



Introduction

Emotional and social intelligence (ESI) differentiates high performance across a range of roles and has been shown to be an important predictor of success in business and in life (Goleman, 2005, 2007; Goleman et al., 2013). Even though we know it is possible to successfully help people develop ESI competencies, standard methods of business training tend to fall far short of the potential for improving them. Whereas successful ESI training programs show up to 61% sustained improvement in ESI competencies, the typical above-average MBA program shows only a 3% improvement. Training programs in industry and government do not fare much better at 11% (Fredrickson, 2013; Fredrickson & Losada, 2005). Given the importance of ESI to business outcomes, methods for successfully cultivating ESI are a critical lever for business success.

Following several decades of sustained research in psychology, biology, and neuroscience, it has now been well established that the body plays a significant role in

psychological health, behavior, and learning. Of course, this insight extends to ESI as well (Goleman, 2011). In their investigation of the role of somatic states in decision making, Bar-On, Tranel, Denburg, and Bechara (2003) suggest that "the neural systems supporting somatic state activation… may overlap with critical components of a neural circuitry subserving emotional and social intelligence" (p. 1790). Literature streams across a number of fields, including affective neuroscience, interpersonal neurobiology, social neuroscience, and embodied cognition—all explored in the literature review below—lend further support to the idea that body and behavior are intimately intertwined. Taken together, those studies theoretically indicate an essential link between embodied self-awareness—defined as conscious, present-moment non-judgmental awareness of sensation, body position, and movement (Fogel, 2009)—and the pivotal ESI competency of emotional self-awareness. ESI competencies such as one's capacity for emotional self-control, empathy, and conflict management covary with the presence or absence of emotional self-awareness (Boyatzis et al., 2017). This link between embodied self-awareness and emotional self-awareness points to untapped avenues for developing ESI competencies.

Indeed, practitioner literature and early empirical studies suggest that training methods leveraging this well-documented body-mood-mind relationship appear to hold promise for building emotional self-awareness and thus developing ESI competencies overall (Attan et al., 2017; Bennett, 2012; Palmer & Crawford, 2013; Strozzi-Heckler, 2007). However, to date this research has focused on learning theory more than on management, leadership, and ESI. Coaching and management theory will benefit from a more robust exploration of this phenomenon.

This inductive, qualitative study aims to contribute to that exploration by investigating the impact of body-oriented leadership training methodologies on emotional and social intelligence skills. Through semi-structured interviews with two groups of professional coaches—one group trained in embodied leadership methods and the other trained with conventional coach training methods—the study seeks to discover (1) what factors influence the presence or absence of embodied self-awareness; and (2) what is the relationship between embodied self-awareness and emotional and social intelligence? The results may point to a fruitful new avenue for the cultivation of ESI competencies.

Literature Review

Research from a broad range of disciplines describes the biological underpinnings of the emotional and relational aspects of life, including ESI competencies such as emotional self-awareness, self-control, empathy, and conflict management. As our moods and relationships shift and change, so too do the activation of specific areas in the brain, viscera, nervous system, and neuro-musculature. The literature streams explored below point to a need for further clarification of the relationship between embodied self-awareness and emotional and social intelligence in organizational life.

The neurobiology of emotional intelligence. Bar-On et al. (2003) explored the neurological substrates of emotional and social intelligence by testing several ESI measures for patients that had lesions in the somatic marker circuitry of the brain and patients that had lesions elsewhere in the brain. The somatic marker circuitry includes the insula and the ventromedial prefrontal cortex, both of which are involved in experiencing sensations from inside the body (Craig, 2015) and embodied self-awareness (Fogel, 2009). The researchers found (emphasis added):

> **Only patients with lesions in the somatic marker circuitry revealed significantly low emotional intelligence and poor judgment in decision-making as well as disturbances in social functioning**, in spite of normal levels of cognitive intelligence (IQ) and the absence of psychopathology based on DMS-IV criteria. The findings provide preliminary evidence suggesting that emotional and social intelligence is different from cognitive intelligence. **We suggest… that the neural systems supporting somatic state activation and personal judgment in decision-making may overlap with critical components of a neural circuitry subserving emotional and social intelligence**, independent of the neural system supporting cognitive intelligence. (Bar-On et al., 2003: 1790)

This finding of an anatomical link between somatic markers and ESI does not, in and of itself, indicate that embodied self-awareness (ESA) directly affects ESI competencies. However, it does point to bodily states that accompany emotional and social intelligence, which raises the question, "might increasing awareness of these embodied states impact ESI?" Below we explore this question with respect to four ESI competencies: (1) emotional self-awareness, (2) self-control, (3) empathy, and (4) conflict management. As detailed below, evidence suggests a strong relationship between the body and social-emotional states in each of these areas. This is further supported by findings from the field of embodied cognition, also explored below.

The biology of emotional self-awareness. In his 2009 book, *The Psychophysiology of Self-Awareness*, Fogel (2009) maps the physiology and brain states for two different kinds of self-awareness: conceptual self-awareness and embodied self-awareness. He makes a compelling argument that strengthening embodied self-awareness corresponds to greater emotional self-awareness. After exploring the neurobiology of sensation, touch, breath, quality of movement, and bodily position, Fogel shows how conscious, non-conceptual exploration of these physical states serves to bring one into the

"subjective emotional present," defined as "a state of embodied self-awareness in which the individual is fully immersed, fully present to the self, fully alive" (Fogel, 2009: 268, 319). Such an experience of embodied self-awareness emerges across the entire body all at once. It is a "whole systems phenomenon" (Fogel, 2009: 58).

Research conducted by Eckman (2007) on the facial expression of emotions across cultures suggests a similar whole-systems phenomenon. Eckman and his co-researcher made a detailed study of each facial muscle and its relevance to emotion by making facial expressions in their lab over a period of months. After a day spent making sad faces, both of them left the lab feeling sad. This led to an exploration of whether facial expression can actually *cause* emotion. Their answer, consistent with William James's (1884) observations nearly 100 years earlier, was "yes." This lends further support to the idea that shifting embodied states impacts the self-system in a holistic way.

Decades of research in trauma therapy also suggests a link between embodied and emotional states and points to the development of embodied self-awareness as a powerful treatment option for those suffering from PTSD (Levine & Frederick, 1997; Van der Kolk, 2015). Increasingly, body-oriented approaches are viewed as essential to the standard of care in trauma therapy (Levine & Mate, 2010; Stankovic, 2011; Treleaven, 2018; Van der Kolk, 2015).

Since emotional self-awareness is a pivotal ESI competency with which other ESI competencies co-vary (Boyatzis et al., 2017), we might expect this link between embodied states and emotional states to extend to other ESI competencies such as emotional self-regulation, empathy, and conflict management as well. Indeed the literature supports this proposition.

The biology of emotional self-regulation. Emotional self-control, also referred to as self-regulation, is an important emotional intelligence competency that co-varies with emotional self-awareness. When emotional self-awareness is high, the capacity for self-control also tends to be high. And of those low in emotional self-awareness, at least 18% require development in self-control (Boyatzis et al., 2017).

It has been well-established that everyday experiences and social interactions can activate the sympathetic nervous system and put individuals into a chronic, low-grade fight/flight response (Sapolsky, 2004). Those in high-responsibility, high-stress roles are particularly prone to this. This sacrifice syndrome has high costs for leaders and the organizations they are a part of. Organizations with leaders that sustain persistently dissonant states of being and styles of leadership meet with considerably less success than organizations that experience more consistently resonant leadership (Boyatzis & McKee, 2005). Resonant leadership is supported by the positive emotional attractor (PEA), a psychobiological state that emerges out of parasympathetic nervous system activation, activation of the default mode or "empathic" network, and positive affect. Leaders who are easily able to access the PEA create more positive and lasting legacies for themselves and others, whereas leaders who get trapped in the negative emotional attractor (NEA)—a whole-system state that emerges out of sympathetic nervous system activation, the task focus of the analytic network, and negative affect—have more dissonant relationships and results (Boyatzis et al., 2014; Boyatzis, Rochford, & Taylor, 2015; Boyatzis, Smith, & Van Oosten, 2019). These known biobehavioral links point to a strong relationship between the body and emotional regulation and a high likelihood that embodied self-awareness will positively affect emotional self-control.

The biology of empathy. Empathy is a social intelligence competency that also co-varies with emotional self-awareness. When emotional self-awareness is high, empathy tends to be strong. And of those low in emotional self-awareness, at least 40% require development in empathy (Boyatzis et al., 2017).

Like emotional self-awareness, empathy is also affected by certain biological states. Labs studying mirror neurons (Iacoboni, 2009; Gallese, 2001; Gallese & Goldman, 1998), developmental psychology (Schore & Schore, 2008; Tronick, 1989), and interpersonal neurobiology (Siegel, 1999, 2010) all point to this conclusion. For example, we unconsciously assess someone else's intentions by modeling how their actions—a smile, a foot stomp, an outstretched hand—would feel in our own bodies (Gallese & Goldman, 1998). We connect with others through an embodied rhythmic synchrony as early as the third month of life (Tronick, 1989, 2003). More recent research shows that manipulating motor action has the potential to strengthen empathy (Jospe et al., 2018).

Our bodies play a critical hidden role in our capacity to empathize. This again points to a need to better understand how embodied states intersect with ESI competencies.

The biology of conflict. Like empathy, the ability to skillfully manage conflict also co-varies with emotional self-awareness. Thirty-nine percent of individuals low in emotional self-awareness are assessed by colleagues as also being poor at conflict management, whereas only 1% of those high in emotional self-awareness need to improve their conflict management (Boyatzis et al., 2017).

Like empathy, conflict also has embodied elements. Biologists have long known that our bodies respond rapidly and automatically to threats, whether perceived or actual

(Sapolsky, 2004). In the workplace, one common occurrence of such perceived—and sometimes actual—threat is the experience of conflict. While the fight or flight response is well understood in popular culture, in actual fact, the biology of our threat response is far more complex. As Porges' polyvagal theory shows (Porges, 2004, 2009; Porges & Furman, 2011), threat responses are anatomically tied to social communication systems, including facial muscles and the linguistic centers of the brain. This has important implications for responses to workplace conflict, which is primarily negotiated through communication.

Furthermore, when perceived threat and negative emotions are high, shifting out of negativity into a more positive and productive state takes more energy and effort than if the conflict had been handled well in the first place (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), creating a drain on personal and organizational resources. And teams that are able to leverage positive emotions enjoy higher rates of success (Fredrickson, 2013; Fredrickson & Losada, 2005). All of this suggests that the role of the body in conflict may have vital clues for how to navigate daily organizational challenges more effectively.

Embodied cognition. Studies in the field of embodied cognition suggest that even the way we think is affected by the way we move. For instance, Casasanto and Dijkstra (2010) demonstrated "a causal link from motion to emotion" when investigating the impact of moving marbles on the positive or negative valance of memories. They found that the action of moving marbles up made positive memories easier to access, whereas moving marbles down sped retrieval of negative memories (Casasanto & Dijkstra, 2010: 179). Other research has found that holding a warm cup of coffee or tea affects

assessments of interpersonal warmth (IJzerman & Semin, 2009; Schilder et al., 2014; Williams & Bargh, 2008), and that loneliness and social exclusion can lead to lower skin temperatures (IJzerman et al., 2012). Related research shows that different emotions correlate with distinct profiles of body temperatures; the heat of anger differs from the warmth of love, for instance (Nummenmaaa, Glereana, Hari, & Hietanend, 2014).

In other words, even small, simple, and subtle changes in temperature or gestures can affect our thinking, emotions, and interpretations of events and of others. Embodied cognition research lends further support to the idea that our bodies inescapably influence our day-to-day activities in ways we rarely recognize. That we are typically blind to these influences in no way reduces the significance they hold.

Our bodies affect our work. Even in virtual environments, people bring their bodies to work with them every day. It simply is not possible to take action without your body. Knowledge workers sit, stand, and move during the day, and they are subject to the same biological responses to emotional and relational circumstances as everyone else. While work-related challenges are sometimes task-specific, frequently, our biggest workplace challenges are emotional or relational in nature. For instance, you might feel frustrated with another person's late completion of a task, which reflects poorly on your team. You might feel angry with a colleague who has inappropriately taken credit for your ideas. Or you might need to manage a performance slip from an ordinarily reliable employee who is going through a difficult personal challenge. A great deal of management consists of these sorts of difficult-to-navigate workplace dilemmas, which is one reason strong ESI differentiates high-performing leaders from adequate-but-average ones.

ESI is a critical workplace skill, and important ESI competencies such as emotional self-awareness, empathy, conflict management, and influence are all underlain by specific embodied states. Thus, it would seem that the state of one's embodied self-awareness may have critical implications for ESI as a whole. However, *understanding* that there are physical factors at play in everyday interactions is unlikely to be sufficient to *enact* stronger ESI competencies. Most people are familiar with the experience of having an *idea* about how they aspire to behave in a tricky situation, yet being unable to actually *behave* that way. This common experience points to the critical difference between *know-that* and *know-how* (Varela, 1999), a gap that is essential to bridge in order for these insights about ESA and ESI to have any practical, applied value. The distinct characteristics of body-oriented coach and leadership training suggest that it is possible to generate this sort of practical value through experiential, body-oriented approaches to behavioral learning.

Results of embodied approaches to training. There is growing evidence that embodied approaches to behavioral learning help develop stronger emotional self-awareness. For example, Bennett (2012) found that somatic leadership training increases self-awareness. She defines somatic training as a process of developing the whole self—kinesthetic, sensory, affective, cognitive, and spiritual. In addition to building self-awareness, she also found that such whole-person training positively impacts one's (1) ability to handle emotions, (2) communication skills, (3) relationship building, and (4) conflict resolution. The training also significantly influenced participants' alignment with their personal vision. She concludes that "somatics is essential pedagogy" and that the body—far from an adjunct to learning—is a fundamental source of knowing.

Attan et al. (2017) explored how different types of movements affect people's self-described mood. They found that "specific physical movements produced corresponding psychological states." Among their list of potential applications for this insight, they include (1) self-regulation, (2) empathy and social skills, and (3) team effectiveness.

Results such as these, along with reports from the practitioner literature (Hamill, 2013; Palmer & Crawford, 2013; Strozzi-Heckler, 2007, 2011), are corroborated by robust literature streams across a wide variety of fields that clearly describe how embodied states correspond to different emotional and relational states. As the evidence above shows, silent biological processes are at play during our most common relational exchanges and emotional reactions. This biological truth is an inherent and inescapable part of our everyday experience, including at work.

Since the body is so closely tied to emotional and relational life, it could very well influence ESI competencies through the presence—or lack thereof—of embodied self-awareness. That is the relationship that this study aims to investigate.

Methodology

To investigate this question, I designed an inductive study to explore the phenomena of embodied self-awareness and its impact on individuals' lived experiences. Following a criterion sampling approach, two groups of participants were recruited for the study: one group of professional coaches with significant training in embodied coaching methodologies and another group with significant training in more traditional coaching methodologies. I recorded and transcribed semi-structured critical incident interviews with each participant and gathered demographic data with a questionnaire. I

used thematic analysis to surface themes for each group and then created a codebook designed to maximally differentiate between groups (Boyatzis, 1998). I then compared the presence and frequency of each code for each group. The aim was to surface the effects of deliberately developing embodied self-awareness by exploring the experience of those who have done so with a comparison group of those who have not.

Sample and participants. Thirty-one participants were drawn from one of two groups. Both groups consisted of professional coaches who had undergone between six months to one year of coach training, including 15 to 20 in-person training days during that period. The groups were distinguished by different approaches in their coach training. One group, referred to as the EBT Group (for Embodiment-based Training), was trained with a strong emphasis on embodied approaches to coaching. This group's training approach emphasizes movement, martial arts principles, and meditation. The majority of training time is spent moving, interacting with others, and paying attention to one's embodied responses.

The other group, called the CVT Group (for Conventional Coach Training), was trained in more widely used conventional coaching methods designed to strengthen overall self-awareness, including emotional self-awareness. This group's approach emphasizes conversational approaches to coaching and focuses heavily on values clarification and emotional processing. Both training companies are highly reputable and conduct their trainings worldwide.

Labeling the groups EBT and CVT is simply meant as a helpful aid to the reader and a shorthand reminder of each group's training focus. It is worth emphasizing that both training companies rely on both conceptual and experiential training methods.

However, they differ considerably in their emphasis, approach, methodology, and training techniques.

In the CVT training, coaches are taught to help clients surface their visions, values, and core priorities and to organize their lives and businesses in accordance with these in order to experience greater fulfillment. The program is designed to increase emotional awareness of self and others and to help coaches—and subsequently their clients—mentally and emotionally shift gears in challenging circumstances. The program relies heavily on experiential, learn-by-doing techniques and invites coaches to pay attention to non-verbal states and even get their clients moving as a way of exploring new perspectives and approaches to challenges.

The EBT training methodology uses embodied practices as a way to explore one's everyday experience of life. The foundational learning allows one to discover their physical responses to high-pressure situations through experiential exercises and to practice more resourceful responses by making deliberate physical and mental shifts. The goal is to catch one's bad behavioral habits in the moment and shift into a more effective response. The training also emphasizes ongoing embodied practice to develop leadership behaviors such as attentive listening and powerful speaking. This training modality is strongly influenced by the practices and philosophies of the non-violent martial art aikido as well as mindfulness meditation.

EBT Group (n=14). This group consisted of individuals who have been trained in embodied leadership modalities for at least 15 days of live training over the course of a year or more. Fifteen participants were interviewed; one was dropped from the study because an unexpected scheduling issue shortened the interview to about half that of

other participants. Participants were recruited with a letter that was approved by the Institutional Review Board (IRB) of Case Western Reserve University. Per the IRB-approved protocol, the training company sent this letter to past participants of its programs.

CVT Group (n=12). This group consisted of individuals who were trained using conventional coaching methods for at least 15 days over the course of a year or more. Sixteen individuals were interviewed; four were dropped because during the interview, it became clear that they were not qualified to participate in the study according to the recruitment parameters. Participants in this group were recruited via a Facebook group for graduates of a specific coach training program. The same recruitment letter used to recruit participants from the EBT group was posted in this Facebook group.

In order to ensure the privacy and confidentiality of the participants and training schools involved in this study, both schools shall remain unnamed. Pseudonyms are used for all quotes.

The demographics of the two groups were quite similar. Both groups had 75% female and 25% male participants, which is consistent with the coaching field as a whole (International Coach Federation, 2016: 9). The average age for each group was 51.5, plus or minus six months, and the average time since completing training was five years, plus or minus six months. The only notable demographic difference is that, on average, the CVT group had a little more than half as much coaching experience as the EBT group. Table 3 indicates the demographic similarities and differences between groups.

TABLE 3
Demographics of EBT and CVT Groups

	EBT Group			**CVT Group**		
	Age	Years Coaching	Months Since Training	Age	Years Coaching	Months Since Training
low	37	1	5	38	2	14
high	65	30	132	64	15	158
average	**52**	**12.1**	**55.1**	**51**	**6.5**	**65.8**

Data collection. Interviews were conducted via video conference and/or phone and were audio and (usually) video recorded with the permission of the participants. A single interviewer conducted all of the interviews, which typically lasted between 60 and 90 minutes. The interviews focused on how people respond to situations in their emotional and relational life.

Interview questions were broken down as follows: two questions about situations likely to evoke a sympathetic nervous system and Negative Emotional Attractor response (a stressful situation and an argument), two situations likely to evoke a parasympathetic nervous system and Positive Emotional Attractor response (feeling connected and a spiritual experience), and one neutral question which might go either way (a time you convinced others to join you in a major project). As the interviewer, for the most part, I simply asked the prescribed questions and probes and otherwise stayed silent and attentive. When necessary, minimal probes were used to re-direct attention towards the primary research question, which remained hidden from participants but known to me as the researcher. All questions were approved by the IRB at Case Western Reserve University before interviews began. See Appendix A: Interview Protocol for the detailed list of questions.

The interviews for the EBT group were conducted in July and August of 2018. Due to delays in gaining access to the CVT group, those interviews were conducted in September and October of 2018. Once most of the interviews had been completed, a questionnaire was distributed to gather demographic data. The questionnaire had a 97% response rate. Demographic data was averaged and then imputed for one participant.

Data Analysis

Code development. In order to compare differences in ESA and ESI competencies between groups, I followed the thematic analysis coding process described in Boyatzis (1998). The objective was to surface the themes that most strongly differentiated between groups in order to make the differences between groups clearly visible.

First, a subset of four transcripts from the EBT group and four from the CVT group were randomly selected and then printed for manual coding. The aim was to identify common themes both within and between groups. Each transcript was read twice, once for an initial overview and once to carefully code. The coding process focused on surfacing latent themes that get at the underlying meaning behind a situation, story, or event (Boyatzis, 1998). For instance, when a participant describes looking in the mirror and telling themselves that everything is going to be OK, it might be coded at the manifest level as "self-talk" (*what* is going on), and at the latent level as "shift in perspective" (the underlying *meaning, purpose, intention, or feeling* behind the event).

After manually coding the subset of eight transcripts (four from each group), 32 latent themes were collected into a spreadsheet and marked with an indicator denoting how many times each theme was mentioned within each group. Fifteen strongly

differentiating themes were identified, collected into six clusters, and defined in writing. Full codebook details are included in Appendix B.

Data analysis. All 26 transcripts from both groups were then imported into NVivo version 12. Each transcript was coded according to the codebook instructions. To counteract assumptions and biases, I challenged myself to explicitly look for the opposite of what I might expect to find.

Following the coding of the transcripts, I then ran multiple queries in NVivo to further analyze the data. First, I looked at the percentage of group members that mentioned experiences that fit each code. For example, as shown in Table 4, 93% of EBT group members mentioned Body Wisdom, whereas only 33% of CVT group members did. This indicated the percent of cases for each code, by group. Then I evaluated the proportion of references to that code for each group. For instance, of all the references coded Body Wisdom throughout the entire study, 80% of them came from the EBT group, and 20% of them came from the CVT group. Taken together, these two views provided a good indication of which codes differentiated between the groups and which did not. I then ran similar queries for each cluster of themes (recall that the final list of 15 codes were grouped into six clusters).

TABLE 4
Participant Responses for Each Code, by Group

Code	*% of EBT Group*	*% of CVT Group*
Self-Awareness		
body wisdom	92.9	33.3
different before	85.7	41.7
Stress Recovery		
centering	92.9	16.7
perspective shift	78.6	83.3
Conflict Management		
empathy	51.1	41.7
nonresistance	78.6	16.7
resistance	35.7	58.3

These analyses generated a list of seven findings: five that are relevant to this paper's research question, and two others that have been set aside for a future report. A total of 10 codes in 4 clusters supported the findings reported here.

Interrater reliability. Following Boyatzis' (1998) assertion that "reliability is consistency of judgment," I also conducted validity checks for five of the fifteen codes: Centering, Perspective Shift, and each of the three kinds of practices: Mindfulness, Embodiment, and Educational. In four of these cases, very few or no changes were made. In the case of the Centering code, 27% of the cases also included a Perspective Shift that occurred simultaneously with the Centering and that had been overlooked in the first round of coding. This was corrected prior to the data analysis phase by adding the Perspective Shift code to these cases. Given how few changes were required for the other codes, this cross-check satisfactorily confirmed consistency of judgment in the application of the codes.

Following this internal validity check, the transcripts and codebook were shared with a researcher trained in thematic analysis for an inter-rater reliability check. This researcher has not been trained as a coach and does not have any embodiment training. To strengthen the test, the researcher rated the transcripts "cold," without any discussion about the codebook beyond the written descriptions of each code (see Appendix B). Under these stringent conditions, interrater reliability was 70%, lending significant confidence to the findings (Boyatzis, 1998).

Key Findings

Consistent with the literature that points to the relationship between body and behavior, this study showed that the EBT group outpaced the CVT group in four areas: (1) embodied self-awareness, (2) emotional regulation, (3) empathy, and (4) conflict management. These areas are closely related to the ESI competencies of (1) emotional self-awareness, (2) emotional self-control, (3) empathy, and (4) conflict management (Boyatzis et al., 2017) (see also Figure 10: Emotional and Social Intelligence Competencies in Chapter 2). These findings, detailed in Table 5, provide illuminating answers to the two research questions:

1. What are the factors that influence the presence of embodied self-awareness?
2. What is the relationship between ESA & ESI?

TABLE 5
Summary of Findings

1 - Increased Embodied Self-Awareness	Embodied coach training develops lasting embodied self-awareness by helping people perceive subtle yet influential information from their sensations, movements, posture, and breath.
2 - Increased Emotional Regulation	2a) People who have experienced embodied coach training manage their difficult emotions more effectively and thus become more resourceful across a range of situations. 2b) Deliberate physical shifts – beyond just taking a deep breath – support an emergent change in perspective and a shift into a more resourceful state of being in the heat of the moment.
3 - Increased Conflict Management Capacity	Embodied coach training increases one's capacity to de-escalate conflict and may positively influence one's capacity for empathy.

Overall, the findings point to a relationship between EBT training and increased capacity for self-awareness, stress recovery, and conflict management. These results indicate that this relationship is mediated by increased embodied self-awareness, though a firm conclusion about that awaits further testing with a larger and more representative sample. Given that the CVT group receives extensive training in self-awareness and other-awareness as part of their coach training, we might reasonably presume that this group is already stronger than average on many ESI competencies. While this study did not control for that, if that is indeed the case, then the contrasting results between the two groups are all the more striking by comparison.

Below, I discuss each finding in turn, then look at the findings taken as a whole.

Finding 1: Increased embodied self-awareness. *Embodied coach training develops lasting embodied self-awareness by helping people perceive subtle yet influential information from their sensations, movements, posture, and breath.*

This study explored two aspects of self-awareness: (1) whether participants spontaneously reported some notion that the body provides valuable information and/or

the thinking self sometimes interferes with effective action, coded as “Body Wisdom;” and (2) whether participants spontaneously reported a transformative experience in which they experienced a major change to their capacity for resourceful action, coded as “Different Before.”

The data show that the EBT group referred to their body as a source of valuable knowing—and sometimes, their mind as a source of confusion—at roughly three times the rate of their peers in the CVT group. They said things such as:

> I'm very analytical and highly rational to my own detriment at times. (Brooke)
>
> Over the years she was using small pieces of physical work and I was so intrigued because the answers and the insights I got to situations through tapping into inner knowledge was SO much more profound and Aha than it ever had been trying to sort of strain the mind to do it. (Claire)
>
> I think we're in a world where there is such a disconnect with the body. There is such violence done to the body without realizing it – selling it, marketing it. And for me, this is even political. This embodiment work is about supporting people to connect to who they really are and who they can be. (Willa)
>
> It's like our minds are constantly confused. This is a quote from something that I always think about. Our minds are constantly confused. We have been ill for a very long time. (Forest)
>
> In that instance, I needed to be so grounded in my body and I'm kind of feet flat on the floor, sitting straight, sitting in my chair, chest up. I mean, I'm just thinking physical persona on this and speaking from, from my heart and my gut, not up in my head and not up here [gesturing near her head]. (Nell)

Coupled with the findings below that detail the way the EBT group pays attention to their in-the-moment physical experiences when centering, this group seems to place a high value on embodied cues as a source of trustworthy information. Their reports suggest they rely on in-the-moment embodied self-awareness as an important guide for action and choice-making.

Furthermore, about twice as many participants in the EBT group spontaneously reported a fundamental and lasting change in capacity for action as a result of the training compared to their peers in the CVT group. EBT participants also mentioned this sort of transformational change at about three times the rate of their peers (75% of the references coded Different Before came from the EBT group). Given that it had been five years, on average, since study participants had completed their training, this suggests that most participants in the EBT group made a lasting change in their behavior, and that the development of these new capacities impacted their lives in ways they found valuable. Some examples:

> I think what really struck me was how easy it was for me to respond differently by using the techniques. I love the simplicity of it, … And I saw a difference that was immediate! You know, this work—it's almost immediate, you see it, you feel it, and you speak it… you'll respond differently. (Sanjali)

> Normally, years in the past, I would probably would not have said anything. Because I would have been afraid that I would have said the wrong thing. And now I could reorganize myself around my nervous system and say my truth in it in the moment. (King)

> I ended up leaving the table slowly, and returning to my little house where I was continuing my day. And I noticed I could do that without fear. Where previously I know that I would have almost had a physical fear. (Willa)

> If I go back to my finance days, those things would have been happening, and I'd of had no awareness of it. And I'd just have been acting out of personality most of the time. I credit that process and the input from these people and their insight, to having this other ability now. (Claire)

The CVT group also mentioned the ways they had changed as a result of their training, though at a considerably lower frequency (42% as compared to 86% of EBT participants). Several CVT participants mentioned feeling more fulfilled as a result of their coach training, and they often referred to highly valued internal changes and shifts

in identity and self-concept. They spoke less frequently about changes in their behavior and action, and rarely referred to the body as playing a role in their change, if at all.

> They're very impressed at the way I've reinvented myself in the last couple of years because I used to suffer dreadfully from an inferiority complex. Status was important to me. I didn't understand my own self-worth. Going through the program … I went into it completely, you know, spiritually, naked. I really, really grew a lot through that. (Helen)

> I don't feel like I'm the same person that I was 12 years ago and I don't feel like I'm the same person as I was a year ago. Um, so there's, it's whatever that was that happened that day with my friend telling me that I was—she didn't know who I was—that kickstarted something that hasn't stopped really. (Shannon)

The striking difference between the two groups with respect to embodied wisdom and behavioral change turned out to be one of the most significant findings of the study.

Finding 2: Increased emotional self-regulation.

2a) People who have experienced embodied coach training manage their difficult emotions more effectively and thus become more resourceful across a range of situations.

2b) Deliberate physical shifts—beyond just taking a deep breath—support an emergent change in perspective and a shift into a more resourceful state of being in the heat of the moment.

In the search for codes that differentiated the two groups, two surfaced in a cluster labeled "Stress Recovery." These were: (1) Centering, which involves noticing physical indications of discomfort and making a deliberate physical change in order to positively shift one's state while in the midst of a challenge; and (2) Perspective Shift, in which one seeks to view situations through a positive lens, reframe challenges as opportunities, and align actions with their most important priorities.

Because the terms "centering" and "getting centered" have a fuzzy meaning in popular culture, it was important to clearly define that concept for this study. The name

of the code came from a practice that is commonly taught to EBT participants. It is a simple physical move that might best be summarized as a physical alignment along the vertical axis coupled with relaxing and extending goodwill to self and others. However, the detailed definition for the Centering code emerged directly out of the initial coding of the first four transcripts for this group. This definition entails a 3-step process of noticing a physical "flag" or indicator in real time, interrupting a prior behavioral pattern, and making a physical shift in order to improve resourcefulness.

Participants in the EBT group rely significantly (93%) on centering as a source of stress recovery and resilience, whereas both groups rely fairly equally on the use of perspective shifts (79% for EBT and 83% for CVT). This result is not particularly surprising, as the EBT training program teaches a centering process as a core part of its curriculum. Similarly, the CVT training program includes a specific emphasis on deliberately shifting perspective as a resourceful way to reframe challenges and manage common stressors. It makes sense that each group would rely heavily on the methods they have been taught.

The data analysis section above describes a cross-check of the coding that led to the realization that 27% of the references to centering included a previously overlooked perspective shift. In coding these additional perspective shifts, it became clear that the reason they were not immediately obvious is that they seemed to occur as a *result* of the embodied shifts. In other words, they were not "stand alone" perspective shifts, but rather shifts that overlapped with and were affected by the process of centering.

The code cleaning process also led to the realization that while the Centering code was time-bound, explicitly defined as taking place in the moment of stress, the

Perspective Shift code did not have any time parameters attached. These discoveries raised several additional questions:

1. How often did a perspective shift take place in the heat of the moment, as opposed to after the event or as an ongoing activity?
2. Do embodied shifts affect perspective shifts?
3. Is there any difference between groups for perspective shifts based on self-inquiry (e.g., what do I care about here?) versus perspective shifts based on self-direction (e.g., I need to focus on what I care about.)?

To explore these questions, seven additional codes were created in three clusters (see Appendix B, Table B2 for details). All of the references to the Perspective Shift code were then printed, manually coded, and then entered into NVivo. Results are described in Table 6 and below.

TABLE 6
Participant Responses for Perspective Shift Sub-Codes, by Group

Type of Shift	*% of EBT Group*	*% of CVT Group*
chosen	57.1	83.3
emergent	42.9	25
inquiry	35.7	16.7
advocacy	14.3	50
during event	71.4	33.3
after event	14.3	50
ongoing	14.3	50

EBT Group: 57% of this group made a deliberate choice to shift their perspective, and 43% experienced an emergent perspective shift that unfolded out of the embodied centering process. Participants spoke about fear "falling away" when they "let my belly plop loose," for example. This is consistent with views of the body-mind as a

complex adaptive system that enters different states of being all at once (Boyatzis et al., 2015; Fogel, 2009; Varela et al., 2016).

When they were deliberate about their perspective shift (as opposed to having a shift in perspective simply emerge), this group was more likely to use an inquiry-based approach. But perhaps the most striking finding is that they were more readily able to shift their state in the heat of the moment as compared to their CVT peers (71% versus 33%). This suggests that the centering process as used by the EBT group allows for an in-the-moment whole-self shift from a negative emotional attractor (NEA) state to a positive emotional attractor (PEA) state. The capacity to appropriately balance PEA states with NEA states has been shown to positively affect leadership and organizational outcomes (Boyatzis et al., 2015).

Participant descriptions of the centering process point to the whole-self nature of this shift. They describe shifting from states of physio-emotional tension and discomfort to a more relaxed whole-self state of acceptance and/or clarity from which to make their next move:

> This ability to see your reaction, to be an observer of your reaction, to actually know what it feels like to have this cortisol rise and go, oh there I go, that, that's just that. So when that happens, you can drop back into your core, lower your shoulders and bring your physicality back to a rhythm and then you make your call on what you're going to do. (Claire)

> Well, just through my breathing or particular parts get tense. My throat is tight and I can just be like I'm holding myself little tight. The whole body is just being held a little, um, as a general frame usually. Then I just let it go. Do a lot of wiggling. (Frank)

> My brother called me up. I've been in business with him—we're in business together. He called me up the other day, six months ago and says, 'I was diagnosed with pancreatic cancer.' Okay. I've been in business with him for 35 years, plus I've done enough for 60 plus years. Right. So, I have a lot of attachment to that, you know, my identity, everything. And what happened

> was instead of contracting, I expanded. When he told me on the phone, what I did was I centered. It's real easy, you know, I took a deep breath and you know, just centered, right, and tried to get to a place, where I could see what he was seeing. … I stood up, I put my feet on the ground, I looked at my feet, I put my palms forward, I inhaled up my spine and out the crown of my head. And then I inhaled again – inhale up to my head and then exhaled a down to soften my stomach. And I smiled. I thought about, I thought about something that would soften me and then I kind of, you know, in a, in a short time, in three seconds, 10 seconds kind of going back and forth emotionally, um, of was I centered and I thought about [my supporters]. I just thought about all that stuff and I do—I can do it fairly quickly. Right. And then what I looked for was where was I holding my fear or anxiety or whatever the hell it is. My shoulders and jaw are where that lands for me, but I had to feel the tightness, you know, just acknowledge it so that I could let it go because, you know, attachment is what kills us. Right? An attachment to my fear. It comes into form physically, somatically in that place. My jaw and my traps. Right? So when I can let that go, right, it's a, it's a form of acceptance, somatically, right? (Forest)

CVT Group: Eighty-three percent (83%) of this group made a deliberate choice to shift their perspective, and most used a kind-hearted and enthusiastic self-advocacy approach to recover from a stressful event after the fact or in an ongoing way. These participants were generally very resourceful in their capacity to shift their state through a change in mindset, but this capacity did not appear to be as accessible to them in the moment of greatest challenge. They generally described shifts that occurred after a difficult event was over, rather than speaking about a shift they made in the moment. Given that, this group was slower to recover from stressors than their peers in the EBT group. They said things like:

> I really had to, to search myself deeply and say, you know, you know, you have value, you know, you're worth it, you know, you're enough. Keep telling yourself in the mirror, you're enough, you know. Um, and I realized that the only way to bounce back from this was I can't change the circumstance, but I can change how I respond to it. (Helen)

> And so starting in January with all of that, that was very stressful and I was feeling very stressed and overwhelmed. And really what I utilize is I come back to that positive psychology of always looking at, you know, really

> from a gratitude perspective what is going well. I have a gratitude journal… just every day making sure that I was keeping everything that's positive and good at the forefront of my life. (Patricia)

Something else interesting stood out about the CVT group. Many were very articulate about their embodied states, particularly when describing high-stress situations. This may be an indication of high embodied self-awareness. However, when participants in the CVT group noticed uncomfortable sensations, they frequently seemed to be at the mercy of them, stuck with the discomfort and powerless over it. Some examples:

> … I really could feel in my, in my body, how stressful it was. I remember sensing and feeling a big burden on my stomach for days before having that conversation. And I'm glad that we had this conversation because it was like opening up a Pandora's box or a bottle full of toxins or something that could have exploded with a much bigger impact in the future if it had not been handled with care… it might probably be the case that I've kind of sensed again that feeling after weeks and months, but not with the same intensity. And a sense also of feeling—of being powerless about it... (Lorenzo)

> …And that's why I say to such people, I don't remember being this angry for donkey's years. My stomach was like Vesuvius. I mean, seriously, it was about to explode. My heart was racing and, and, and I know that, you know, it's like my jaw was clenched and there was this whole physical thing happening and I couldn't get, I couldn't, I couldn't control it, you know, the anger was just, just so explosive. (Helen)

This familiar experience of intensely riveting emotional discomfort has recently been described as dysregulated embodied self-awareness (dESA). Dysregulated embodied self-awareness (dESA) is characterized by ruminative thinking and strong physical discomfort. It is distinct from modulated ESA (mESA)—an everyday experience of transient moments of embodied self-awareness—and restorative ESA (rESA), a completely non-conceptual, non-linguistic relaxation into the present moment (Fogel, 2020a, 2020b, 2020c, 2020d, 2021). The CVT group may experience high dESA at times, but they do not appear to have a way to shift gears from dESA into mESA in the moment.

Again, it is important to bear in mind that the CVT participants are *already* more highly trained than average in the skills of emotional self-awareness and shifting to more resourceful perspectives. It is likely that many of them are already well ahead of the general population in terms of their ability to reframe and respond positively to challenges in their lives. Even so, their peers in the EBT group appear to have discovered a holistic path to stress resilience that's more readily available to them in high-pressure situations.

These results suggest that centering derives its power from initiating an in-the-moment emergent state of whole-system self-awareness, one which has the potential to move people from dESA to mESA, from NEA to PEA. This whole-system shift appears to be categorically different from changes of state brought about by more conceptually-based shifts in perspective. Whatever the mechanism, the centering process examined in this study appears to be a powerful human technology for building resilience.

Finding 3: Increased conflict management capability. *Embodied leadership training increases one's capacity to de-escalate conflict and may positively influence one's capacity for empathy.*

One cluster of codes illuminated how people respond to conflict with close others, whether a friend, family member, or colleague. When participants expressed understanding of another person's needs, that passage was coded as Empathy. Resistance was coded when participants reported blame, shame, avoidance, ignoring, commanding, and directing. Nonresistance is defined as "the practice or principle of refusing to resort to force, even in defense against violence" (Palmer & Kornfield, 2010: 115). For this study, nonresistance was defined as removing oneself as an opponent or source of

resistance during a conflict or disagreement. It is worth noting that while resistance and nonresistance are mutually exclusive, empathy may accompany either one.

Although the EBT group came out slightly ahead of their CVT peers in expressions of empathy (51% for EBT, 42% for CVT), the difference was not large enough to indicate a reliable and consistent distinction between the groups on this dimension. However, coupled with the other results, this slight difference hints that the EBT program may have the potential to strengthen empathy.

More interesting was the difference between groups in their experiences of resistance and nonresistance. While both groups experienced resistance, the CVT group experienced it fairly often (58% of respondents), and the EBT group experienced it less so (36%). Meanwhile, 79% of the EBT group relied on nonresistant responses to conflict, compared to just 17% of the CVT participants.

Examples of resistance include incidents such as nearly pushing a nurse at the bedside of a dying loved one, using the silent treatment, or yelling and shouting. These are very human responses under pressure, familiar to most of us on both the receiving and the delivering end. Unfortunately, resistance tends to escalate conflict and further bad feelings on both sides. Newton's Third Law of Motion—for every action, there is an equal and opposite reaction—applies, perhaps imperfectly, to human interactions as well. Some examples:

> I can get really edgy and I remember, in his office, okay, 'Hey, I'm done with it though, but that's as far as—I'm done with it. I don't want to hear about it.' That's the argument for me. And then I will call later and say, okay, I was a little sharp. (Antoine)

> And so this argument, you know, erupted and I was like, 'well, you often make promises and then you don't keep them, or you make offers.' And he turned around, he said, 'oh, so I'm hearing you say you don't trust me.' And

> I say, 'sweetie….' Um, and even, and also in that conversation, what was interesting is, um, you know, both of us were starting to raise our voices and, and again, the pain, like literally, I started feeling lonely. (Carly)

> It was later in the evening and everybody was having a glass of wine and he poured himself a drink and I kind of said, 'what—you didn't ask me?' And it was a mixture of passive aggressive on my part, but he really took it like, well, we were all kind of doing our own thing and you pointed it out in front of everybody else. (Nell)

> So, that's kind of the argument is, you know, he was kind of stepping in and telling me, 'oh well I need to tell your mom that she needs to sell that garage.' And I said, 'you know, no that that's really not your place to step into our family business to give your feedback.' But I probably didn't say it that nicely. (Patricia)

> At one point I said to him in the car when he was, he was like, 'well, I'm sorry I disappointed you.' I said, 'well, just sweep it under the rug again.' And I, I kinda told him like, 'I don't think that's a nice way to speak. And you and you, you could do better than that.' I don't remember exactly what I said, but like, you know, I'm trying to be more honest. (Zipporah)

Nonresistance, on the other hand, is a way of yielding without abdicating. It successfully de-escalates conflict because it gives one's opponent nothing to contend with. "The power of nonresistance is not to impede the power of a force but to open to it, join with it, and redirect it" (Palmer & Kornfield, 2010: 115). **To be clear, nonresistance is categorically different from acquiescence or accepting bullying or abuse.** In every instance where nonresistance was coded, the participant exercised nonresistance *while simultaneously taking a stand for something important to them.* They are clear in their statements and requests, but remain calm, non-defensive, and nonviolent while making them. Here are two examples:

> But basically, being able to relate to her in an impersonal way, seeing her as a person and yet holding my boundary to not argue. And then I use my, my centering home embodied regulation tools as much as I could use them to basically repeat in various different ways, what I could hear from what she was saying and that right now I was committed to keeping my energy for my commitments of the day. And I was not ready for this argument right

> now. And I, I think I repeated it probably 25 times in different ways. And I ended up, um, leaving the table slowly, um, and returning to my little house where I was continuing my day. And I noticed I could do that without fear. (Willa)

> I could see his whole body tense. I could see his tense and mine wanted to do the same. Only I, I just didn't have the energy. So, I found myself planting my feet. I squared off, meaning I was aligned above my, you know, feet, toes, hips. I was upright and in the past I would have gone quiet, I would've walked out of the room. And I, and I stood there and I turned my palms toward him and I said, 'this is not the time to do this.' I was so, I was measured, which probably scared him because it's not, it's not my history with him or any of my family. Um, and that history, you know, goes a long way. And it stopped, it stopped him, it stopped me and I said, 'I'm going to go calm down and then I'll come back and we can talk about it.' That's what I did. And I was very, very, very angry with him in the moment. And I could, I don't want to stifle the anger, but I, I, I also didn't want to go back to the old family stuff. (Ella)

Taken as a whole, the results in this code cluster suggest that the EBT group is less resistant in situations of conflict, more nonresistant, and slightly more empathetic than their CVT peers. It is likely—and indeed, their stories indicate—that they have an easier time de-escalating conflict and are able to do so more frequently. They may still get emotionally "hooked" or disturbed by conflict, but they seem to have access to a different way to behave in the face of conflict, and they are more consistently able to turn disagreements into a generative, connecting, or opportunity-oriented conversation.

Supplemental Findings

In addition to the three primary findings of (1) increased embodied self-awareness, (2) increased emotional regulation, and (3) increased conflict management capacity as a result of body-oriented coach training, there are a few additional findings that are worth noting here. For reasons of space and time, these findings were originally set aside for a future report, and the codes underlying them have not yet been subjected to

tests of interrater reliability. However, they are worth mentioning here because they had an influence on the design of Studies 2 and 3.

First, embodied coach training seems to support an experiential sense of interconnectedness with other living beings and sometimes with some nameless larger force. This sense of connectedness, defined in the codebook as an energetic, non-corporeal, non-conceptual, and non-verbal sense of connection, was mentioned by the EBT group at twice the rate of their conventionally trained peers. This sense of connectedness is also frequently mentioned in practitioner literature (Blake, 2018; Kabat-Zinn, 2006; Whitelaw, 2012). It was, therefore, included as a construct in the Study 2 investigation of the outcomes of ESA.

Second, the EBT group frequently mentioned a source of freedom, ease, or lightness tied to some invisible source of support—something that makes difficult situations easier to bear. One participant memorably referred to this as "being plugged into the mains," by which she meant being connected to a larger source of energy that helped her access a sense of strength in challenging situations. This ineffable transpersonal outcome of embodied coach training influenced the selection of the Nondual Awareness construct for use in Study 2.

Finally, one counterintuitive finding generated particular curiosity about the potential differences between body-oriented coach training and other forms of mind-body training. Unexpectedly, the CVT group included three certified yoga teachers. However, the findings indicated that the embodiment-trained coaches were consistently stronger in emotional and social intelligence competencies, *despite the absence of any yoga teachers in the EBT group*. This counterintuitive finding can be a little confusing, so allow me to

re-state it another way: there were distinct differences between embodiment-trained coaches and conventionally trained coaches despite the fact that *25% of conventionally trained coaches were yoga teachers and none of the embodiment trained coaches were*. The sample was not specifically designed to explore this, as I neither specifically included nor excluded trained yoga teachers for either group.

These results suggest that body-oriented coach training may achieve something significant that yoga, as it is most commonly taught, does not. This is consistent with my experience in two ways. First, prior to training in embodied coaching modalities myself, I had consistently practiced yoga for fifteen years. The two modalities had very different impacts on my life, with embodied coaching being far more transformative. Second, I have also worked with many yoga teachers as they have engaged in body-oriented coach training. On the whole, they have found themselves surprised by the substantial differences between these modalities.

This provokes curiosity not just about yoga but about all of the mind-body practices explored in Study 3. How might the outcomes of body-oriented coach training differ—or not—from these commonly practiced holistic activities? Some body-oriented coach training is heavily influenced by mind-body practices such as yoga, martial arts, and meditation, so if there are differences in outcomes, what might account for those? I hope this mixed methods project will ultimately shed light on such questions.

Discussion

Based on these results, we now have answers to these research questions:

1. What are the factors that influence the presence of embodied self-awareness?
2. What is the relationship between ESA & ESI?

This research makes it clear that one of the key factors influencing the presence of embodied self-awareness is participating in embodied coach training. Before elaborating on that, it is worth first considering other potential explanations for the findings in this study. For instance, although there was no material difference between groups in average age or in the number of years since their training was completed, one demographic distinction stands out: a difference in coaching experience. On average, the CVT group had been coaching for 6.5 years, whereas the EBT group had been coaching an average of 12 years. Might this account for the findings in this study? It seems unlikely. There is nothing to suggest that additional years of coaching delivery and client contact would necessarily produce stronger body awareness, centering, or nonresistance, whereas each of these capacities is directly derived from specific elements of body-oriented coach training. The inescapable conclusion is that the source of the findings we see here lies in the only other substantive difference between groups—the presence (or not) of embodied coach training.

As a result of this training, the EBT group demonstrates stronger embodied self-awareness, which makes sense given the nature of the curriculum. In addition, they consistently demonstrate stronger emotional regulation and a greater capacity for conflict management and for empathy, all of which are key emotional and social intelligence competencies. Each of these competencies represents a different quadrant of the ESI competencies listed in Figure 10, Chapter 2, suggesting that developing embodied self-awareness may have the potential to boost ESI competencies across the board.

This study provides new empirical evidence supporting a strong relationship between ESA and ESI. At the very least, results indicate that ESA and ESI covary. It is

also possible that the presence of ESA actually builds ESI, or perhaps the experiential training methods used in body-oriented coach training cultivate both ESA and ESI simultaneously. Any claims about causality await further testing with a well-designed structural model applied to a larger and more representative sample. But at this juncture, we can confidently conclude that ESA and ESI are closely linked.

This relationship may be explained by—as well as provide additional support for—the theoretical connection between embodied self-awareness and emotional self-awareness. As described in the literature review for this chapter as well as the theoretical framing in Chapter 2, body and emotions are inseparable. Embodied knowing is a source of intelligence, understanding, and cognition that is irreducible to analytical ways of knowing and that enables us to respond effectively to our environment, particularly our social and emotional environment. It makes sense that embodied self-awareness and emotional self-awareness go hand in hand.

In addition, we know that emotional self-awareness is a pivotal ESI competency. Whether emotional self-awareness is high or low, other ESI competencies covary with it (Boyatzis et al., 2017). Given the theoretical relationship between embodied and emotional self-awareness, and given the relationship we see here between ESA and ESI, we might reasonably draw the conclusion that developing *embodied* self-awareness cultivates *emotional* self-awareness, thereby supporting other ESI competencies. Such a conclusion awaits further testing, but the results we see here allow us to say with confidence that there is a strong relationship between ESA and ESI, and that embodied coach training cultivates both.

Implications

Implications for practice. Results of this study indicate that embodied coach training has the potential to help close the gap between the promise of ESI training efforts and the current underperformance. This implies that organizations seeking to develop ESI competencies amongst their staff should consider incorporating embodied self-awareness training into those efforts. It would also be valuable for them to study the results of doing so to further validate and clarify the conclusions drawn here.

Second, EBT methodologies should be made more widely available to coaches, leaders, managers, doctors, therapists, athletic coaches, educators, and other helping professionals. Regardless of their role or the type of work they do, these "people who work with people" will benefit personally and professionally from the strengthened competencies that EBT training provides. Although this study's sample was limited to professional coaches, the qualities and competencies addressed by this research apply to humans in general and to helping professionals in particular. Stronger emotional regulation and better conflict management are of value to anyone who has relationships. Supporting helping professionals to embody these capabilities positions them to pass the benefits along to their clients, thereby casting a wide net of positive ripple effects.

Implications for management theory. This research also has the potential to contribute to several areas of management theory. In particular, theories of social and emotional intelligence may be subject to extension and revision based on these findings. Currently, these theories acknowledge the existence of physiological correlates of ESI competencies and behavioral states, but they have little to say about how such physiological states can be incorporated into learning or "upgraded" in any sustained

way. It may be that existing ESI training is hampered by a focus on learning *about* ESI competencies at the expense of learning *how to enact* those skills. Logic suggests that some form of experiential, embodied practice may be required in order to make persistent changes to one's bio-emotional-relational ways of being.

Thus, theories of learning and change—particularly experiential learning theory—may also be enriched by these findings. A clear articulation of articulating the relationship between embodied awareness, embodied practice, and behavioral learning might also extend to influence theories of adult development. In each of these theoretical realms, looking beyond the *fact* of bio-behavioral correlates to the *process* of bio-behavioral learning has the potential to both expand understanding and improve results.

Limitations

All participants were professional coaches. While the topics under investigation apply to humans in general, and while they have particular relevance for those in helping professions, I did not investigate how these findings apply to other groups such as leaders, managers, educators, and so on. As noted above, the sampling for this study—as well as the sample size and the inductive method—necessarily entails some limits to external validity.

Several CVT participants had embodiment-adjacent training, and three were certified yoga instructors. Although it remains unclear how this affects the results, it seems likely that in some cases, this adjacent training may narrow the gap between the groups. This may have obscured some of the results that might otherwise be more pronounced and easier to see if the sample included more distinct groups that did not

share this overlap. Even so, the differences between groups are strong and compelling, suggesting this potential limitation may not have had much of an effect.

Since embodied experience is inherently non-linguistic, people often have trouble articulating their embodied responses to situations. This may have affected data collection and results by obscuring some of what is most important about people's experience with respect to this phenomenon.

Future Research

Research on embodied coach training and embodied self-awareness is in its infancy, leaving a wide-open field of additional research possibilities. For instance, future researchers could investigate whether these findings hold with a larger and more representative sample and/or explore other populations not investigated here. It would be interesting to explore the relationship between ESA and other ESI competencies not included in this study, such as Positive Outlook, Influence, or Inspirational Leadership. It also might be quite revealing to code the video recordings of interviews, use microphenomenological methods to investigate the finer details of participants' embodied experiences, or measure neurobiological changes in EBT training participants over time.

Conclusion

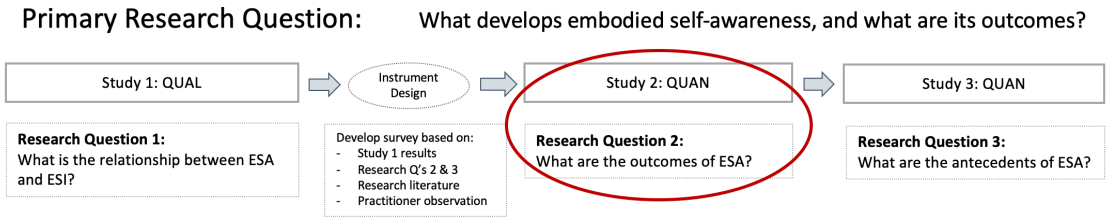
In examining all the evidence, the inescapable conclusion is that embodied coach training cultivates embodied self-awareness, strengthens emotional regulation, and builds the capacity to de-escalate and positively resolve conflict. This study also provides new empirical evidence that underscores the active and reciprocal relationship between body, emotions, relationships, and behavior, particularly as it relates to embodied self-awareness and emotional and social intelligence. It is clear that this active relationship is

malleable through specific kinds of learning experiences and that such training, therefore, offers a powerful path of self-development for those interested in growing the ESI competencies that are so essential for success in leadership and in life.

CHAPTER 5: OUTCOMES OF EMBODIED SELF-AWARENESS

This chapter reports the results of Study 2—a statistical analysis of the outcomes of embodied self-awareness. Figure 16 illustrates where this study fits in relationship to the others in the overall mixed methods project.

FIGURE 16
Research Question 2



Introduction

Emotional and social intelligence (ESI) sets outstanding leaders apart from average leaders (Goleman, 2005; Goleman et al., 2013). We also know that these competencies lead to better life outcomes like happier and more connected relationships at home (Goleman, 2005, 2007). And yet, while it is clear that ESI can be developed, apparently, we could be better at doing it. Recent studies of ESI training programs show that many only achieve an 11% improvement in ESI competencies over time, and some even less (Boyatzis et al., 2017). If these skills are so important *and* they are learnable, as indicated by programs that improve ESI skills at a rate of up to 61% (Boyatzis et al., 2017; Boyatzis & Cavanagh, 2018), surely there must be a better way to equip people with what they need to succeed.

While some of the most successful programs deliberately evoke physiological and neurobiological states that support openness to learning (Boyatzis & Cavanagh, 2018;

Boyatzis et al., 2015; Boyatzis, Smith, Van Oosten, & Woolford, 2013; Jack, Boyatzis, Khawaja, et al., 2013), many ESI training programs overlook the key theoretical relationship between embodied states and emotional and social intelligence by focusing primarily or exclusively on information delivery, without any particular attention to embodied experience (Boyatzis et al., 2017). This omission may help explain the wide gulf between the most successful ESI training programs and those that fail to perform well.

Multiple literature streams establish a clear a theoretical relationship between ESI and embodied states, including opposing domains theory (Jack, Dawson, Begany, et al., 2013; Rochford et al., 2017), social and affective neuroscience (Bar-On et al., 2003; Goleman, 2011; Porges & Furman, 2011), and embodied cognition (Newen et al., 2018; Noë, 2010). Research in these fields points to the fact that emotions and relationships have a far greater physiological impact and are considerably more body-dependent than we commonly recognize (Bar-On et al., 2003; Barrett, 2017; Barsade, 2002; Damasio, 2000; Rothschild, 2000; Siegel, 1999). For instance, the field of embodied cognition demonstrates the indivisibility of mind and body through experiments that show how simple physical actions change how we think, feel, and act, and vice versa. We tend to slump when generating language about disappointment and stand taller when generating words about pride (Oosterwijk, Rotteveel, Fischer, & Hess, 2009). We have an easier time retrieving positive memories when moving objects upwards (Casasanto & Dijkstra, 2010). We tend to have more positive feelings and behavior towards others when holding a warm cup of coffee (Williams & Bargh, 2008), and social exclusion actually causes pain and makes us feel physically colder (Eisenberger, 2003; IJzerman et al., 2012). The

opposing domains hypothesis empirically distinguishes between social and non-social forms of reasoning on a neurobiological basis (Jack, Dawson, Begany, et al., 2013)—a conclusion that is equally well supported by findings in the field of interpersonal neurobiology (Siegel, 2010).

Ample research in psychology also supports this unified view of mind and body. For instance, body-oriented approaches to trauma therapy have been demonstrated to be highly effective and are rapidly growing in popularity (Blackstone, 2018; Hopper, Spinazzola, Simpson, & van der Kolk, 2006; Levine & Mate, 2010; Payne et al., 2015; Stankovic, 2011; Van der Kolk, 2006, 2015). Alexithymia, defined as an impaired capacity to recognize one's emotional state, has been consistently associated with reduced capacity to perceive sensations from inside the body (Brewer, Cook, & Bird, 2016; Herbert, Herbert, & Pollatos, 2011; Murphy, Catmur, & Bird, 2018; Shah, Hall, Catmur, & Bird, 2016). Individuals with low resilience also show reduced attention to embodied information (Haase et al., 2016). This impairment of interoceptive awareness—where interoception is defined as the sense of the internal state of the body—also appears to negatively affect empathy (Mul, Stagg, Herbelin, & Aspell, 2018). Interestingly, the relationship between embodied perception and emotional well-being seems to be more closely tied to interoceptive sensibility, a subjective measure of attentional focus, than to interoceptive accuracy, an objective measure of correspondence between physiological and self-report data, most frequently measured as the ability to accurately sense one's own heartbeat (Schuette, Zucker, & Smoski, 2021; Zamariola, Vlemincx, Corneille, & Luminet, 2018).

In keeping with this finding about the role of interoceptive sensibility in emotional well-being, embodied self-awareness (ESA)—defined as present-moment, non-judgmental attention to sensation, movement, and emotion (Fogel, 2009)—has been shown to play an important positive role in social, emotional, and physical health (Craig, 2010, 2015; Fogel, 2009, 2020a, 2020b, 2020c, 2020d, 2021), and has also been tied to emotional and social intelligence in Study 1 and (Blake, 2018). Practitioners of mind-body modalities make strong claims about the transformational power of developing embodied self-awareness (Hamill, 2013; Strozzi-Heckler, 2003), and yet very little is known about the behavioral outcomes of deliberately cultivating ESA.

While preliminary inductive research has laid some groundwork for establishing the relationship between ESA and ESI (see Study 1), these conclusions have yet to be tested with a larger and more representative sample. In particular, the relationship of embodied self-awareness to practical outcomes that affect coaching and management is not yet well understood, even though ESI has been shown to be a critical professional skill for both leaders and coaches (Goleman et al., 2013). Furthermore, as a relatively new construct, the nomological network, construct validity, and boundary conditions for ESA have not yet been clearly defined.

In response to these unknowns, this study seeks to answer the question: *What are the outcomes of embodied self-awareness?* Using factor analysis and SEM to analyze the responses of a survey conducted with 534 professional coaches, we examine the understudied and undertheorized relationship between ESA and ESI, as well as the relationship between ESA and several additional outcome variables that are both described by the practitioner literature and suggested by theory. The results of this study

contribute to scholarship in the fields of embodied cognition, coaching, and management theory by establishing stronger construct validity for embodied self-awareness. This research also contributes several practical recommendations for those whose professions rely on strong "soft skills" for success, particularly coaching and management.

Theory and Hypotheses

Three distinct states of embodied self-awareness (ESA) affect our overall well-being: dysregulated ESA, in which rumination and worry predominates; modulated ESA, in which attention rapidly cycles between sensing the body and more analytical forms of thinking; and restorative ESA, in which a non-conceptual absorption in one's in-the-moment felt sense predominates (Fogel, 2020a, 2020b, 2020c, 2020d, 2021). This study focuses primarily on the outcomes of modulated ESA and, to a lesser extent, restorative ESA. For ease of communication, we refer to these two positive-valence embodied states simply as embodied self-awareness or ESA.

The following logic lays out the arguments supporting the hypotheses that ESA affects specific *intra*-personal, *inter*-personal, and *trans*-personal dependent variables. These three categories reflect the intrapersonal nature of emotions, the interpersonal nature of relationships and social intelligence, and the reports of transpersonal experience that students of embodied self-awareness have shared in prior research. Four primary considerations drove the selection of the specific variables tested:

1. Prior research. Each selected variable draws heavily on the findings from Study 1 (see Table 2, Chapter 3 for details).
2. Theoretical support. The variables selected are theoretically supported by the growing body of literature on the mind-body relationship, including empirical

findings from the field of embodied cognition, neurobiology, and emotional and social intelligence. Chapter 2 further explains the theoretical logic and empirical evidence supporting this choice of variables.

3. Practitioner observation. The selected variables are supported by published practitioner observations that report on significant behavioral changes resulting from mind-body work. These reports come from fields as diverse as somatic psychology (Levine & Mate, 2010; Van der Kolk, 2015), manual therapy (Myers, 2014; Pole & Standing, 2017), and leadership coaching (Blake, 2018; Strozzi-Heckler, 2014; Whitelaw & Wetzig, 2008).
4. Practitioner relevance. Variables were selected based on their relevance to coaching, leadership, management, and other helping professions. Many of the selected variables have been shown to differentiate high performance in these domains. Our purpose in this study is to investigate ESA as a potential underlying driver of these performance-enhancing qualities. Table 7 describes each dependent variable, what it measures, and its relevance to coaching and leadership. The hypothesized model is illustrated in Figure 17. Now we turn to the logic underlying each individual hypothesis.

Intrapersonal hypotheses. Leadership coaches who use embodied approaches with their clients witness the effects of the body on the psyche every day. When clients learn to pay attention to their in-the-moment physical experiences, they report back that they feel transformed. When they feel more connected to their bodies, they also feel more connected to their personal priorities, contend with difficulty more easily, and connect

more easily with others (Attan et al., 2017; Barndt, 2019; Bennett, 2012; Blake, 2018; Palmer & Crawford, 2013; Strozzi-Heckler, 2003; Whitelaw & Wetzig, 2008).

Given this, and given the strong evidence for mind-body unity, we would expect increases in modulated and restorative embodied self-awareness to increase one's well-being. Well-being is a multifaceted construct that encompasses many dimensions, including satisfaction and engagement with life, enriching relationships, and a sense of meaning, accomplishment, autonomy, and optimism (Su, Tay, & Diener, 2014). Flourishing is a broad measure of well-being (Diener et al., 2010). If the neurobiology that ties ESA to holistically better health is accurate, and if the practitioner reports are true, then we should expect ESA to positively affect Flourishing.

Hypothesis 1. Embodied Self-Awareness has a positive effect on Flourishing.

Among practitioner reports, perhaps the most consistent finding is that clients experience greater resilience as a result of deeper embodiment. This makes sense in light of the fact that stress is a physio-emotional experience. Commonly—and inaccurately—referred to as the fight or flight response, our physiological response to assessments of safety and danger is actually multifaceted. It also includes the capacity to freeze in place or to appease others as part of our behavioral repertoire (Porges, 2009; Porges & Furman, 2011). When people cultivate embodied self-awareness to a point where they can sense their response and modulate it (Blake, 2018, 2019; Fogel, 2021; Silsbee, 2018; Strozzi-Heckler, 1993, 2014), they can learn to deliberately shift into a parasympathetic or "rest and digest" physiological state. Perhaps not in every circumstance, but with practice, making this shift becomes easier (Blake, 2018; Strozzi-Heckler, 2007, 2014). When people have easier access to this more restorative physiological state, we would expect

them to be able to recover from stressful events more quickly. Thus, we would expect resilience to increase. This is consistent with what practitioners tend to see (Barndt, 2019; Blackstone, 2008; Blake, 2018, 2019).

Hypothesis 2. Embodied Self-Awareness has a positive effect on Resilience.

Emotional and social intelligence hypotheses. The following three hypotheses are grouped together because each variable is an emotional or social intelligence competency measured by the ESCI (Boyatzis et al., 2017). These three hypotheses include one *intra*personal and two *inter*personal proposals. The overlap between these categories and the ESCI constructs be seen in Figure 17.

As we saw in the Study 1 findings, prior qualitative research and practitioner work has linked the development of embodied self-awareness with emotional and social intelligence (ESI) (Blake, 2018, 2019). Because emotions are constructed out of bodily sensations (Bar-On et al., 2003; Barrett, 2017; Damasio, 2000; Ekman, 2007), we should expect to see a relationship between embodied self-awareness and ESI. In fact, one might argue that if you cannot *sense* the physical sensations that comprise your emotions, then identifying your emotions becomes considerably more abstract and difficult. Conversely, the more you can sense the underlying physiology of emotional responsiveness, the better you will be at identifying the emotions associated with those sensations.

The simple act of naming emotions has been shown to reduce stress (Aldao, 2014), which supports Hypothesis 2 above as well as the hypotheses below. We also know that emotional self-awareness is a pivotal ESI competency, in that other ESI competencies tend to co-vary with it (Boyatzis et al., 2017). In particular, empathy, conflict management, and to a lesser degree, adaptability covary with emotional self-

awareness. Thus, if *embodied* self-awareness increases *emotional* self-awareness—which seems likely based on the theoretical, neurobiological, and empirical relationship between them—we would expect a concomitant rise in all ESI competencies, particularly those most sensitive to an increase in emotional self-awareness. Therefore:

> *Hypothesis 3. Embodied Self-Awareness has a positive effect on Adaptability.*
>
> *Hypothesis 4. Embodied Self-Awareness has a positive effect on Empathy.*
>
> *Hypothesis 5. Embodied Self-Awareness has a positive effect on Conflict Management.*

Should these hypotheses prove true, that would lend additional support to Hypothesis 1. Decades of research definitively shows that higher levels of ESI are associated with greater success and satisfaction with life (Goleman, 2005), outcomes which are closely associated with Flourishing (Diener et al., 2010).

Interpersonal hypotheses. In addition to the interpersonal Hypotheses 4 and 5 above, one more interpersonal hypothesis is relevant to explore. As with the variables above, the quality of one's relationships is also an important aspect of Flourishing. Prior research suggests that as embodied self-awareness grows, people's sense of connectedness also increases (Blake, 2018, 2019; Fogel, 2009, 2021). In fact, the entire field of interpersonal neurobiology is premised on the proposition that individuals' internal physiological state unconsciously affects others (Barsade, 2002; Gallese, 2001; Iacoboni, 2009; Jospe et al., 2018; Siegel, 1999). Coupled with client reports of greater connectedness, this suggests that:

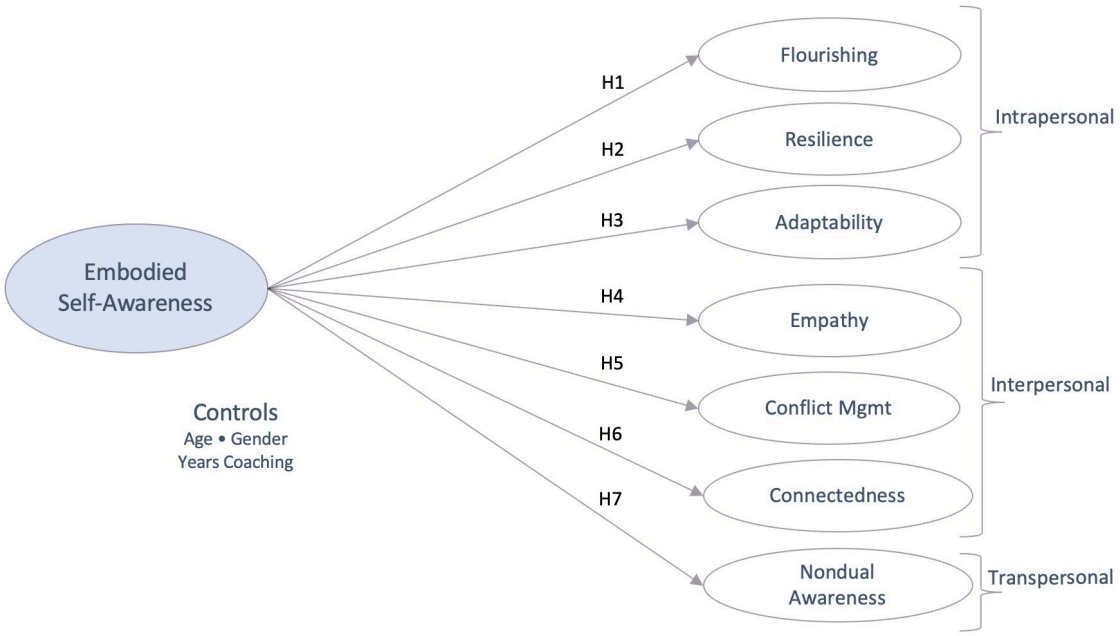
> *Hypothesis 6. As Embodied Self-Awareness increases, one's sense of Connectedness increases.*

Transpersonal hypotheses. This sense of connectedness goes beyond connection with other individuals, and seems to extend to a sense of connection with something larger than oneself. Reports of being "plugged into the mains," or "It wasn't me… it just flowed *through* me," or "I don't know what happened, but I was being breathed. I could feel the pulse of the universe and everything that was alive," are common in prior research (Blake, 2019 unpublished), and consistent with many published practitioner reports (Blackstone, 2008; Palmer, 1999).

This raises a question about what, exactly, people are tapping into when they cultivate embodied self-awareness (Fogel, 2021). For the purposes of this study, we explored several constructs that might allow us to explore this phenomenon, including awe, mystical experience, and measures of daily spiritual experience. Ultimately, we felt that the concept of nondual awareness most closely matched the field reports. Nondual awareness is a state in which one experiences oneself as blissfully merged with all-that-is. Essentially, it is a felt-sense state of interconnectedness or oneness-of-being. This seemed like the closest match to the reported experiences from clients, practitioners, and research participants. While this more mystical state may be challenging to measure, our curiosity and the prior literature lead us to propose:

> *Hypothesis 7. Embodied Self-Awareness has a positive effect on Nondual Awareness.*

FIGURE 17
Hypothesized Model – Outcomes of ESA



Research Methods

Instrument and constructs.

Instrument development. The theoretical model emerged from a synthesis of the theoretical logic above with observations made in practice. In addition to theoretical support and relevant empirical findings, each outcome variable has also been consistently observed by coaches using embodied methods with their clients, as well as in the practitioner literature. A survey using well-validated scales was designed based on the hypothesized model. In most cases, these scales have been in use for a decade or more.

Independent variable. To measure embodied self-awareness, we used the most recent version of the Multidimensional Assessment of Interoceptive Awareness, or MAIA-2 (Mehling et al., 2018). A literature search turned up six prominent scales designed to measure bodily awareness and one paper (Mehling et al., 2009) that reviewed

39 related instruments and carefully evaluated 12 of them. After reviewing the available measures, we concluded that the MAIA-2 (hereinafter, simply "MAIA") was the closest and most robust measure of embodied self-awareness.

Dr. Alan Fogel (2009), who established the construct of embodied self-awareness, also views the MAIA as the best fit among existing scales of body awareness. It is not a perfect fit in that it emphasizes interoception (perception of sensations from inside the body) over proprioception (perception of the body's boundaries and location in physical space). Both interoception and proprioception are crucial elements of ESA, and the ideal instrument would get at both in equal measure, as well as assess autonomic sensations such as heart rate, fatigue, breathing and so on. The MAIA touches on all of these but places greatest weight on interoception, making it a reasonable but somewhat unevenly weighted measure of ESA. Despite these limitations, we felt the MAIA represented ESA more closely than any of the other scales we found. It is also one of the most well-validated and extensively studied scales of body awareness over the past decade.

The MAIA-2 scale is a revised version of the original MAIA (Mehling et al., 2012). It measures whether one can maintain awareness of their bodily sensations in the face of discomfort or distraction. It consists of 37 items and eight distinct dimensions (Cronbach's alpha from Mehling, 2012 in parenthesis): Noticing (.64), Not Distracting (.74), Not Worrying (.67), Attention Regulation (.83), Emotional Awareness (.79), Self-Regulation (.79), Body Listening (.80), and Trust (.83). Detailed items for this and other scales are listed in Appendix C.

In our study, we first measured the eight dimensions of MAIA as independent first-order factors, then subsequently bundled them together into a second-order construct

that we called ESA (Brown, 2015). This is a new use of the MAIA scale. This application is supported by Ferentzi et al. (2020), who examined the factor structure and validity of MAIA and found it to measure a single general factor of self-reported interoception, with which two dimensions (Non-Distracting and Not Worrying) were weakly related. In our case, we wanted to look at ESA as a single construct measuring present-moment, non-judgmental attention to sensation, movement, and emotion. Five MAIA factors—Noticing, Attention Regulation, Emotion Regulation, Self-Regulation, and Body Listening—all point to present-moment attention, while Not Worrying, Not Distracting, and Trust suggest a non-judgmental attitude. All MAIA items measure some aspect of sensation, movement, or emotion. Thus, we felt the combination of MAIA factors appropriately estimates embodied self-awareness.

Dependent variables. Dependent variables were selected based on their prominence in the practitioner literature, theoretical logic, and relevance to management. Most of the dependent variables have been previously studied as predictors of workplace performance, well-being, or both. This study looks at embodied self-awareness as a possible antecedent to these variables in order to explore whether ESA may be an underlying driver of many aspects of performance at once.

Measurements of the dependent variables were drawn from well-validated scales that, with the exception of the nondual awareness scale, have a decade or more of use. Three variables—Flourishing, Resilience, and Adaptability—measure *intra*personal qualities. Three others—Empathy, Conflict Management, and Connectedness—measure *inter*personal qualities. Nondual Awareness is a *trans*personal construct.

TABLE 7
Dependent Variables

Construct	Measures	Relevance	Scale	Reference
Flourishing	A measure of well-being that includes relationships, self-esteem, and a sense of purpose.	*Coaches*: Part of the job of a coach is to help people flourish. *Leaders*: Many leaders are subject to sacrifice syndrome and wind up burning themselves and their organizations out. Flourishing leaders have more successful organizations.	Flourishing Scale	(Diener et al., 2010)
Resilience	The ability to recover from stress.	*Coaches*: Must manage their own mood & reactions to client behavior. *Leaders*: Must learn to contend with stress, pressure, and rapid change.	Brief Resilience Scale (BRS)	(Smith et al., 2008)
Adaptability	The ability to adapt to change.	*Coaches*: Must adapt to changing client needs. *Leaders*: Must adapt to changes in environment.	Emotional and Social Competency Inventory (ESCI)	(Boyatzis et al., 2017; Goleman, 2005)
Empathy	The ability to understand another's perspective.	*Coaches and Leaders*: Must empathize to build trust.	(ESCI)	
Conflict Mgmt	The ability to proactively resolve conflict.	*Coaches and Leaders*: Must be able to initiate difficult conversations and de-escalate conflict to resolve.	(ESCI)	
Connectedness	A sense of closeness and connectedness to others.	*Coaches and Leaders*: Must connect to build trust.	Inclusion of Community in Self Scale	(Mashek, Cannaday, & Tangney, 2007)
Nondual Awareness	A unified background field of awareness infused with bliss.	*Coaches and Leaders*: Nondual awareness may be associated with more prosocial behavior.	Nondual Awareness Dimensional Assessment (NADA)	(Hanley et al., 2018; Mills et al., 2018)

Controls. We controlled for age, gender, and years of coaching experience.

Other variables. In addition to the variables listed above, other variables were measured as part of the data collection process. As well as basic demographic questions, we asked where people received their coach training, what sort of mind-body practices they engage in regularly, and the duration and intensity of their training and/or practice. We also measured Grit using Duckworth's Grit Scale (Duckworth, Peterson, Matthews, & Kelly, 2007; Duckworth & Quinn, 2009). These data have been set aside for a future study and are not included in the causal model used in this study.

Participants.

Sampling. This study focuses on a population of professional coaches, including executive, leadership, relationship, health, and life coaches. We chose this group for one primary reason: coaches are one of the few populations where you can reliably find a clear differentiation between people who have training in modalities that enhance embodied self-awareness, and people who do not. Other populations tend to be more homogenous in this regard. For instance, most leaders, educators, or technology professionals typically do not have training that would develop their ESA, whereas most yoga teachers, dance instructors, or martial artists do. Studying homogenous populations such as these would make it difficult to tease out the unique effects of embodied self-awareness, as it would be hard to identify those who are stronger or weaker in ESA.

It is also relatively easy to differentiate between coaches who have substantial ESA-based training from those who do not. While most coach training schools still use conventional teaching methods that heavily emphasize informational learning, a few stand out as uniquely focused on embodied learning. While this does not rule out the

possibility that conventionally-trained coaches may have developed ESA elsewhere in their lives, sampling coaches that both have and have not been to these body-oriented schools gives us a good starting point for assessing the differences that ESA can make.

A population of coaches also makes a good initial proxy for generalizing to a wider audience. It is an axiom in the coaching profession that coaches must "walk the path" themselves before sharing any new methodology with their clients. Thus, the coaching population typically has direct experience of what their clients go through during a coaching engagement. However, coaches differ from their client populations in important ways, including the fact that coaches tend to have a greater-than-average interest in personal growth. So, while we must be cautious in generalizing from a sample of coaches to the broader population, the fact that coaches experience different kinds of learning modalities before passing that learning on to their clients means that studying coaches can give us a reasonable indication of what their more broadly representative clients may experience, as well.

Data collection. After obtaining approval from the Case Western Reserve University Institutional Review Board, we reached out to coaches by enlisting the help of several partners in sending the survey to their email lists. One professional association (International Coach Federation), one industry publication (Choice magazine), and six coach training schools agreed to participate. I also sent an invitation to my professional contacts, with a request to both take the survey and pass it along. The survey itself contained an invitation to share with colleagues following completion, incorporating a measure of snowball sampling into this purposive sampling process.

An 8.9% response rate from our email outreach yielded 710 records. After cleaning the data for incomplete responses, 534 of those records were useable. Thirty-three percent of the sample were trained at body-oriented coach training schools, which we believe to be a slight oversampling. Although no data exists on what percentage of the broader professional coaching population has the relevant kind of body-oriented training, our best estimate after a collective 100 years in the field is that approximately 20% to 25% of coaches have this sort of training. This slight oversampling should be an advantage in that it will help us see the effects of ESA more clearly without being so far off as to skew the dataset.

Data Analysis

Data screening. During a pre-test of the survey, some items in the Nondual Awareness Dimensional Assessment (NADA) scale caused respondent confusion, so items ND4, ND5, and ND9 were eliminated prior to distributing the survey broadly. Following data collection, we inspected the dataset for quality. Outliers and anomalous cases were not an issue, given that all indicators for latent factors used a Likert scale. A few records were missing small amounts of demographic data, which were imputed as follows: for years coaching, the average (12 years) was imputed for nine records. For age, missing data was replaced with the average (54 years) for 14 records. For gender, the midpoint of 1.5 was used to replace missing data in nine records. Three records were missing data for Connectedness; we imputed these as 4, which is the mid-level of the scale. Seventy-five percent of the sample was female, consistent with the coaching field as a whole (International Coach Federation, 2020b). Reverse-scored items were adjusted prior to analysis. Appendix C lists item details.

Most items passed tests of normality, with skewness and kurtosis falling between -1 and 1. A few items fell outside that range but remained within the acceptable range of less than three times the standard deviation (Hair, Black, Babin, & Anderson, 2018). The primary exception is the Flourishing construct, in which all eight items had skewness < -1 and kurtosis > 1. The consistent left skew of these items suggests that coaches tend to perceive themselves as flourishing, which makes sense given the field's emphasis on deliberately designing one's life.

Exploratory factor analysis. Using SPSS 27, we ran an exploratory factor analysis on all items in the measurement model. Although the hypothesized model evaluates relationships between eight latent factors, data collection included items that were expected to produce eighteen first-order factors. Eight of those eighteen are dimensions of the MAIA-2, the scale we used to assess respondents' degree of embodied self-awareness (Mehling et al., 2018). We also measured two factors from the Nondual Awareness scale (Hanley et al., 2018), and two factors from the Grit scale (Duckworth et al., 2007). The Grit scale has been reserved for a future study. Since all items in a measurement model will influence the loadings of all other items, the EFA included all items, even though this study explores only a subset of them.

Using maximum likelihood factoring and Promax rotation, KMO of .911 and Bartlett's test of .000 indicated data adequacy. We explored a number of solutions, including eigenvalues set to 1 and fixing extraction to anywhere between 12 and 18 factors. We removed several items due to excessive cross-loading, including Gr8, M21, 25, 26, 29, 30, and 37, Em8, Cm13, ND10-13, and Con5. With the exceptions described below, all of these items were redundant to other items in the scale; therefore, removing

these items did not raise concerns about measurement fidelity. Ultimately, we settled on a model by fixing extraction to 13 factors. This model produced very little cross-loading and explained 49.4% of the variance.

Two particularly notable findings emerged from this exploration. First, we dropped one of the two dimensions used in the Nondual Awareness scale, which measures two latent factors the authors call Bliss and Self-Transcendence (Hanley et al., 2018). When clients describe their embodied experience, they are more apt to refer to experiences of self-transcendence than experiences of bliss. Furthermore, while the Bliss scale (items ND10–ND13) loaded onto its own factor, it also heavily cross-loaded onto the Self-Transcendence factor. At this point, we chose to eliminate Bliss.

Secondly, and more central to this study, the MAIA scale factored differently from some prior published studies. Rather than the eight expected factors, we found four. Three of these—Not Distracting, Not Worrying, and Trust—loaded onto their respective factors as expected. The remaining factor, which we have labeled Notice, includes items from the other five MAIA dimensions: Noticing, Attention Regulation, Emotional Awareness, Self-Regulation, and Body Listening. Each of these five first-order factors is measured by indicators that describe types of awareness or ways of paying attention.

These findings are consistent with the recent findings by Ferentzi et al. (2020), who found the MAIA to represent a single general factor, excluding the Not Distracting and Not Worrying dimensions. They are also consistent with the original 2012 findings of the MAIA authors (Mehling et al., 2012: 10), in which they grouped the eight first-order factors into a conceptual framework of five clusters, similar to the four-factor structure we found. Their framework clusters Emotional Awareness, Self-Regulation, and Body

Listening together under the heading "Awareness of Mind-Body Integration." This is similar to our Notice factor, which combines these three dimensions with Noticing and Attention Regulation. Their 2012 conceptual framework also combines Not Distracting and Not Worrying into a separate cluster measuring emotional responsiveness to sensations. All remaining factors stand alone. The authors suggest that the original eight factors may be an artifact of their early testing and instrument development, which relied on a population that was highly experienced with mind-body modalities. It is possible and, in fact likely, that this more experienced population noticed nuances and distinctions that are overlooked in more mind-body naïve populations (Mehling et al., 2012). While finer distinctions in attentional focus may be discernable when the MAIA is studied in isolation or in a population of people who are experienced with mind-body therapies, our data suggests that in more complex contexts, respondents who may be less experienced with mind-body modalities may not parse these finer distinctions.

The overlap between our four-factor MAIA model, the MAIA authors' five-factor clusters, and Ferentzi et al.'s (2020) general factor—along with the theoretical argument for clustering similar dimensions together—provided confidence to move forward into the CFA with four dimensions of the MAIA scale: Notice, Not Distracting, Not Worrying, and Trust. These four factors comprise a second-order factor of Embodied Self-Awareness which were subsequently tested with a CFA.

Results of the exploratory factor analysis indicated strong reliability. Cronbach's alpha is ≥ .7 for all factors, and the low cross-loading indicates strong discriminant validity (Hair et al., 2018). One instance of cross-loading (MAIA 13) differed by more than .20; all other items had little or no cross-loading, also indicating strong discriminant

validity (Baumgartner & Weijters, 2017). Convergent validity is a bit weaker, likely due to the known limitation that the items in the scales we used have some theoretical overlap. Convergent validity is > .60 in 8 of 13 factors, and > .7 in two of those. Excepting the MAIA as described above, all items loaded onto their expected factor, and all factors have strong face validity. Table 8 shows detailed factor loadings and reliability for the EFA.

TABLE 8
EFA Loadings and Reliability – Outcomes Measurement Model

Factor	Notice	Flourish	Transcend	Resilience	No Distraction	Passion	Empathy	Connection	Adaptability	Conflict Management	Perseverance	Not Worrying	Trust
Cronbach's α	**.94**	**.87**	**.91**	**.83**	**.83**	**.76**	**.74**	**.77**	**.73**	**.85**	**.74**	**.70**	**.77**
Convergent validity	**.64**	**.67**	**.79**	**.53**	**.65**	**.62**	**.58**	**.69**	**.57**	**.81**	**.66**	**.52**	**.54**
Gr_1						.69							
Gr_2						.68							
Gr_3						.56							
Gr_4						.53							
Gr_5						.65							
Gr_6											.60		
Gr_7											.62		
Gr_9											.78		
Gr_10											.64		
M_1	.75												
M_2	.61												
M_3	.66												
M_4	.61												
M_5					.61								
M_6					.66								
M_7					.65								
M_8					.72								
M_9					.68								
M_10					.61								
M_11												.57	
M_12												.53	
M_13	.28											.45	
M_14												.47	
M_15												.56	
M_16	.67												
M_17	.68												
M_18	.50												
M_19	.75												
M_20	.74												
M_22	.65												
M_23	.71												
M_24	.62												
M_27	.64												
M_28	.53												

M_31	.64													
M_32	.80													
M_33	.76													
M_34	.66													
M_35														.83
M_36														.60
Res_1				.62										
Res_2				.60										
Res_3				.63										
Res_4				.68										
Res_5				.53										
Res_6				.67										
Ad_1									.58					
Ad_2									.74					
Ad_3									.52					
Ad_4									.33					
Ad_5									.69					
Em_6						.51								
Em_7						.60								
Em_9						.70								
Em_10						.53								
CM_11										.69				
CM_12										.91				
CM_14										.85				
Flr_1		.81												
Flr_2		.62												
Flr_3		.70												
Flr_4		.57												
Flr_5		.70												
Flr_6		.66												
Flr_7		.58		.28										
Flr_8		.72												
ND_1			.81											
ND_2			.78											
ND_3			.85											
ND_6			.74											
ND_7			.77											
ND_8			.77											
Con_1							.68							
Con_2							.58							
Con_3							.83							
Con_4							.67							

Maximum Likelihood extraction, fixed to 13 factors. Promax rotation with Kaiser normalization. Loadings < .20 suppressed. Rotation converged in 7 iterations.

Confirmatory factor analysis.

Measurement model. Using Mplus version 8.4, we ran a CFA to test the fit of the measurement model. We began by running the model described by the EFA. The initial model fit was admissible but slightly sub-par. Therefore, after inspecting residuals and modification indices, we removed three items (M33, Ad2, Ad4). Both before and after these adjustments, and even when run independently of all other factors, the Nondual Awareness factor exhibited unusual behavior. Although it had very high loadings in the EFA with all items ≥ .74, in the CFA, items consistently loaded ≤ .05, sometimes with one Heywood case. After consulting with several statistical advisors who were also unable to resolve the conundrum, we made the decision to save this anomaly for a future investigation rather than pursue it further here, and we removed the Nondual Awareness factor.

We moved forward with this modified EFA-based model, but soon chose to reevaluate it when tests of method bias revealed nuances of shared variance in the second-order ESA. We added a common latent factor (CLF) following the method recommended by Podsakoff et al. (MacKenzie & Podsakoff, 2012; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). This indicated considerable shared variance in the Notice factor, consistent with the fact that Notice is a composite of several dimensions of the MAIA scale. Given this, and as a check against our EFA, we returned all previously dropped MAIA items (M13, 26, 29, 30, 31, 33, and 37) to their expected positions and ran the CFA with all eight expected sub-dimensions of the MAIA. Correlations between the MAIA dimensions that had clustered into a single factor in the EFA were all ≥ .81. Therefore, we systematically added the items from each relevant MAIA dimension to

Notice, starting with the Emotional Awareness items and moving to Attention Regulation, Self-Regulation, and Body Listening. We again removed M33 due to low loading, but we retained the rest of the MAIA items, including those that we had dropped in the EFA. We also returned Em8 to the model. The items previously removed from other factors (Gr8, Ad2, and Ad4, Cm13, Con5) remained on the cutting room floor.

We then added the second-order ESA factor to the model. Per Decker (2021), a unidimensional model should not be specified without ample theoretical justification. In this case, justification lies in the relationship between the embodied self-awareness construct and the MAIA factors. ESA is defined as present-moment, non-judgmental attention to sensation, movement, and emotion (Fogel, 2009). All MAIA indicators measure some form of sensation, movement, and/or emotion (see Appendix C). Five of the latent factors—Noticing, Attention Regulation, Emotion Regulation, Self-Regulation, and Body Listening—address present-moment attention, whereas the remaining three—Not Distracting, Not Worrying, and Trust—point to a non-judgmental attitude. We therefore hypothesized a unidimensional second-order factor to measure ESA, comprised of the first-order MAIA factors Notice, Not Distracting, Not Worrying, and Trust. This second-order factor is illustrated in Figure 18. Additional support for this unidimensional structure comes from a recent study of the MAIA-1 in a Hungarian population, which found a single higher-order factor that encompasses all MAIA factors apart from Not Distracting and Not Worrying (Ferentzi et al., 2020).

Following the procedure in Brown (2015: Ch 8), we tested the adequacy of this second-order ESA factor by comparing the model fit of three different models: (1) a model without the ESA, (2) a model with ESA comprised of all four first-order factors,

and (3) a model with ESA comprised of the three factors Notice, Not Worrying, and Trust. We chose to test model (3) due to the low loading (.34) of Not Distracting on ESA, as well as the lower correlations between Not Distracting and other MAIA factors (see Table 9). We found no significant degradation in model fit between these three models. While the highly sensitive chi-square difference test resulted in non-invariance, RMSEA and its confidence intervals was within .001 for all three models, and all other model fit measures were ≤ .005 difference. This gave us confidence that ESA does indeed function as a true second-order factor, as theoretically predicted (Brown, 2015: Ch 8).

Our measurement model with the ESA resulted in a model fit of RMSEA of .038, CFI/TLI of .897/.892, SRMR of .053, and chi-square/*df* of 1.79. CFI and TLI fell below the recommended threshold of > .90. However, Hu and Bentler (1999) argue that fit is best assessed through a combination of measures. Published studies of the MAIA indicate that while it is theoretically sound, it tends toward a slightly sub-par fit due to its psychometric construction (Todd et al., 2020). Given these considerations and the strength of most of the fit indices, we continued our data analysis with this model.

Table 9 shows the factor loadings on the model specified in the CFA. The loadings in the CFA were generally within .05 of the EFA loadings, typically higher, and all significant at p = .000. Also included in Table 9 are the loadings of first-order factors onto the second-order Embodied Self-Awareness factor.

FIGURE 18
Second-Order ESA Model

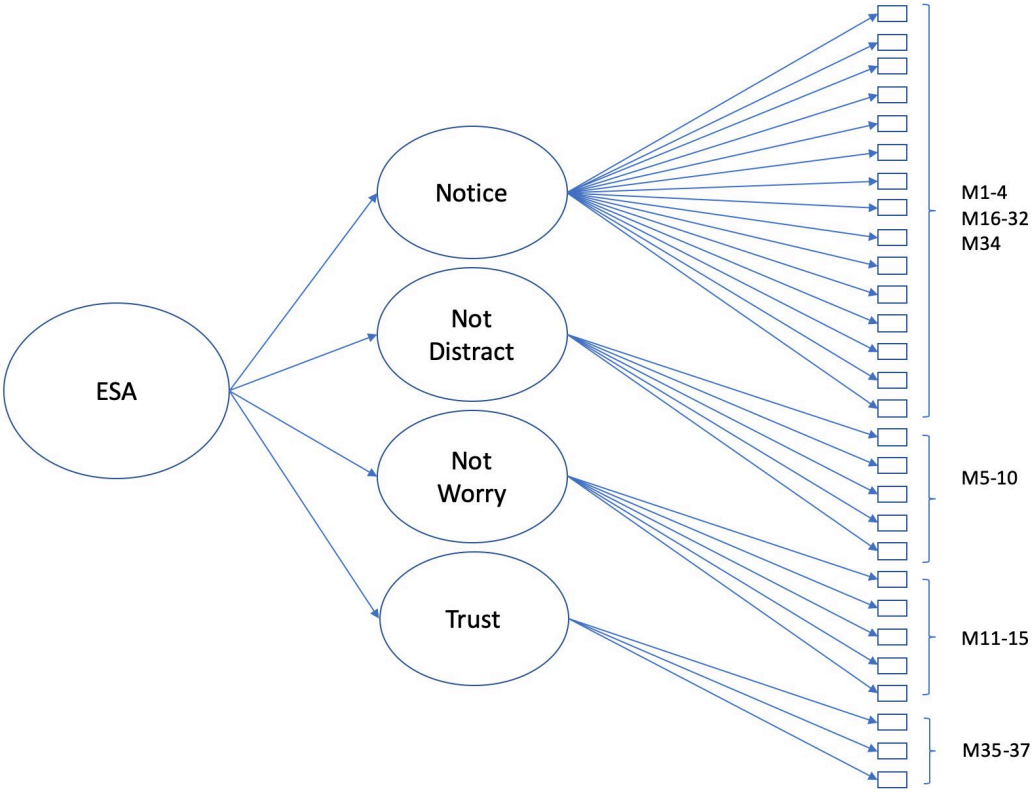


TABLE 9
CFA Loadings – Outcomes Measurement Model

Factor	Notice	Flourish	Transcend	Resilience	Not Distracting	Passion	Empathy	Connection	Adaptability	Conflict Management	Perseverance	Not Worrying	Trust	ESA
Gr_1						.64								
Gr_2						.67								
Gr_3						.63								
Gr_4						.49								
Gr_5						.70								
Gr_6											.64			
Gr_7											.59			
Gr_9											.80			
Gr_10											.59			
M_1	.63													
M_2	.57													
M_3	.70													
M_4	.68													
M_5					.68									
M_6					.66									
M_7					.66									
M_8					.73									
M_9					.68									
M_10					.61									
M_11												.46		
M_12												.46		
M_13												.67		
M_14												.73		
M_15												.42		
M_16	.68													
M_17	.74													
M_18	.57													
M_19	.76													
M_20	.72													
M_21	.65													
M_22	.72													
M_23	.59													
M_24	.57													
M_25	.61													
M_26	.61													
M_27	.69													
M_28	.67													

M_29	.56									
M_30	.61									
M_31	.64									
M_32	.75									
M_34	.70									
M_35									.76	
M_36									.77	
M_37									.66	
Res_1			.74							
Res_2			.65							
Res_3			.66							
Res_4			.72							
Res_5			.57							
Res_6			.72							
Ad_1						.51				
Ad_3						.69				
Ad_5						.67				
Emp_1				.61						
Emp_2				.72						
Emp_3				.62						
Emp_4				.64						
Emp_5				.60						
CM_1							.72			
CM_2							.84			
CM_4							.87			
Flr_1		.78								
Flr_2		.64								
Flr_3		.72								
Flr_4		.56								
Flr_5		.73								
Flr_6		.64								
Flr_7		.62								
Flr_8		.72								
Con_1					.64					
Con_2					.58					
Con_3					.81					
Con_4					.67					
Notice										.78
NoDist										.34
NoWor										.64
Trust										.91

Maximum Likelihood. Second-order factor ESA in gray.

Validity and reliability. We ran validity and reliability checks in Mplus, calculating composite reliability (CR) and average shared variance (AVE) on the standardized results for each factor. Ultimately all but two factors had CR scores above the recommended value of .70, indicating high reliability for most factors (Hair et al., 2018). Not Worrying (.57) and Adaptability (.67) fell below the threshold, indicating potential reliability issues with these factors. The results for Not Worrying may reflect known psychometric limitations to the MAIA instrument; these are detailed in the Limitations section below.

AVE coefficients were less than CR in all cases, indicating strong convergent validity. However, only Conflict Management, Connectedness, and Trust meet the higher bar proposed by Malhotra and Dash (2011) of AVE > .50. The remaining factors do not meet this higher bar, which could indicate issues with convergent validity. We anticipated this hazard when designing the survey, as many of our factors measure highly related constructs. Given this and the strong theoretical relationships between these constructs, we felt the convergent validity results were satisfactory to proceed.

All correlations but one (Notice with Trust = .71) fell well within the recommended discriminant validity threshold of < .7 (Hair et al., 2018). MSV was less than AVE in all cases aside from Notice and Not Worrying. These results suggest that discriminant validity is strong for most factors, but that the MAIA factors—particularly Notice, Trust, and Not Worrying—may be partially explained by their shared variance in addition to their items. Since these three factors along with Not Distracting combine to create the second-order ESA factor, we concluded these discriminate validity issues would have little bearing on the final model and were, therefore, acceptable. Means and

SD for the controls were as follows: Age (54.4, SD = .81), Years Coaching (11.98, SD = .39), and Gender (.31, SD = .52). Table 10 shows factor reliability and correlations.

TABLE 10
Factor Reliability and Correlations – Outcomes Measurement Model

		CR	AVE	MSV	R^2	1	2	3	4	5	6	7	8	9	10	11	12
1	**Passion**	.76	.40	.10		.16											
2	**Persistence**	.75	.43	.20		.18**	.19										
3	**Notice**	.94	.44	.50	.62	.23**	.19**	.19									
4	**Not Distracting**	.83	.45	.12	.11	.20**	-.07	.28**	.20								
5	**Not Worrying**	.61	.29	.31	.41	.18**	.16**	.51**	.13*	.08							
6	**Trust**	.78	.55	.50	.85	.31**	.21**	.71**	.34**	.54**	.30						
7	**Resilience**	.83	.46	.31	.27	.32**	.36**	.34**	.10	.56**	.46**	.21					
8	**Flourishing**	.87	.46	.23	.22	.27**	.31**	.28**	.24**	.20**	.48**	.42**	.21				
9	**Adaptability**	.67	.40	.38	.14	.23**	.45**	.33**	-.12	.26**	.28**	.49**	.39**	.16			
10	**Empathy**	.77	.41	.38	.16	.24**	.26**	.37**	.01	.20**	.30**	.31**	.37**	.62**	.16		
11	**Conflict Management**	.85	.66	.28	.13	.17**	.25**	.32**	.08	.23**	.29**	.30**	.27**	.40	.53	.43	
12	**Connectedness**	.96	.87	.01	.08	.10	.08	.03	-.03	.02	.02	-.03	-.01	.03	-.00	.02	.75

Likert-scale variables standardized. Mean is 0 for all standardized latent factors. Square root of AVE on the diagonal. *p < .05 **p < .01 (2-tailed).

Common method bias. This study was conducted using a single self-report instrument, which exposes it to issues with method bias. Additionally, the instruments we used to measure latent constructs overlap to some degree. For example, multiple scales measure emotion-related phenomenon, other scales measure body-related phenomena, some measure satisfaction with life, and so on. These scales are theoretically likely to covary, so we anticipated a relatively high degree of shared variance from the outset.

To test for the presence of method bias, we specified an unmeasured common latent factor (CLF) and ran a common method bias test under three scenarios: (1) unconstrained, in which the CLF was estimated freely in order to explore how items load onto the CLF with no additional parameters specified; (2) CLF constrained to 0, in which the CLF is constrained to load at 0 on all items; and (3) CLF constrained to load equally onto all items. This procedure gives us an opportunity to compare the freely estimated model against a null model (model 2) and a model in which method bias affects all items equally (model 3) (MacKenzie & Podsakoff, 2012; Podsakoff et al., 2003).

Results of this test demonstrated that nearly all of the shared variance lay within the Notice factor. Notice is a composite of several dimensions of the MAIA scale, so this finding has an easy explanation. Nevertheless, we chose to continue our exploration in order to ensure we were not overlooking any alternative explanations. First, we adjusted the CLF to load only on the MAIA factors. Then we adjusted it again to load only on the items in the Notice factor. Finally, we tested to see if the second-order ESA construct was formative or reflective (Brown, 2015). We determined it was reflective.

In each case, running the CLF with the full model, including the second-order ESA factor, resulted in errors. Sometimes the model would not converge, and on the rare

occasions where it did, the fit was inadmissible. These issues seemed to stem from the fact that the CLF competes with Notice and ESA to pull shared variance from the indicators.

Because a CLF picks up all sources of shared variance indiscriminately, it cannot distinguish between response bias and other sources of shared variance. We simply did not have a reliable way to identify sources of shared variance beyond what is theoretically expected based on the nature of the instruments and their items. We ultimately concluded that the addition of a CLF did not reveal anything new about the shared variance in the model, nor did it add to the model's explanatory power. Given this, and given that the model matches both theoretical expectations and prior published research, we chose to continue with the model as originally designed.

Structural equation model.

Model fit and factor correlations. Continuing the analysis with Mplus 8.4, we tested our hypotheses by running a multivariate regression of the hypothesized structural model using age, gender, and years coaching as controls. Model fit was RMSEA of .039, CFI/TLI of .861/.855, SRMR of .059, and chi-square/*df* of 1.79. Apart from Connectedness, correlations between factors were all significant. The highest correlations occurred among the ESCI factors: Empathy with Adaptability (.55, $p < .01$) and Empathy with Conflict Management (.44, $p < .01$). These results are consistent with prior studies with the ESCI, which tend to show relatively high inter-factor correlations (Boyatzis et al., 2017). Controls—age, gender, and years coaching—were all non-significant apart from two instances: age was significant on Flourishing ($\beta = .12$, $p < .05$) and

Connectedness ($\beta = .13$, $p < .05$). Table 11 shows correlations among the dependent variables.

TABLE 11
Factor Correlations – Outcomes Structural Model

		1	2	3	4	5
1	**Flourishing**					
2	**Resilience**	.25**				
3	**Adaptability**	.25**	.37**			
4	**Empathy**	.23**	.13*	.55**		
5	**Conflict Mgmt.**	.13*	.12*	.31**	.44**	
6	**Connectedness**	.06	.06	.14*	.11	.09

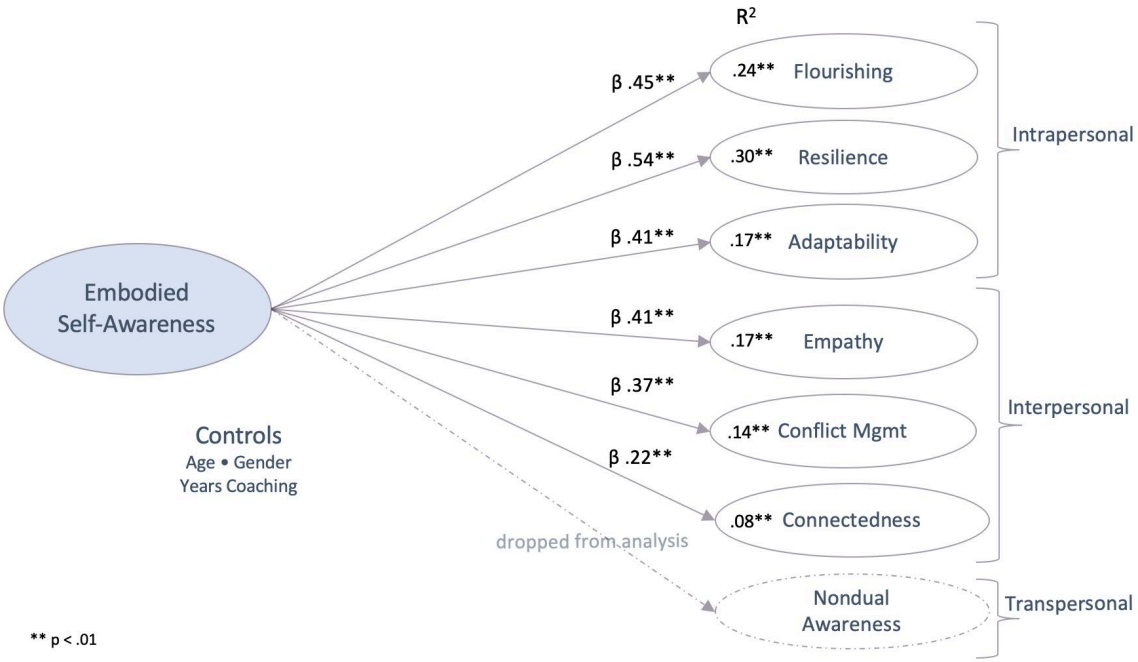
Results

Hypothesis testing.

Supported hypotheses. As indicated in Figure 19, Hypotheses 1–6 were all supported. Effect sizes ranged from .22 to .54 and were all significant at $p = .000$. R^2 ranges from .08 at the low end to .30 at the high end, with $p = .000$ for all variables. These are considered moderate to large effect sizes (Bosco, Aguinis, Singh, Field, & Pierce, 2015; Ellis, 2010). Combined, these results lend strong empirical support to the Study 1 findings that cultivating embodied self-awareness corresponds with desirable *intra*- and *inter*-personal qualities.

Unsupported hypotheses. Due to measurement anomalies, Hypothesis 7 was dropped from the analysis. We suspect the issue may lie with the way Mplus handles missing data. We look forward to addressing this issue and exploring the relationship between Nondual Awareness and ESA in future research.

FIGURE 19
Outcomes of ESA – Model with Beta Weights and R^2



Discussion

Given the effect sizes and their significance, we can now make some very solid empirically valid claims about the outcomes of embodied self-awareness that were previously suggested only by qualitative, practitioner, and anecdotal evidence. Specifically, it is clear that developing ESA increases flourishing and builds resilience and adaptability. We can also confidently assert that empathy, connectedness, and the capacity to manage conflict increase alongside growth in ESA. All of these outcomes improve lives and strengthen one's leadership capacity. But what is the practical significance of these results? Do these amount to dramatic effects or ordinary ones?

Ellis (2010) recommends interpreting results in one or more of three ways: context, contribution, and, if necessary, Cohen's classic guidelines for small, medium,

and large effects. In this case, contextualizing results by comparing them to other similar studies is not possible, as this study is the first of its kind to look at the outcomes of ESA in this way. However, the effects we see here are classified as medium-to-large according to Cohen's criteria, where medium is defined as an effect that would be "visible to the naked eye of the careful observer" (Ellis, 2010). In this case, we can use the observations of experienced body-oriented coaches to represent that naked eye. This study confirms and expands upon what experienced practitioners have been seeing and saying for decades: cultivating embodied self-awareness substantially transforms behavior and amplifies valuable life outcomes.

In addition, as a first-of-its-kind exploration, this research makes a substantial practical and theoretical contribution. In theoretical terms, results contribute to defining the construct validity and boundary conditions for the ESA construct. In practical terms, the high beta coefficients indicate that increasing ESA by a unit of 1 will increase each dependent variable by its beta coefficient (e.g., 22% increase for Connectedness, 54% for Resilience, and so on). Similarly, the medium-to-high R^2 results indicate that the presence of embodied self-awareness predicts a sizable percentage of the variance for each outcome variable. Given the low p-values, we are confident these results are not due to chance, but rather to the presence and influence of embodied self-awareness. These above-average effect sizes (Bosco et al., 2015) point to a meaningful, valuable, and discernable effect in the real world. If you can increase your resilience by half, you will be considerably better equipped to handle the slings and arrows of life.

Notably, ESA positively affects not just resilience but all of the outcome variables we measured, including the three ESI constructs. This strengthens the case for the

relationship between ESA and ESI that was observed in Study 1. The present study extends and lends confidence to those earlier results via a large sample size (534), large effect sizes (β = .22 to .54), strength of statistical significance (p = .000), and high power (.99). Together with the qualitative results of Study 1, these all lend a high degree of confidence to the conclusion that cultivating embodied self-awareness is a remarkably powerful lever for building ESI and other valuable outcomes.

However, results for Connectedness seem a bit low compared with the other outcome variables. This may be an artifact of the instrument used to measure Connectedness. Unlike other instruments in the survey, the Inclusion of Community in Self Scale (Mashek et al., 2007) asks respondents to select among pictograms to indicate their level of connection (see Appendix C). It may be that the question was too vague, or the pictograms threw people off, or both. Per the correlations in Table 10, measures of Connectedness have no significant correlation with any other factor in the model, although there is theoretical reason to expect correlations between Connectedness and Empathy, for example, or Connectedness and Flourishing. These unexpected results suggest that the selected instrument may have biased the results for this variable. Indeed, two emails from survey respondents indicated this question was a bit confusing. Given the consistency of the reports about connectedness in the literature, it seems plausible that this study may underreport the relationship between ESA and Connectedness. This is an open question that remains ripe for further study.

Due to the measurement anomalies with the Nondual Awareness instrument, Hypothesis 7 was dropped from the analysis. Again, given practitioner reports and prior

research, this remains an intriguing area. We hope to resolve the statistical anomalies and continue the exploration of this phenomenon in future research.

Implications for coaches. The concept of self-as-instrument is a guiding principle in coaching and some other helping professions. Self-as-instrument suggests that your way of *being* as a coach is more important than what you specifically *do* or *say* (McLean, 2019). Indeed, this idea is supported by research in both psychotherapy and coaching that points to the relationship between therapist and client as the primary agent of change, prior to, above, and beyond any specific method or modality used (Baron & Morin, 2009; Kemp, 2015).

This principle suggests that coaches must develop their own self-awareness in order to effectively work with clients. Developing embodied self-awareness is clearly one critical component of that. In addition, developing ESA leads to other outcomes that benefit the coach on both a personal and professional level. In addition to the obvious personal benefits, for coaches, in particular, several professional benefits also accrue. Coaches must regularly adapt to their clients' changing moods, agendas, and goals. They need the resilience to set aside their own personal challenges prior to a session and to quickly shift from a difficult session with one client to a celebratory session with another. Coaches rely on empathy and connectedness to build trust with clients, and at times they must be willing to challenge their clients and initiate difficult conversations, an aspect of conflict management that ESA supports. In brief, virtually all of the dependent variables explored here have a direct impact on the quality of coaching delivery. This implies that coaches can improve their professional skills by developing ESA.

Depending on their specialty, coaches support their clients in creating a variety of improved life outcomes. These may include changing behavior to achieve better health or improve a relationship, strengthening one's leadership capacity or workplace performance, or successfully navigating a life or career transition. Regardless of a coach's specialty, helping clients move towards greater flourishing, resilience, and emotional and social intelligence is a core aspect of the job. The results from this study suggest that coaches would also benefit from learning to leverage embodied self-awareness in their coaching with their clients. In order to do so, coaches must learn how to cultivate their own embodied self-awareness so that they can subsequently support their clients in doing the same.

Implications for leaders and managers. The ESA outcomes that affect coaching performance also affect leadership performance. For decades, it has been clear that emotional and social intelligence are leadership competencies that set apart the outstanding leaders from the adequate ones (Goleman, 2005, 2007; Goleman et al., 2013). The results of this study illustrate a clear relationship between the development of ESA and the development of ESI. Like coaches, leaders need to be able to build trust with those that they lead. Empathy and connection are central to building trust. Even more than coaches, leaders must be able to resiliently adapt to rapid and unpredictable change, initiate difficult conversations, and both generate productive conflict as well as de-escalate it in order to produce quality organizational results. Developing the skills of flourishing can counteract the common state of leadership overwhelm and burnout.

For all of these reasons, leaders and managers stand to benefit from developing ESA. Those who have a natural interest in this domain—perhaps because of mind-body

practices or athletic experiences in other parts of their lives—should feel confident in pursuing mind-body approaches to leadership development. Leaders who do not have a pre-existing interest in mind-body modalities should view these results as a reason to whet their appetite, open their curiosity, and confidently step into exploring unfamiliar terrain.

Implications for organizations. Organizations that already understand the value of investing in the emotional and social intelligence of their employees and teams would do well to explore programs that help staff develop embodied self-awareness. To the degree that such programs cultivate resilience, adaptability, empathy, and conflict management, they can support smooth group functioning, enable teams to rapidly respond to change, and help individual employees perform their jobs more effectively.

There is an important cautionary note, however. As the results of this study illustrate, embodied self-awareness can be a very powerful catalyst for change. By its nature, embodied learning is inherently personal learning. Some employees may rightly prefer not to engage in that kind of learning in the workplace. Given that, embodied learning programs inside organizations should be offered as a highly prized benefit available to voluntarily self-selected participants, as opposed to a command performance.

Implications for scholarship. In 2020, the Academy of Management hosted a panel on embodiment in management scholarship (Archibold et al., 2020). Given the strength and significance of the results in this study, scholars should begin fostering more of this kind of exchange. The implications for coaching, management, leadership, and organizational life should enjoin us to expand knowledge in this domain by familiarizing

ourselves with embodied learning and its relevance to workplace performance and behavioral learning and change.

That being said, one critical consideration must be mentioned. It is essential that management scholars learn about embodiment in *embodied, experiential* ways, more than by reading or thinking about it. Embodiment is a non-conceptual, non-abstract way of knowing about the world. Just as you cannot learn to swim by reading a book, you cannot discover what embodied self-awareness is until you engage your body in the learning. Management scholars are encouraged to set aside their books and papers, get up from their chairs, and truly experience this kind of learning for themselves. Only then will they be properly equipped to think about it, write about it, and talk about it.

Limitations and Future Research

Despite the robust results we see here, like all research, this study is subject to a number of limitations. For instance, using single-source self-report data should rightly raise questions about method bias. While we have controlled for this as best we can, we must bear in mind that, by definition, self-report data only reveals the respondent's point of view. We would like to see future studies add physiological and peer-report data to round out self-report measures. Longitudinal or experimental approaches to this research would also lend valuable insight to the exploration. However, given that this is the first time anyone has explored the outcomes of embodied self-awareness in this way, we contend this is a valuable preliminary step despite the limitations. We look forward to engaging with the research community to continue to push this inquiry further.

In addition, longitudinal and experimental research would allow us to pin down causation in a way that the present study design cannot. Although the use of a structural

equation model suggests that ESA may cause the outcome variables, we cannot rule out the possibility of an unidentified exogenous variable that simultaneously influences both ESA and the dependent variables. Similarly, the model in this study is not equipped to sort out complex multidimensional relationships, such as an embedded feedback loop in which one or more of the DV's function as a predecessor to as well as an outcome of ESA. This leaves ample opportunity for researchers to push these inquiries further.

There are also some known psychometric concerns with the MAIA instrument used to estimate embodied self-awareness. The MAIA is a robust tool that has much to recommend it, including the fact that it was constructed through a carefully tested multi-step, multi-year mixed methods process. The original authors made a point to include practitioners and clients from a wide variety of mind-body modalities, which helped build an instrument that is both theoretically sound and widely relevant. While we continue to believe it is the best available measure to estimate embodied self-awareness, the MAIA suffers from some psychometric inconsistencies that make it difficult to fit data into the model. For instance, the number of items intended to measure each dimension is inconsistent, varying from 3 to 7. Some items are reversed, but this is done inconsistently and only in two of the eight dimensions. Without a consistent psychometric theory underlying the scale, some of its conclusions may be imprecise. In addition to these psychometric inconsistencies, the fact that the scale was developed using a sample of experienced mind-body practitioners skews it to be somewhat more detailed and specific than might be meaningful for a more general population. And as mentioned above, the scale also emphasizes interoception a little more heavily than suits our purposes. Despite

these limitations, the MAIA ultimately offers us a new window into the nature of embodied self-awareness that presently can be had no other way.

In addition, in this study, the MAIA was used as a second-order factor. At the time the study was designed, this had not been done in any previously published research. We concede that the MAIA was not originally designed for such use, and we recognize that this "off-label" use may introduce new statistical wrinkles that require resolution. We anticipate future studies may help iron out some of these wrinkles while opening—and answering—new questions.

We also wish to remind the reader that one should use caution in generalizing from a sample of coaches since they tend to be more oriented to and motivated by personal growth than the population at large. It is possible that the results we see here would not hold up as well in populations with less familiarity with psychological development and/or mind-body modalities. Or perhaps the effect sizes would be larger for people who have a greater distance to travel, so to speak. Additional research with other populations is needed to shed further light on these results and expand the scope of generalizability.

Finally, it is worth noting that in an effort to focus the microscope on one particular phenomenon, we necessarily had to make choices about what to include in the survey. Many life experiences affect our body-mind, and it would have been both foolish and unwieldy to try to look at them all. We chose not to ask questions about injuries, chronic illness, physical limitations or disabilities, athletic experiences, trauma, therapy, and other experiences that can affect the body and psyche. As this line of research develops, it will be helpful to widen the lens to include more of these kinds of influences

in future inquiries. It is also worth noting that the responses to this survey were collected during the summer of 2020 and may have been affected by people's responses to the COVID-19 pandemic.

Conclusion

Results of this study show that developing embodied self-awareness supports the kind of self-development, personal growth, and maturation that are valued in the workplace and in life. Specifically, embodied self-awareness has been shown to support both intra- and inter-personal behavioral competencies, including flourishing, resilience, and adaptability, plus empathy, connectedness, and conflict management. Developing embodied self-awareness is a strong lever for cultivating these qualities.

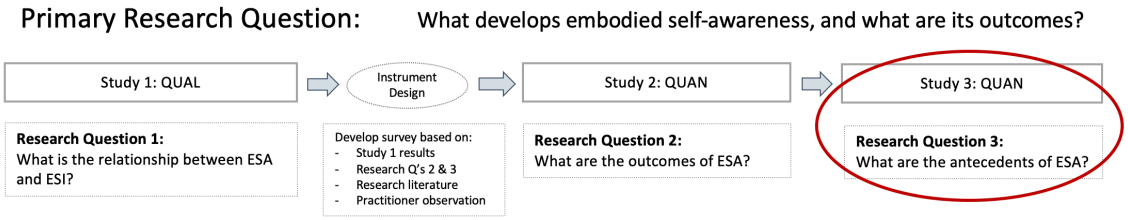
By way of example: knowing *about* emotional regulation relies on the task-oriented analytical network in the brain and does not automatically confer the ability to regulate your emotions. Rather, emotional regulation requires sophisticated exchange among embodied and empathic networks, including interoceptive, proprioceptive, autonomic, and default mode neural structures. The experiential felt-sense of embodied self-awareness entails present-moment, non-judgmental attention to sensation (interoception), movement (proprioception), and emotion (which arises out of both automatic and intentional assessments of embodied states). As we have seen in this study, this felt-sense knowing has a measurable and beneficial effect on action and behavior. Developing it in experiential ways is what enables one to shift from knowing *about* emotional regulation to knowing *how* to exercise emotional self-control in frustrating and difficult circumstances. Coaches, leaders, managers, organizations, and scholars who care

about people's resilience, emotional and social intelligence, and flourishing would do well to explore embodiment further.

CHAPTER 6: DEVELOPING EMBODIED SELF-AWARENESS

Study 3 explores what activities reliably develop embodied self-awareness, providing answers to questions about the antecedents of ESA. Figure 20 indicates where this study fits in relationship to the others.

FIGURE 20
Research Question 3



Introduction

A growing body of research indicates that embodied self-awareness—defined as present-moment, non-judgmental attention to sensation, movement, and emotion (Fogel, 2009)—is a precursor to many beneficial health, behavioral and performance outcomes. For instance, in addition to improving psychological health (Fogel, 2009; Levine & Mate, 2010; Van der Kolk, 2015) and relationships (Fogel, 2021), embodied self-awareness (ESA) supports the development of emotional and social intelligence (ESI) that has been repeatedly shown to predict life satisfaction and workplace success (Blake, 2018, 2019; Goleman, 2005; Goleman et al., 2013; Rochford et al., 2017). Recent research has demonstrated a direct link between embodied self-awareness and several behavioral competencies, including flourishing, resilience, adaptability, empathy, connectedness, and conflict management (Study 1, Study 2) (Blake, 2019, 2021). These are essential skills for all humans, and especially for helping professionals whose job it is to support and inspire others to grow and thrive. Unfortunately, efforts to teach these skills often fall

short (Boyatzis et al., 2017). If embodied self-awareness is a valuable lever for cultivating these important skills, then we need to understand how to successfully develop it.

Yet, to date, there has been little investigation into this question. The primary research that points to a developmental path for building ESA has been conducted in the sphere of hands-on bodywork (Fogel, 2009, 2020a, 2020b, 2020d, 2021). However, it seems unlikely that this would be the only possible path. Might other equally or more effective methods exist? There is a strong theoretical and some empirical basis for proposing that other mind-body practices may also develop ESA. For instance, while we know that practices like meditation and yoga have many beneficial effects (Chambers, Lo, & Allen, 2008; Davidson et al., 2003; Gootjes et al., 2011; Noggle, Steiner, Minami, & Khalsa, 2012; Stankovic, 2011), there has thus far been no systematic attempt to understand the relationship between practices like these and the development of embodied self-awareness as it is defined here. Some related research investigates the role of mind-body practices in developing interoceptive awareness, defined as the sense of the interior state of the body. Research on these effects shows mixed results, with mind-body practices sometimes improving interoceptive awareness and often not (Farb et al., 2013; Fiori, Aglioti, & David, 2017; Khalsa et al., 2008; Mehling, et al., 2013; Weineck, Messner, Hauke, & Pollatos, 2019). Recent research also provides evidence for a relationship between body-oriented coach training and ESA (Study 1), and this relationship has also been observed by practitioners of body-oriented coaching (Barndt, 2019; Blake, 2018, 2019; Palmer & Crawford, 2013; Strozzi-Heckler, 2014; Whitelaw & Wetzig, 2008). However, this area has not been well studied.

While these mind-body modalities appear to hold promise as potential predecessors of ESA, we know considerably less than we need to about the effects they each have on ESA or how they compare with one another. This research sets out to narrow this gap in our understanding by investigating the question: *What are the antecedents to embodied self-awareness?* We analyze survey data from 485 professional coaches about their engagement with mind-body practices, their experiences of coach training, and their degree of embodied self-awareness. Results clarify construct validity and build the nomological network for embodied self-awareness while simultaneously offering practical, actionable information to those who wish to cultivate the kinds of performance-predicting behavioral skills that ESA helps produce.

In addition to contributing to theories of embodied cognition, mind-body modalities, experiential learning, and emotional and social intelligence, this research serves multiple populations of helping professionals. Answers will equip coaches to pursue more evidence-based forms of training and bring more evidence-based methodologies to their clients, and the coach training and leadership development community will be better equipped to develop more effective programs. Leaders will find new paths to developing the ESI skills they need to succeed, and organizations that invest in health and wellness programs will gain clarity about the efficacy and value of those investments. Mind-body practitioners will gain further clarity on how their modalities help. For the research community, we expect this study will challenge and extend conventional notions of learning.

Theory and Hypotheses

Here, we theorize the relationship between various mind-body activities and embodied self-awareness. In addition to exploring the relationship between embodied coach training and ESA, we also explore five different mind-body practices: yoga, meditation, martial arts, bodywork, and dance. Table 12 describes the logic behind each of these selected practices. Figure 21 illustrates the hypothesized model.

***Direct effects*.** Coaches and related helping professionals rely on self-awareness to do their jobs well. Indeed, it is an axiom of the coaching profession that "use of self" or "self as instrument"—a coach's *way of being*—is essential to the effectiveness of the coaching relationship (Boyatzis et al., 2019; McLean, Hudson, & Hudson, 2012; Silsbee, 2004, 2008; Whitworth, Kimsey-House, & Sandahl, 1998). Another coaching axiom is that coaches must have personal experience with the kinds of learning, transformation, and change that they are tasked with supporting in their clients. Coaches build the self-awareness they need for use-of-self and "previewing" the coaching journey through processes of personal self-reflection and introspection that build self-awareness.

Of course, self-awareness is not a unidimensional construct. We know that there are at least two kinds of self-awareness: conceptual self-awareness and embodied self-awareness (Blake, 2018; Fogel, 2009). Embodied self-awareness is a natural capacity that can be evoked, cultivated, and strengthened with deliberate practice (Blackstone, 2008; Blake, 2018; Daubenmier, 2005; Fogel, 2009, 2021; Palmer & Crawford, 2013; Schiffmann, 1996; Strozzi-Heckler, 2014; Van der Kolk, 2015; Whitelaw & Wetzig, 2008). Self-reflection on one's embodied states is one way to cultivate embodied self-awareness. Embodied coach training supports this process by facilitating self-reflection in

embodied ways, such as by encouraging detailed felt-sense reflection on one's embodied response to exciting, challenging, or neutral situations. For these reasons, we expect body-oriented coach training to improve embodied self-awareness.

Hypothesis 1. Coach training that emphasizes embodiment increases embodied self-awareness.

However, even if this hypothesis is supported, it does not reveal much to simply point out that body-oriented coach training has a positive effect on ESA. There are many other popular practices that are also likely to affect ESA, and any one of them may influence ESA and its subsequent outcomes more than embodied coach training does. Therefore, in order to calibrate the effects of embodied coach training, it is useful to examine it alongside other relevant activities—particularly since the professional coaches that make up this study's sample commonly engage in a variety of practices that could affect their embodied self-awareness. In order to disambiguate the effects of body-oriented coach training from these other common practices, we need to compare multiple influences on embodied self-awareness at once. This also helps establish the construct validity and boundary conditions of the ESA construct.

We chose five broad categories of popular practices to explore alongside embodied coach training. These categories of practice were selected based on their potential to develop embodied self-awareness. Table 12 indicates the reasoning behind our selection of training and practice modalities. Conceding that we cannot examine all possible options at once, we chose to focus primarily on approaches that emphasize mindfulness while in action. Meditation may seem to be an exception since it is often—though certainly not always—practiced while seated. We chose to include meditation because it is a popular and relevant activity in which practitioners often focus on

awareness of bodily states; excluding it would have been a monumental oversight. While touch-based bodywork is also—though again, not always—more receptive and less active, we included this practice because it is inarguably focused on changes to the body and because it is one of the few areas where empirical data validates it as a path to develop ESA (Fogel, 2020a, 2020b, 2020c, 2020d).

TABLE 12
Selection of Training and Practices

Practice	Why Selected	References
Body-Oriented Coach Training	Practitioner literature suggests that combining personal self-reflection with mindful movement builds ESA & associated outcomes.	(Blake, 2018; Palmer & Crawford, 2013; Strozzi-Heckler, 2014; Whitelaw & Wetzig, 2008)
Yoga	Historical context, empirical research, and popular concepts all understand yoga as a path to embodied wisdom.	(Emerson & Hopper, 2011; Noggle et al., 2012; Schiffmann, 1996)
Meditation	Historical context and empirical data validate meditation's mind-body effects.	(Davidson et al., 2003; Goleman & Davidson, 2017; Mehling et al., 2014)
Martial arts	Practices may emphasize mind-body approaches. Many pioneers of the body-oriented coaching field have high-level martial arts training.	(Heller & Surrenda, 1994; Palmer, 1999; Strozzi-Heckler, 2003)
Bodywork	Empirical research validates that some touch-based healing modalities support access to ESA.	(Field, 2003; Fogel, 2020a, 2020b, 2020c, 2020d)
Dance	Dance is, by nature, an embodied expression of emotion. Some dance modalities specifically emphasize mindful movement.	(Cook & Ledger, 2004; Weig, 2018)

The first and most obvious potential antecedent is yoga, a practice that many Western adherents have largely extracted from its Hindu roots and adopted as a form of calming calisthenics. In the West, yoga is primarily practiced as a series of mindful movement exercises, which we might logically presume would increase embodied self-awareness. In addition, yoga's positive benefits on many ailments—including depression, chronic pain, disordered eating, trauma, and everyday stress—have now been well-

established, strengthening the case for yoga as a practice that supports embodied change (Daubenmier, 2005; Kabat-Zinn, 1990; Noggle et al., 2012; Stankovic, 2011).

Yoga and mindfulness are close cousins in the Western adaptation of Eastern spiritual practices. Many approaches to meditation emphasize body scans and body awareness, and it stands to reason that these practices would also increase embodied self-awareness (Anderson, Lau, Segal, & Bishop, 2007; Chambers et al., 2008; Davidson et al., 2003; Hayes, 2004; Kabat-Zinn, 2006; Seppälä et al., 2014).

Martial arts are another set of practices that emerge largely from Eastern roots. Many schools of martial arts teach practitioners to pay close attention to themselves and their surroundings in an embodied, felt-sense way, which could logically increase embodied self-awareness. Martial arts is also worth investigating because many of the leaders in the subspecialty of somatic or embodied coaching draw on an extensive martial arts background (Palmer, 1999; Strozzi-Heckler, 1993; Whitelaw, 2012).

Bodywork—which we define here as hands-on, touch-based healing modalities such as structural integration, Rosen method, craniosacral therapy, myofascial release, and other similar techniques—also has the potential to increase embodied self-awareness for recipients by guiding them to direct their attention to present-moment physical sensations (Cottingham et al., 1988; Fogel, 2020a, 2020b, 2020c, 2020d; Schliep & Jäger, 2012). Finally, certain dance practices such as Nia and 5Rhythms place a strong emphasis on mindful movement, which could also increase ESA (Cook & Ledger, 2004; Weig, 2018). Logic suggests all five of these practices are likely to have a positive effect on embodied self-awareness.

Hypothesis 2a. Yoga has a positive effect on embodied self-awareness.

Hypothesis 2b. Meditation has a positive effect on embodied self-awareness.

Hypothesis 2c. Martial arts has a positive effect on embodied self-awareness.

Hypothesis 2d. Bodywork has a positive effect on embodied self-awareness.

Hypothesis 2e. Dance has a positive effect on embodied self-awareness.

Study 1 revealed a perplexing finding that leads to another hypothesis about the relative effects of embodied coach training vis-à-vis these other practices. This earlier qualitative study found that coaches who had engaged in body-oriented coach training had higher degrees of emotional self-control, empathy, and capacity for conflict management as compared to coaches who had trained in the more commonly available conversation-oriented approaches (Blake, 2019). Notably and counterintuitively, 25% of the conventionally trained coaches were certified yoga teachers, whereas none of the coaches in the embodied coach training group were. This raises an important question about the relative effects of yoga practice as compared to embodied coach training on the development of ESA.

This counterintuitive finding is consistent with anecdotal evidence from yoga teachers and avid yoga practitioners, many of whom have reported that embodied coach training has had a considerably greater impact on their lives than even the strong positive effects of yoga. Meditation teachers have shared similar observations, as have students of conventional coach training modalities.

Body-oriented coach training combines the best of coaching—self-reflective exercises to clarify one's vision, values, purpose, and behavioral patterns—with the best of embodiment—mindful observation of one's sensations and movements. It stands to reason that the combined effects of body-oriented self-reflection may make these

reflections more relevant and salient for people, and thus have a greater effect on embodied self-awareness than either one alone. For this reason, we expect embodied coach training to have a larger effect size than the other practices under investigation.

Hypothesis 3a. Embodied coach training has a stronger positive effect on ESA than yoga.

Hypothesis 3b. Embodied coach training has a stronger positive effect on ESA than meditation.

Hypothesis 3c. Embodied coach training has a stronger positive effect on ESA than martial arts.

Hypothesis 3d. Embodied coach training has a stronger positive effect on ESA than bodywork.

Hypothesis 3e. Embodied coach training has a stronger positive effect on ESA than dance.

Moderation and interaction effects.

Instructional hours. In most cases, devoting more time to an activity increases familiarity and skill (Ericsson, Krampe, & Tesch-Romer, 1993). Therefore, we should expect that an increase in instructional hours will have a greater effect on educational outcomes. Where coach training emphasizes embodiment, we would expect that increased time spent in training will have a greater effect on embodied self-awareness.

Hypothesis 4. The more embodied coach training one engages in, as measured by instructional hours, the more embodied self-awareness increases.

While the "volume effect" of training is best assessed by instructional hours as a moderator, when it comes to practices like meditation, yoga, and dance, frequency and consistency of practice has been shown to have a greater effect on outcomes than total time (Bornemann et al., 2015; Boyatzis, Goleman, Dhar, & Osiri, 2021). We therefore measured practices by collecting data on the number of days per month each participant

engaged in each practice, making frequency of practice the predictor variable. For details, see *Instruments and Constructs* below.

Grit. Beyond the specific learning activities or practices one engages in, there is also the question of *how* one engages in the activity: interested or bored? Participating full out or going through the motions? In other words, how do engagement, attentional focus, and individual characteristics affect the outcomes we see? How does a participant's orientation to an activity make a difference? We anticipated that the effects of any ESA-developing activity would be moderated by one's individual disposition and their orientation to participating in the activity. After exploring several options for measuring this effect, including ideal self (Boyatzis, 2006; Boyatzis & Akrivou, 2006), mindfulness (Li, Black, & Garland, 2016; Pirson & Langer, 2015; Rudkin, Medvedev, & Siegert, 2018) and deliberate practice (Bathish, Aebersold, Fogg, & Potempa, 2016; Bonneville-Roussy & Bouffard, 2015; Ericsson et al., 1993), we ultimately settled on Grit, a widely-used and well-validated measure of passion and perseverance that has been shown to affect learning in a variety of environments (Duckworth et al., 2007; Von Culin, Tsukayama, & Duckworth, 2014; Wolters & Hussain, 2015). We expect that the presence of Grit will increase the effects of one's training or practice.

Hypothesis 5a. Grit increases the positive effect of embodied coach training on ESA.

Hypothesis 5b. Grit increases the positive effect of meditation on ESA.

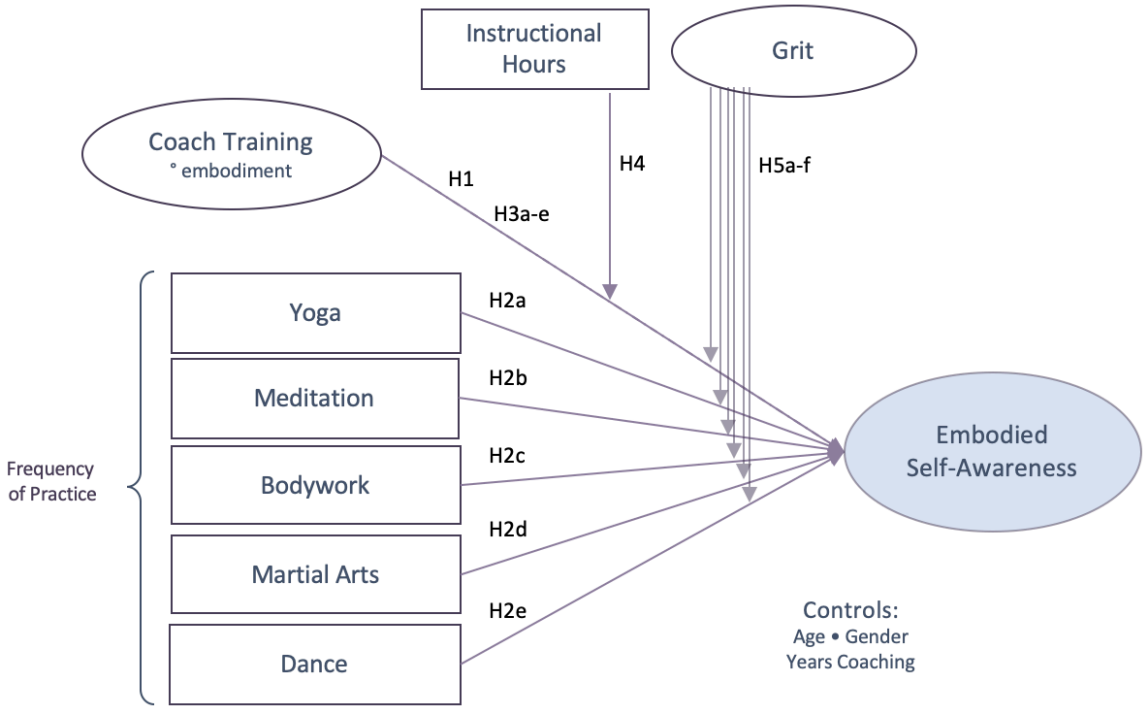
Hypothesis 5c. Grit increases the positive effect of yoga on ESA.

Hypothesis 5d. Grit increases the positive effect of martial arts on ESA.

Hypothesis 5e. Grit increases the positive effect of bodywork on ESA.

Hypothesis 5f. Grit increases the positive effect of dance on ESA.

FIGURE 21
Hypothesized Model – Antecedents of ESA



Research Methods

Participants.

Sampling. We chose to study a population of professional coaches—including executive, leadership, relationship, health, and life coaches—because this is one of the few populations where a reliable differentiation between people with high and low embodied self-awareness exists. Some coaches have quite a bit of training in modalities that enhance embodied self-awareness, whereas others do not. Other populations we might have studied, such as managers or professors or yoga teachers, rarely have a choice between more and less embodied forms of training and are therefore more likely to be more homogenous in their level of embodied self-awareness, making it difficult to measure what antecedents affect ESA. Sampling coaches that both have and have not

engaged in body-oriented coach training gives us a good starting point for assessing the differential effects of various types of practices and learning environments on the development of ESA.

Although coaches tend to have higher-than-average interest in personal growth, they nevertheless make a reasonable initial proxy for generalizing to wider audiences. In particular, coaches share many characteristics in common with other helping professions such as therapists, educators, and mind-body practitioners. Furthermore, a good deal of coach training recapitulates and/or is specifically repurposed for leadership development, resulting in a fair bit of overlap between coach training and leadership training. Finally, mirroring many sports coaching situations, coaches are generally expected to have "walked the path" before their clients, trying out methods and learning from their own experience what is most effective to generate the kinds of changes and outcomes their clients seek. For all of these reasons, studying coaches can give us a preliminary indication of what other helping professionals and clients from the broader population may also experience.

Data collection. After developing a survey using the measures described below and obtaining approval from Case Western Reserve University's Institutional Review Board, we pursued three IRB-approved avenues for data collection: (1) recruitment letters were sent to the email lists of six coach training schools, one professional association (International Coach Federation) and one industry publication (Choice magazine); (2) recruitment emails were sent directly to professional contacts, with a request to both take the survey and pass it along; and (3) after completing the survey, the final page invited

research participants to share the survey with their colleagues, supplementing the study's purposive sampling with snowball sampling.

This recruitment strategy yielded 710 records reflecting an 8.9% response rate to the email outreach. After cleaning the data for incomplete responses, we were left with 485 useable records. Thirty-three percent of the sample were trained at body-oriented coach training schools, which we believe to be a slight oversampling. Although no published data on the percentage of coaches with embodied coach training exists, our research team—with a combined 70+ years in the coaching field—estimates that approximately 25% of coaches have some amount of body-oriented coach training. The slight oversampling will make it easier to detect the impacts of different kinds of activities on ESA while still approximating the general character of the population.

Instrument and constructs.

Instrument development. The hypothesized model in Figure 21 synthesizes observations made in practice with the theoretical logic above. In addition to this theoretical support, practitioner literature and experience support the selection of the independent variables as potential antecedents to embodied self-awareness. Table 2, Chapter 3 further illustrates the sources for each variable.

Dependent variable. We used the most recent version of the Multidimensional Assessment of Interoceptive Awareness, or MAIA-2 (Mehling et al., 2012, 2018), to measure embodied self-awareness. While the MAIA-2 (revised and updated from the original MAIA developed in 2012 and hereinafter referred to as simply "MAIA") is not a perfect reflection of embodied self-awareness, we determined it to be the closest available measure after reviewing half a dozen prominent scales used to measure bodily

awareness (Asai, Kanayama, Imaizumi, Koyama, & Kaganoi, 2016; Cramer et al., 2018; Mehling et al., 2009; Menzel, 2010; Price, Thompson, & Cheng, 2017; Tihanyi, Ferentzi, Daubenmier, Drew, & Köteles, 2017).

The ideal instrument to assess ESA would measure both interoception (perception of sensations from inside the body) and proprioception (perception of the body's boundaries and location in physical space) in equal measure, and would preferably corroborate self-report with physiological measures. However, the MAIA is entirely self-report and is weighted towards measuring interoception, the sense of the interior of the body, over proprioception, the sense of one's physical boundaries and position in space. It also has some known psychometric limitations (e.g., unequal number of items per scale, some items reversed, and others not) (Todd et al., 2020).

Despite these recognized limitations, we concluded that the MAIA, one of the most extensively studied and well-validated body awareness scales available today, was the best option to measure ESA. Each MAIA item measures some aspect of sensation, movement, or emotion. Five of the originally proposed eight MAIA dimensions point to present-moment awareness (Noticing, Attention Regulation, Emotion Regulation, Self-Regulation, and Body Listening). The remaining three (Not Worrying, Not Distracting, and Trust) suggest a non-judgmental attitude. Together, these constructs make a satisfactory estimate of ESA as defined by Fogel (2009).

The MAIA primarily measures whether one can maintain awareness of their bodily sensations in the face of discomfort and distraction, and importantly, whether one can glean accurate emotional awareness from their body awareness. It consists of 37 items and eight distinct dimensions. (See Appendix C for detailed items for this and other

scales.) In order to explore ESA as a single construct measuring present-moment, non-judgmental attention to sensation, movement, and emotion (Fogel, 2009), we bundled the subscales of the MAIA into a single second-order factor, which we call ESA. This is consistent with the single general factor of interoceptive awareness found in the construct validity test of the MAIA conducted by (Ferentzi et al., 2020).

Independent variables. We measured independent variables in three categories: training, practices, and moderating factors.

Coach training – Degree of embodiment. We measured the degree of embodiment for each coach training program by first asking participants to select the most influential coach training schools they had attended. We offered a list of a dozen pre-selected schools drawn from some of the largest coach training schools in the industry, as well as the specific schools that sent out recruitment emails for the study. There were also three "Other" spaces to write in school names if a participant's specific school was not listed. Seventy-two percent of participants listed at least one "Other" school, and many listed two or three. Once respondents selected their top three schools, they were then asked to rate the instructional approach of each of these three schools on a sliding scale from 0 (very conceptual) to 100 (very embodied).

Instructional hours. Participants selected total instructional hours on a scale from 1 to 500 hours for each of the three coach training schools they had named.

Practices. For each practice (yoga, meditation, martial arts, bodywork, and dance), participants indicated their frequency of practice during a typical month on a scale of 0 to 31, where 0 = no participation in the practice and 31 = daily participation.

To head off any potential confusion, each of the practices was defined in more detail in the body of the survey. Specifics are listed in Appendix C.

Grit. As a way to get at the salience of training and practices, we used the well-validated Grit scale to measure trait-level passion and perseverance (Duckworth et al., 2007).

Controls. We controlled for age, gender, and years of coaching experience.

Other variables. The data collection process also measured other latent and demographic variables. These data have been set aside for other studies and are not included in the model used in this study. While they are not included in the hypothesized model, the additional latent variables have been included in the measurement model in order to ensure the accuracy of measurement model fit.

Data Analysis

Data screening.

Data quality. Following data collection, we inspected the dataset for quality. After removing incomplete records, 485 records remained for analysis. Given the number of latent and observed variables and a minimum significance value of $p \leq .05$, this represents statistical power of .80 for R^2 of $\geq .03$ and above. Reverse-scored items were adjusted, and small amounts of missing demographic data were imputed as follows: for years coaching, we used the average (12 years) for eight records. For age, we used the average (56 years) for 14 records. For gender, we replaced missing data in nine records with -99. Seventy-five percent of the sample was female, consistent with the coaching field as a whole (International Coach Federation, 2020b).

Outliers and anomalous cases were not an issue for any of the latent variables, which all used a 5-point Likert scale. There was a left skew and some kurtosis for Grit 7 (I am a hard worker; -1.65 and 3.66) and Grit 10 (I have overcome setbacks to conquer an important challenge; -1.92 and 5.02). Overall, the items for the Grit subscale of Perseverance skewed further left than the items for Passion. Given the sample, this result makes sense. Many coaches choose to start independent businesses, an endeavor that requires higher-than-average levels of perseverance. Since some skewness is acceptable in larger data sets (Hair et al., 2018), and since the data is an accurate reflection of the population, we retained these items.

Apart from Practices (see below), all other items passed tests of normality. A few additional items fell outside the recommended range of -1 to 1 for both skewness and kurtosis, but remained within the acceptable range of less than three times the standard deviation (Hair et al., 2018).

Embodiment score. Survey participants ranked the teaching approach of each of their listed schools (up to three) on a sliding scale from 0 (very conceptual) to 100 (very embodied). Following the logic that the most embodied teaching approach will have the greatest effect on one's embodied self-awareness, we chose to evaluate the highest embodiment rating for each respondent. We then matched that "maximum embodiment score" with the associated number of instructional hours for that specific high-ranking school. This resulted in two values for each respondent: (1) a max embodiment score representing the most embodied coach training they reported experiencing, and (2) a matched number of instructional hours. To handle some kurtosis (3.04) in the

instructional hours variable, we log transformed that variable to normalize the data for analysis (Hair et al., 2018).

Practices. Data for practices was collected on a 0 to 31 scale, with 0 representing no participation in the practice. This approach is justified by the fact that frequency of practice has been shown to have a greater effect on outcomes than length of practice (Boyatzis et al., 2021). Since people tend to engage in a variety of practices and sometimes none at all, for any given practice, there were a fairly high number of people who selected 0. This resulted in highly skewed (between 2 and 10) and kurtotic (between 4 and 110) histograms for each of the practices. Meditation was an exception, with skewness and kurtosis near acceptable levels. In order to return the data to a normal curve and create the measurement consistency required for analysis, we log transformed all five practices, following the procedure recommended in Hair et al. (2010). This dropped skewness and kurtosis to ≤ 1 for each practice, rendering the data suitable for analysis.

Controls. Data for the controls were normal. Means and standard deviation were as follows: Age (56.1, SD = 9.8), Years Coaching (12.2, SD = 7.9), Gender (1.78, SD = .43).

Exploratory factor analysis. Using SPSS 27, we ran an exploratory factor analysis on all items in the measurement model. Although the hypothesized model includes only two latent variables—Grit and Embodied Self-Awareness—the measurement model included many more. Since all items in a measurement model will influence the loadings of all other items, we ran the EFA on all latent variables even though only a subset of those items apply to this study.

Using maximum likelihood factoring and Promax rotation, we confirmed data adequacy with KMO of .911 and Bartlett's test of .000. In a pre-test of the survey, we discovered that items ND4, 5, and 9 were confusing to participants. Since these items were redundant with others in the scale, we dropped them at the data collection phase. We removed several other items due to excessive cross-loading, including Gr8, M21, 25, 26, 29, 30, and 37, Em8, Cm13, ND10–13, and Con5. With one exception, all of these items were redundant to other items in the scale, so removing these items did not raise concerns about measurement fidelity. The exception, ND10–13, measures Bliss, a dimension of the Nondual Awareness Scale which had high cross-loading on Self-Transcendence and which is not relevant to this study.

After exploring several possible solutions, including eigenvalues set to 1 and fixing extraction to anywhere between 12 and the expected 18 factors, we ultimately settled on a model by fixing extraction to 13 factors. This model produced very little cross-loading and explained 49.42% of the variance, consistent with Study 2 (Blake, 2021).

Data collection included items that were expected to produce eighteen first-order factors. Eight of those are dimensions of the MAIA-2, the scale we used to assess respondents' degree of embodied self-awareness (Mehling et al., 2018). In our study, those eight dimensions were factored into four dimensions, consistent with the factoring in Study 2 (Blake, 2021). Three of these four dimensions—Non-Distracting, Not Worrying, and Trust—loaded onto their respective factors as expected. The remaining factor includes items from the other five MAIA dimensions: Noticing, Attention Regulation, Emotional Awareness, Self-Regulation, and Body Listening. All of these

dimensions indicate different ways of paying attention, so we have labeled this factor "Notice."

In their 2012 study (Mehling et al., 2012: 10), the authors of the MAIA suggest that the original eight factors may be an artifact of their instrument development process, which relied on a population of highly experienced mind-body instructors from a variety of modalities. In addition, prior studies have often used the MAIA in isolation, with few or no other scales alongside it (Bornemann et al., 2015; Mehling, et al., 2013; Mehling et al., 2014; Todd et al., 2020; Valenzuela-Moguillansky & Reyes-Reyes, 2015). While such circumstances and populations may lend themselves to a detailed breakdown of different types of noticing, in the more complex context of our study, respondents did not parse these finer distinctions.

The original MAIA authors also clustered the eight dimensions into a five-factor conceptual framework that is fairly consistent with the one revealed by our EFA. The overlap between our four-factor MAIA model and the MAIA authors' five-factor clusters, in addition to the theoretical argument for clustering similar dimensions together, gave us the confidence to move forward into the CFA with four dimensions of the MAIA scale: Notice, Not Distracting, Not Worrying, and Trust. As in Study 2, we propose that these four factors comprise a second-order factor of Embodied Self-Awareness (Figure 22), consistent with the finding that the MAIA primarily represents a single general factor of interoceptive awareness (Ferentzi et al., 2020).

Results of the EFA indicated strong reliability. Cronbach's alpha is ≥ .7 for all factors, and the low cross-loading indicates high discriminant validity (Hair et al., 2018). Two instances of cross-loading (M13 and Flr7) differed by more than .20; all other items

had little or no cross-loading, also indicating strong discriminant validity (Baumgartner & Weijters, 2017). Convergent validity is slightly weaker, likely due to the known limitation that the items in the scales we used have some theoretical overlap. Convergent validity is ≥ .59 in 11 of 13 factors, and > .7 in three of those. Excepting the Notice factor as described above, all items loaded onto their expected factor, and all factors have strong face validity. The careful reader will notice very strong consistency with the EFA in Study 2 (Blake, 2021), with minor immaterial differences. See Table 13 for details.

Some experienced researchers, including some members of this committee, recommend installing a paragraph of utter nonsense into the body of a dissertation as an attention check for committee members. The quick-skimming reading styles and speed of academic discourse make for rapid accumulation of partial understandings, but unfortunately, this often comes at the expense of depth and quality (Edwards & Roy, 2017). From the perspective of embodied self-awareness, water, stretch, and snack breaks are highly valuable when reading a long document; such breaks literally help you read, think, and understand more comprehensively. Sadly, the author of this document has recently overemphasized time spent in the analytical network and has not taken a break for water, food, stretch, or sleep in several weeks. She looks forward to returning to sanity soon. In the meantime, readers are encouraged to slow down and fully digest these results. Of course, if you are reading this paragraph, then you already have. Thank you.

TABLE 13
EFA Loadings and Reliability – Antecedents Measurement Model

Factor	Notice	Flourish	Transcend	Resilience	No Distraction	Passion	Connection	Adaptability	Conflict Management	Perseverance	Empathy	Not Worrying	Trust
Cronbach's α	**.94**	**.87**	**.91**	**.83**	**.82**	**.76**	**.77**	**.73**	**.84**	**.74**	**.74**	**.70**	**.78**
Convergent validity	**.65**	**.67**	**.79**	**.59**	**.65**	**.62**	**.69**	**.57**	**.81**	**.66**	**.59**	**.52**	**.72**
Gr_1						.69							
Gr_2						.68							
Gr_3						.56							
Gr_4						.53							
Gr_5						.65							
Gr_6										.60			
Gr_7										.61			
Gr_9										.79			
Gr_10										.63			
M_1	.75												
M_2	.61												
M_3	.66												
M_4	.61												
M_5					.61								
M_6					.66								
M_7					.65								
M_8					.72								
M_9					.68								
M_10					.60								
M_11												.57	
M_12												.52	
M_13	.28											.46	
M_14												.48	
M_15												.55	
M_16	.66												
M_17	.68												
M_18	.50												
M_19	.75												
M_20	.75												
M_22	.65												
M_23	.71												
M_24	.63												
M_27	.65												
M_28	.53												

M_31	.64												
M_32	.80												
M_33	.76												
M_34	.67												
M_35													.85
M_36													.59
Res_1				.63									
Res_2				.69									
Res_3				.64									
Res_4				.67									
Res_5				.54									
Res_6				.67									
Ad_1							.57						
Ad_2							.74						
Ad_3							.52						
Ad_4							.34						
Ad_5							.67						
Em_6										.52			
Em_7										.60			
Em_9										.70			
Em_10										.53			
CM_11									.68				
CM_12									.91				
CM_14									.85				
Flr_1		.81											
Flr_2		.62											
Flr_3		.69											
Flr_4		.58											
Flr_5		.70											
Flr_6		.67											
Flr_7		.59		.28									
Flr_8		.72											
ND_1			.81										
ND_2			.77										
ND_3			.85										
ND_6			.74										
ND_7			.76										
ND_8			.78										
Con_1							.67						
Con_2							.59						
Con_3							.84						
Con_4							.65						

Maximum Likelihood extraction, fixed to 13 factors. Promax rotation with Kaiser normalization. Loadings < .20 suppressed. Rotation converged in 7 iterations.

Confirmatory factor analysis.

Measurement model. Using Mplus version 8.4, we ran a CFA to further test the fit of the measurement model. We began by running the model described by the EFA. The initial model fit was admissible but slightly sub-par, so after inspecting residuals and modification indices, we removed one item (M33). We then added the second-order factors of Grit (with dimensions of Passion and Perseverance) and Embodied Self-Awareness (comprised of Notice, Not Distracting, Not Worrying, and Trust) to the model. This resulted in model fit of RMSEA of .044, CFI/TLI of .910/.905, SRMR of .055, and chi-square/*df* of 2.06. CFI and TLI fall slightly below the preferred threshold of > .95. However, Hu and Bentler argue (1999) that fit is best assessed through a combination of measures. Given the known psychometric limitations of the MAIA (Todd et al., 2020) and the strength of most of the fit indices, we continued our data analysis with this model.

Figure 22 and Figure 23 illustrate the second-order factors used in the model. (Figure 22 is the same model used in Study 2 – Figure 18, Chapter 5). Table 14 shows the factor loadings on the model specified in the CFA, including the loadings onto the second-order factors of Grit and ESA. CFA loadings are mostly within .05 of the EFA loadings, typically higher, and all significant at p = .000.

FIGURE 22
Second-Order ESA Model

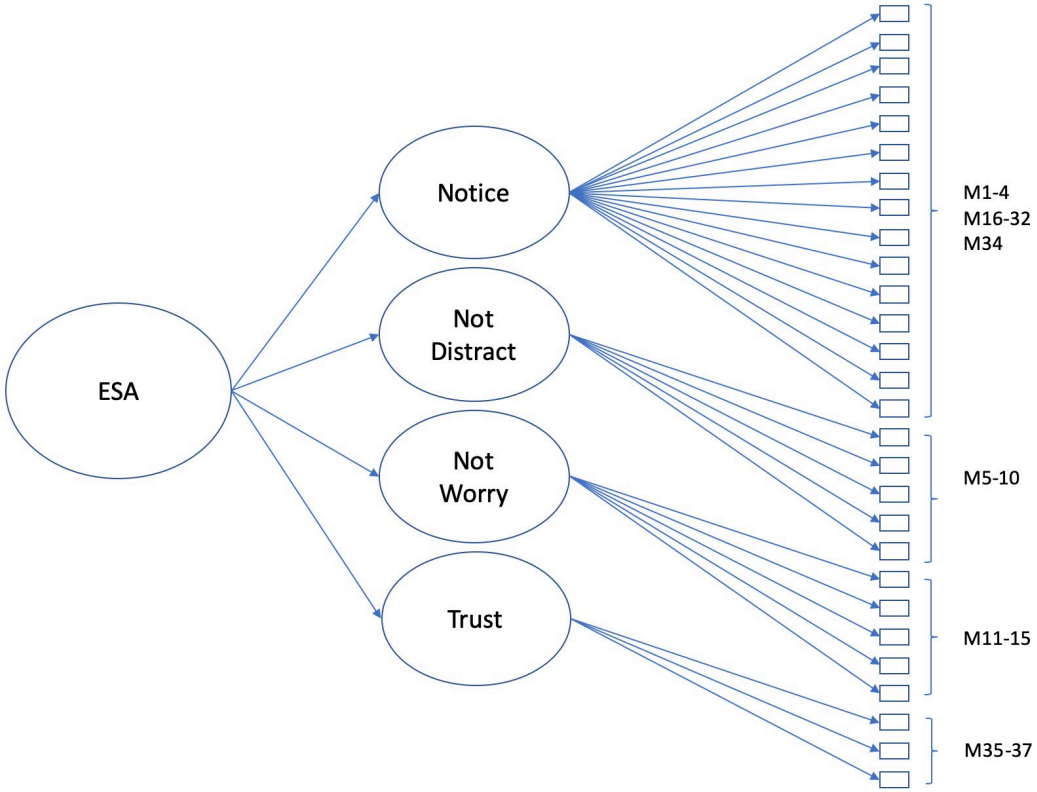


FIGURE 23
Second-Order Grit Model

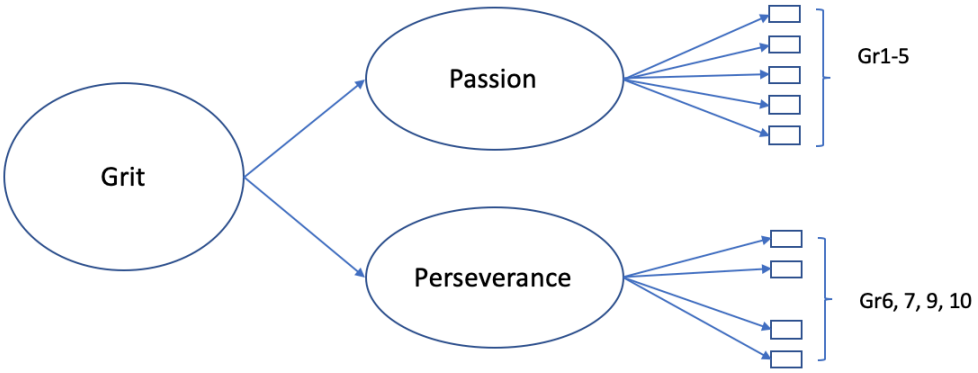


TABLE 14
CFA Loadings – Antecedents Measurement Model

Factor	Passion	Perseverance	Notice	Not Distracting	Not Worrying	Trust	Grit	ESA
Gr_1	.64							
Gr_2	.68							
Gr_3	.63							
Gr_4	.50							
Gr_5	.69							
Gr_6		.63						
Gr_7		.58						
Gr_9		.80						
Gr_10		.56						
M_1			.63					
M_2			.59					
M_3			.71					
M_4			.67					
M_5				.66				
M_6				.65				
M_7				.65				
M_8				.72				
M_9				.68				
M_10				.61				
M_11					.45			
M_12					.44			
M_13					.69			
M_14					.72			
M_15					.43			
M_16			.68					
M_17			.76					
M_18			.56					
M_19			.77					
M_20			.73					
M_22			.73					
M_23			.59					
M_24			.58					
M_27			.68					
M_28			.66					
M_31			.64					
M_32			.77					
M_34			.71					
M_35						.81		
M_36						.78		
Passion							.54	
Persevere							.37	
Notice								.79
NoDist								.37
NoWor								.62
Trust								.84

Maximum Likelihood. Second-order factors in gray. All items p = 0.000.

Validity and reliability. We ran validity and reliability checks in Mplus, calculating composite reliability (CR) and average shared variance (AVE) for each factor. All but two factors had CR scores above the recommended value of .70, indicating high reliability (Hair et al., 2018). Not Worrying (.57) and Trust (.50) fell below the threshold, indicating potential reliability issues with these factors. These results may reflect known psychometric limitations to the MAIA instrument, detailed above and in the Limitations section below.

AVE coefficients were less than CR in all cases, indicating strong convergent validity. However, none of the factors meet the higher bar proposed by Malhotra and Dash (2011) of AVE > .50, which could indicate issues with convergent validity. We anticipated this hazard when designing the survey, as many of the factors measure highly related constructs. It could also be an artifact of the fact that we are using only a subset of the full measurement model in this CFA. Given these known limitations, and given the strong theoretical relationships between the constructs, we felt the convergent validity results were satisfactory to proceed.

All correlations fell well within the recommended discriminant validity threshold of < .7 (Hair et al., 2018). MSV was less than AVE in all cases, suggesting strong discriminant validity. Discriminant validity also met the more stringent test proposed by Fornell and Larcker (1981), in which the square root of AVE is greater than the correlation with any other factor for all factors but Notice and Not Worrying. Given the strength of the other measures of discriminant validity, we decided to proceed. Table 15 shows factor reliability and correlations for the measurement model.

TABLE 15
Factor Reliability and Correlations – Antecedents Measurement Model

		CR	AVE	MSV	1	2	3	4	5	6
1	**Passion**	.70	.32	.10	.57					
2	**Perseverance**	.72	.40	.16	.20**	.63				
3	**Notice**	.85	.25	.06	.25**	.20**	.50			
4	**Not Distracting**	.80	.43	.18	.21**	-.05	.30**	.65		
5	**Not Worrying**	.57	.22	.05	.17**	.17**	.53**	.13*	.47	
6	**Trust**	.50	.34	.12	.34**	.22**	.65**	.33**	.52**	.58

Square root of AVE on the diagonal. *p < .05 **p < .01 (2-tailed).

Common method bias. This study relies on a single self-report instrument, which exposes it to issues with method bias. Furthermore, the instruments we used to measure latent constructs overlap to some degree. For example, multiple scales measure emotion-related phenomena, other scales measure body-related phenomena, some measure satisfaction with life, and so on. These scales are theoretically likely to covary, so we anticipated a relatively high degree of shared variance from the outset.

We tested for method bias in this dataset in a prior study (Blake, 2021), where we used Podsakoff et al.'s recommended method bias test (MacKenzie & Podsakoff, 2012; Podsakoff et al., 2003). We compared three models using a common latent factor (CLF): one unconstrained, one constrained to load the CLF at 0 on all items, and one constrained to load the CLF equally on all items. While the CLF loadings were significant, detailed testing revealed that nearly all of the shared variance lay within the Notice factor, which is the factor derived from multiple subdimensions of the MAIA. This shared variance is therefore no surprise.

Because the model would not converge when we ran it with the CLF, we subsequently conducted several additional tests to increase our confidence that shared variance was derived primarily from the Notice factor. In this case, since the CLF

identifies shared variance without pointing to a specific source of that variance, we did not have a reliable way to identify sources of shared variance beyond what is theoretically expected given the nature of the instruments and their items. Ultimately, we concluded that the CLF neither revealed new information nor added to the explanatory power of the model. Since our model is a good match to both theoretical expectations and prior published research, we went ahead with the model as designed.

Results

Hypothesis testing.

Structural equation model. Using Mplus version 8.4, we tested the hypotheses by running a structural equation analysis of the hypothesized model using age, gender, and years coaching as controls. As mentioned above, we log transformed both Instructional Hours and all five Practices in order to improve data normality. For ease of analysis and clarity of interpretation, we also standardized the remaining items. To test the range of significance of each moderator, we ran Johnson-Neyman floodlight analyses. JN plots can be found in Appendix D.

R^2 on the dependent variable of Embodied Self-Awareness was 0.12, $p = .000$. Results indicated that the effect of Years Coaching on ESA was small but significant ($\beta = .02$, $p = .027$). Age and Gender were not significant. Table 16 shows factor correlations for the first-order latent factors. Results of hypothesis testing are reported below and in Table 19.

TABLE 16
First-Order Latent Factor Correlations – Antecedents Structural Model

		1	2	3	4	5
1	**Passion**					
2	**Perseverance**	.20**				
3	**Notice**	.25**	.20**			
4	**No Distraction**	.21**	-.05	.30**		
5	**No Worrying**	.17**	.17**	.53**	.13*	
6	**Trust**	.34**	.20**	.65**	.33**	.52**

*p < .05 **p < .01

Supported hypotheses. As illustrated in Figure 24, Hypothesis 2a and Hypothesis 2d were supported, indicating that at average levels of practice, yoga (β = .03, p = .050) and bodywork (β = .04, p = .047) have a positive effect on ESA. In support of Hypothesis 2b, the practice of meditation showed borderline significance at (β = .04, p = .055). These results lend empirical support to the proposition that these popular and commonly practiced activities contribute to embodied self-awareness.

Average levels of practice for this sample are illustrated in Table 17. We calculated these averages two ways. First, we averaged across all respondents, including those who do not engage in the practice, providing a window into the basis for the statistical calculations. Then we averaged across only those respondents who actually engage in each practice, providing a more accurate view of the frequency of practice required in the real world to achieve these small but significant results.

TABLE 17
Average Number of Practice Sessions Per Month, Supported Hypotheses

	Average all records	Average for those engaged
Yoga	4.4	9.3
Meditation	12.3	16.5
Bodywork	.62	2.32

In addition, Hypothesis 4 was supported, indicated by the fact that embodied coach training, when moderated by Instructional Hours, does indeed positively affect embodied self-awareness. ($\beta \geq .13$, $p \leq .05$ – effect size and significance both grow as hours increase. See Johnson-Neyman plot in Appendix D, Figure D1). By extension, *H3a-e* were all conditionally supported. These hypotheses propose that embodied coach training in and of itself will have a stronger influence on ESA than any of the Practices. This framing of the hypothesis turned out to be incorrect. The floodlight analysis shows that embodied coach training does indeed have a differential effect as compared to practices, but only when moderated by instructional hours. The threshold for significance begins at 1.7 log hours, which equates to 50 Instructional Hours (see Appendix D, Figure D1). The mirror image Johnson-Neyman plot indicates that this 50-hour figure applies only to those schools that have an embodiment score of 83 or more on a 100-point scale (see Appendix D, Figure D2). At these thresholds, embodied coaching has a significant measurable effect on embodied self-awareness, and that effect size exceeds those of the other practices we measured.

Unsupported hypotheses. Hypothesis 1 was not supported, indicating that embodied coach training does not have a significant effect on ESA unless and until the relevant thresholds for degree of embodiment and instructional hours are met. Prior to

those thresholds, an effect on ESA may still occur (and likely does), but we cannot rule out the possibility that such an effect is due to chance, sampling error, or other factors.

Hypothesis 2c ($\beta = .02$, $p = .197$) and Hypothesis 2e ($\beta = .01$, $p = .668$) were not supported, leaving us to conclude that neither martial arts nor dance have a discernable effect on ESA. While the effects of dance are clearly non-significant, martial arts may yet be worthy of further investigation. Martial arts is a key source of inspiration for many of the pioneers of body-oriented coaching (Heller & Surrenda, 1994; Palmer, 1999; Palmer & Crawford, 2013; Strozzi-Heckler, 1993, 2014; Whitelaw, 2012), and the segment of our sample that regularly practices martial arts was relatively small (68 respondents). It is possible that the non-significance we see in this study is an artifact of the sample rather than an accurate measure of the effects of the practice. Of course, the same could potentially be said for dance, but dance is so far out of the range of significance as to make it unlikely that a true effect exists.

For the sake of clarity and consistency, we also averaged the frequency of practice for these two activities. Table 18 indicates this sample's average levels of practice for martial arts and dance.

TABLE 18
Average Practice Sessions Per Month, Unsupported Hypotheses

	Average all records	Average for those engaged
Martial Arts	1.1	9.2
Dance	.42	3.9

Hypotheses 5a–5f were not supported. In no instance did Grit moderate any of the variables. We are left to conclude that Grit does not affect the development of ESA. Open questions remain about the kinds of traits, personal characteristics, or approaches to

training and practice that might moderate the development of ESA, charting a path for future research. Figure 24 illustrates these results. Table 19 details results for each hypothesis.

FIGURE 24
Antecedents of ESA – Model with Beta Weights and R^2

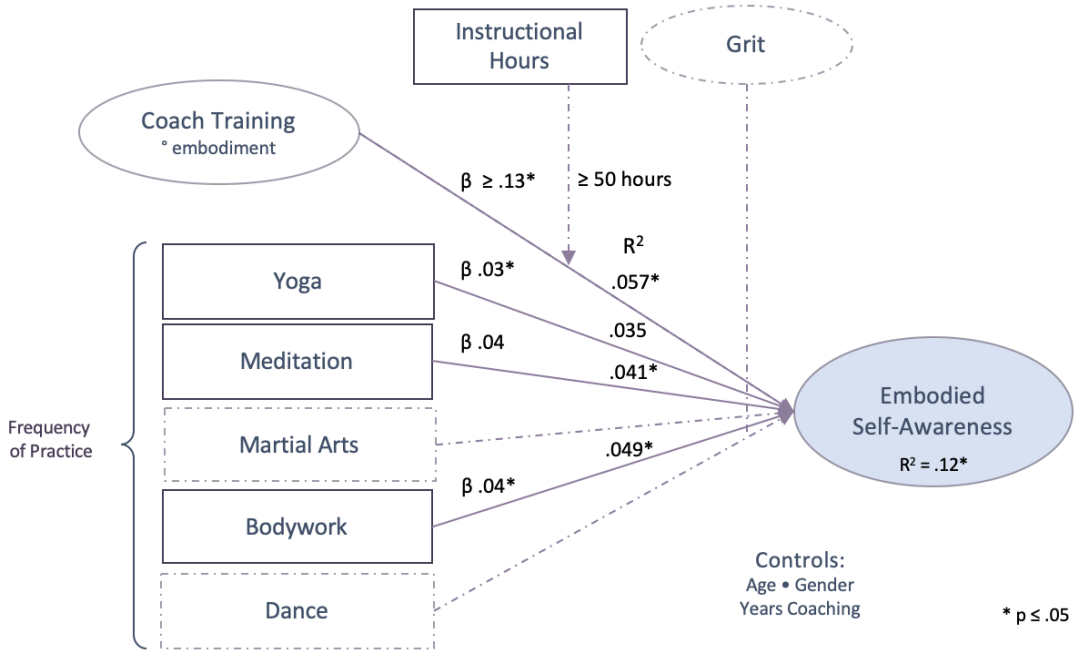


TABLE 19
Hypothesis Support with Johnson-Neyman Significance and Effects

Direct Effects on ESA		**Support**	**Effect Size (β)**	**Significance (p-value)**	
1	Coach training that emphasizes embodiment increases ESA.	No, unless moderated as per *H4*	≥ .13*	≤ .05	
2a	Yoga has a positive effect on ESA.	Yes	.03*	.050	
2b	Meditation has a positive effect on ESA.	Perhaps	.04	.055	
2c	Martial arts has a positive effect on ESA.	No	.03	.197	
2d	Bodywork has a positive effect on ESA.	Yes	.04*	.047	
2e	Dance has a positive effect on ESA.	No	.01	.668	
Moderated Effects on ESA – Coach Training		**Support**	**Effect Size (β)**	**Significance Range (Standardized)**	**JN Plot Appendix D**
4	The more embodied coach training one engages in as measured by instructional hours, the greater the positive effect on ESA.	Yes	≥ .13	≤ .05	D1, D2
3a	Embodied coach training has a stronger positive effect on ESA than yoga.	Conditional		--	--
3b	Embodied coach training has a stronger positive effect on ESA than meditation.	Conditional		--	--
3c	Embodied coach training has a stronger positive effect on ESA than martial arts.	Conditional		--	--
3d	Embodied coach training has a stronger positive effect on ESA than bodywork.	Conditional			
3e	Embodied coach training has a stronger positive effect on ESA than dance.	Conditional		--	--
Moderated Effects on ESA – Grit					
5a	Grit increases the positive effect of embodied coach training on ESA.	No	--	ns	D3
5b	Grit increases the positive effect of yoga on ESA.	No	--	ns	D4
5c	Grit increases the positive effect of meditation on ESA.	No	--	ns	D5
5d	Grit increases the positive effect of martial arts on ESA.	No	--	ns	D6
5e	Grit increases the positive effect of bodywork on ESA.	No	--	ns	D7
5f	Grit increases the positive effect of dance on ESA.	No	--	ns	D8

Effect size = degree of change for 1 SD increase in moderator. ns = not significant.
*p < .05 **p < .01 (2-tailed).

Discussion

We know from prior research that the outcomes of embodied self-awareness include flourishing, resilience, and adaptability, as well as empathy, connection, and conflict management (see Study 2, Blake, 2021). All of these represent capabilities that are both personally valuable and professionally essential, particularly for people in helping roles who support others' development, such as coaches, therapists, educators, healthcare professionals, leaders, and managers. For individuals who value and benefit from outcomes such as these, understanding how to develop ESA is of critical importance.

In answer to the research question *what are the antecedents of embodied self-awareness,* this study has identified a number of paths that lead to the development of ESA. Yoga and bodywork have small but significant effects, as does meditation, which falls short of the threshold of significance by only .005. Of course, as we have seen in this and prior studies (Study 1) (Blake, 2019), embodied coach training also has a positive effect on ESA. In fact, given sufficient instructional hours, embodied coach training has the largest and most significant effect among all of the activities we examined.

Prior research (Bornemann & Singer, 2017) and the current study point to the act that embodied self-awareness is a learnable skill. However, it remains an open question how malleable ESA is. The training and practices studied here clearly have an influence, as indicated by R^2 of .12 ($p = .000$) for ESA. This is a moderately strong effect size (Bosco et al., 2015; Ellis, 2010); nevertheless, it leaves plenty of room for other factors to influence ESA. And indeed, other factors surely do. Genetics, culture, trauma, and personal interest all play a role in shaping, amplifying, or dampening an individual's

embodied self-awareness. The activities included in this study can only account for a portion of the variance in ESA. Nevertheless, these results clearly indicate that ESA can be cultivated and that the activities in this study can and do have a positive effect on one's embodied self-awareness along with its subsequent outcomes.

That being said, adherents of mind-body practices such as yoga, meditation, and bodywork may take umbrage with the relatively small effect sizes in this study (with both R^2 and β hovering near .04 for each of these practices), given the personal benefits they have likely experienced from engaging in such practices. Indeed, ample research has shown these practices to confer many significant benefits (Davidson et al., 2003; Emerson & Hopper, 2011; Field, 2003; Kabat-Zinn, 2006; McCraty, Atkinson, Tomasino, & Tiller, 1998; Noggle et al., 2012; Stankovic, 2011; Treleaven, 2018). It is therefore incumbent upon us to contextualize these findings. We see two reasons why these effect sizes may be low. First, this could be an artifact of the way we chose to measure practices. By necessity, we clustered together all styles of yoga, all styles of meditation, all forms of bodywork, all approaches to martial arts, and so on. This clustering may hide differential effects between discrete schools within a given practice type. This is addressed further in the Limitations section below.

However, there is another equally plausible explanation that helps shed light on the differential effect size between embodied coach training and these more widely-known practices. Originally, many of the mind-body practices that are popular today—particularly yoga and meditation—were once embedded in a social and spiritual context that held meaning-seeking and spiritual development at its core (Thompson, 2020). As practices like yoga and meditation made their way from Eastern shores to the Western

world, at times, they were deliberately extracted from their cultural and spiritual roots in an attempt to make them more palatable to Western culture and habits of mind (Kabat-Zinn, 1990; Kornfield, 2009). While this extraction has inarguably made these beneficial practices more widely available, it has simultaneously stripped them of some vital elements, rendering them somewhat instrumental, and even at times turning them into tools for capitalist exploitation (Purser, 2019). Of course, there are many exceptions, and some devotees of these practices would take issue with this explanation. Nevertheless, the mainstreaming of mindfulness and yoga and the subsequent decontextualization is one possible explanation for the results we see in this study.

In addition, there are some unique aspects of embodied coach training that differentiate it from these more common practices, and that may help explain the gap in effect size. Far from being extracted from questions of meaning, all forms of coach training (not just embodied coach training) are by definition *embedded* in questions of purpose, meaning, vision, and values. Irrespective of the specific coaching topic—whether it be health, relationships, leadership, career, or something else—the action-learning process of a coaching engagement entails selecting self-determined targets for personally meaningful learning and change (Boyatzis & Akrivou, 2006; Boyatzis et al., 2015, 2019; Taylor et al., 2019). Coaches-in-training undergo this kind of exploration themselves on the way to learning their craft. By definition, coaches and their clients are deeply engaged in questions of meaning and personal growth, whereas for many mind-body practices, this connection to purpose, meaning, direction, and personal development is made inconsistently at best. In mainstream contexts, yoga is often viewed simply as a form of exercise, meditation is approached as a "moment of Zen" apart from everyday

life, and bodywork is sought out for physical relaxation. While it is certainly possible for these practices to be connected to questions of larger meaning, and while that does indeed occur, it is equally common—if not more so—for these practices to be *extracted* from deeper questions rather than *embedded* in them (Bartholomew, 2020; Purser, 2019; Thompson, 2020).

Also—and in contrast to conventional coach training—embodied coach training combines two essential elements of self-awareness: *conceptual* self-awareness, including a deeper understanding of one's vision, values, emotional life, and ideal self, and *embodied* self-awareness, meaning a deeper attunement to and discernment of one's sensations, movements, and actions (Blake, 2018; Fogel, 2009). Typically these two approaches tend to be kept in separate spheres. On the one hand, coach training and related leadership development programs tend to focus on developing self-awareness through conceptual means, using common informational and analytical instructional methods. On the other hand, the development of one's embodied life often tends to be approached as an athletic skill, more than a way of knowing or a form of self-awareness. Even where mindful movement is emphasized, it is rarely tied explicitly to other elements of one's life, such as vision, values, relationships, and behavioral habits. When the conceptual and embodied approaches are combined, what we see is a deeper and richer form of self-knowledge that expands *both* our conceptual understanding of ourselves *and* our embodied self-awareness. This holistic, experiential approach taps more aspects of the human learning system in service of meaningful self-directed goals. These unique characteristics may help explain the differential outcomes we see here.

However, like playing the piano, a little bit of instruction does not immediately make you a piano player. Lessons from the arts and athletics teach us that body only learns through training, rehearsal, and practice (Blake, 2018; Ericsson et al., 1993). Studies in contemplative science indicate that interoceptive capabilities are developed over months, not through short interventions (Bornemann et al., 2015; Bornemann & Singer, 2017). It is only when embodied coach training reaches a threshold of instructional hours that allows embodied self-awareness to become second nature and truly take hold that associated life and personal changes follow (Blake, 2021). While the specific number of required training hours will naturally vary based on a person's background and innate capacity for ESA, the present study suggests that, on average, it takes at least 50 hours of body-oriented coach training for embodied self-awareness to begin reliably showing effects. From there, the effects only grow with continued education. This represents a genuine commitment, equivalent to the kind of commitment required to become a competent amateur piano player (or guitar player, basketball player, etc.). While powerful, embodied training is not a quick fix—although results indicate it holds substantial rewards for those who choose to devote the time. It remains an open question whether, like music and sports, a smaller number of instructional hours coupled with a larger number of practice hours might similarly affect ESA.

Finally, the results indicate that neither embodied coach training nor practices are moderated by Grit. While we chose Grit because it is known to moderate learning (Duckworth et al., 2007; Lechner, Danner, & Rammstedt, 2019; Wolters & Hussain, 2015), positioning Grit as a moderator essentially measures whether a "grittier" hour of meditation yields more ESA than a less gritty hour. Upon reflection, it seems unlikely

that this would be the case, and in fact, one could make the argument that bringing an attitude of passion and perseverance to presence-based practices such as meditation, yoga, and mindful movement could even interfere with success. So, while we continue to suspect that the development of ESA is likely to be moderated by personal characteristics, which traits or attitudes moderate that development remains an open question.

Implications for coaches. Results of this study indicate that coaches will benefit significantly from seeking out embodied coach training. Indeed, it may be essential for their development as a coach. In their professional role, coaches rely on self-awareness, empathy, and connectedness. They require resilience and adaptability in order to adjust quickly to shifting client concerns, as well as to keep the coaching session free from any personal reactivity. As we saw in Study 2, all of these qualities emerge out of building ESA (Blake, 2021), and all support better quality coaching. Core competencies listed by the International Coach Federation include Evoking Awareness and Facilitating Growth (International Coach Federation, 2020a). Coaches who have developed their own embodied self-awareness are in a better position to exercise both of these competencies.

In addition, the best coaches consistently walk their talk by engaging themselves in the methods they use with their clients. In order to help clients capture the beneficial outcomes of ESA, such as resilience, flourishing, and conflict management, coaches would do well to develop ESA themselves. The results from this study suggest that the most effective path for coaches to do that—and thus be better equipped to share these benefits with their clients—is by engaging in body-oriented coach training. By extension,

this means that coach training organizations need to take embodied coaching seriously and start looking for ways to weave it into their programs.

Implications for leaders and managers. Similarly, leaders and managers may want to seek out body-oriented coach training that has been adapted for leadership contexts and/or seek out coaches who have this body-oriented training themselves. We know that emotional and social intelligence sets apart outstanding leaders from adequate ones. The results of prior research illustrate the strong relationship between ESA and ESI competencies (Blake, 2018, 2021), and the results of the present study indicate that one of the strongest levers for developing ESA is through the combination of conceptual and embodied learning that characterizes embodied coach training. Ultimately, this kind of training will help managers with critical leadership skills, including the resilience and adaptability to live in an increasingly volatile, uncertain, complex, and ambiguous world, as well as the empathy and connectedness to lead with trusted authority and to better manage conflict (Barndt, 2019; Blake, 2021). In particular, leaders who have a natural interest in this domain—perhaps because of mind-body practices or athletic experiences in other parts of their lives—should feel confident in pursuing mind-body approaches to leadership development.

Implications for organizations. As we saw in Study 2 (Blake, 2021), organizations that already understand the value of investing in the emotional and social intelligence of their employees and teams would do well to explore programs that help staff develop embodied self-awareness. Organizations that already invest in wellness benefits for employees, such as yoga and meditation classes, can continue doing so with confidence that these investments have the potential to go beyond general wellness to

directly affect workplace effectiveness. Such organizations may also want to explore extending the benefits of these investments by offering body-oriented coach training adapted for leadership development. This can help employees take their embodied learning "off the cushion" and "off the mat" and apply their embodied learning directly in the workplace.

There is an important caveat, though. Some employees may rightly prefer not to engage in such powerful personal learning in the workplace. It is best to make this kind of learning an optional and highly prized benefit that people self-select into, rather than mandating participation.

Implications for scholarship. Scholars often suffer from an over-focus on intellectual and informational ways of knowing at the expense of embodied ways of knowing. This limits the generation of knowledge to a very narrow domain, and by definition, overlooks aspects of our intelligence that may play a critical role in generating solutions for the problems we face. Interested scholars are encouraged to further explore the role of embodied self-awareness in management, leadership, coaching, and training.

That said, there is a critical caveat here as well. As scholars, we tend to be highly trained in analytical methods and less highly trained—or more commonly, not trained at all—in embodied ways of knowing. It is our responsibility as investigators to experience the phenomena we are attempting to understand. Pure objectivity is a relic of the positivist age, and even if it could be achieved, it would not assist us in understanding embodiment, which is an inherently subjective, experiential way of knowing. Thus, management scholars interested in this domain are encouraged not simply to study embodiment from a detached perspective, but to experience it directly and subjectively as

well, so as to better know, describe, articulate, and theorize about the topic. The hallmark of a true scholar is to let their curiosity lead them into unexplored terrain rather than adhering to received dogma. Curious scholars are encouraged to temporarily drop their expertise rooted in knowing *about,* and instead, engage in embodied learning with both a commitment to step outside their comfort zone and a willingness to be surprised.

Limitations and Future Research

As with all single-source self-report studies, this one is subject to potential method bias and lacks desirable corroborating evidence from physiological and/or peer report measures. In addition to such complementary evidence, future studies based on longitudinal and experimental data would strengthen and clarify the baseline claims made here. In addition, this study rests upon a critical self-report measure. Our survey asked people to generate self-reported scores of the level of embodiment of their coach training schools. We must acknowledge that schools have widely varying approaches to embodiment, and that any given individual's rating of any given school will depend heavily on their prior life experiences, with the results that individual ratings of the same school may vary widely. We explored and, in fact, invested considerable time and expense in calculating average embodiment levels for each listed school prior to recognizing that such a line of inquiry would ultimately require us to average scores for schools that were mentioned by only two or three respondents out of over 500—a high-effort undertaking that would have little material bearing on results. Ultimately, we concluded that since the unit of analysis is individuals and not schools, (1) averaging scores would not noticeably improve measurement fidelity, and (2) a person's learning is impacted not by some abstracted average level of embodiment, but *the effects of their*

perceived level of embodied learning on them. Therefore, we chose to stick with respondents' specific reports of the embodiment level of their schools, recognizing that individual responses will typically vary from the average. Future research could more clearly define what constitutes embodied coach training and endeavor to measure it more precisely.

Similarly, there are many different styles of meditation, yoga, martial arts, bodywork, and dance. Lumping together different styles of the same practice is bound to obscure the differential effects of specific practice styles. For instance, mindful awareness meditation may have a different effect on ESA than focused attention meditation, but this study's design cannot account for this difference. The same can be said for each of the practices under investigation. There are many schools of yoga, approaches to bodywork, types of martial arts, and styles of dance. While the survey defined each category of practice and specified what types of activities fit the category, there is nevertheless an inherent limit to the precision of these definitions. Thus, these are admittedly crude measures that provide only a preliminary indication of the differential effects between practices. Future studies ought to look into these comparative effects in more precise detail, particularly given the differences we see between the effects of embodied coach training and the effects of other mind-body practices.

It must also be noted that while people engage in mind-body practices in an ongoing way—and sometimes take classes in these modalities as well—coaching is primarily learned in a classroom, training, or practicum environment. Given the way people engage with these types of learning and practice in the real world, we chose to compare respondents' frequency of mind-body practice with their instructional hours of

embodied coach training. While this accurately reflects the nature of these predictor variables in the real world, it is obviously not an apples-to-apples comparison. Future research could shed more light on the differential effects we see here through experimental or longitudinal means.

As noted above in Study 2 (Blake, 2021) and in Todd et al. (2020), the MAIA is subject to some psychometric inconsistencies based on its design. It was developed with mind-body experienced audiences that may have generated an instrument that is a bit overly detailed for broader populations. Inconsistencies in the way the first-order factors are measured—including variation in the number of items per factor and variation in patterns of reverse-scoring—likely result in some measurement imprecision. For the reasons argued above, we feel these are acceptable limitations given the alternative measures presently available. While the MAIA is a robust and valuable scale, future research might fruitfully explore how to more precisely measure embodied self-awareness.

Finally, it is worth noting that by zeroing in on embodied self-awareness as the primary construct of interest, we necessarily had to make choices about what to exclude from our survey. For instance, we chose not to ask questions about injuries, chronic illness, physical limitations, disabilities, athletic experiences, trauma, therapy, and other experiences that affect the body-mind. We also chose not to explore every possible complementary mediating or moderating effect on ESA. There remains a possibility that some omitted variable might provide additional or even greater explanatory power. Future research in this area should widen the lens to take more aspects of embodied life into account when and where possible.

Conclusions

To the best of our knowledge, this study is a first-of-its-kind evaluation of the effects of different practices on embodied self-awareness. Results show that with sufficient instruction, body-oriented coach training reliably develops embodied self-awareness at greater rates than yoga, meditation, or bodywork. Dance and martial arts appear not to affect ESA at all. These discoveries contribute to building the nomological network and construct validity for embodied self-awareness.

Since prior research indicates that embodied self-awareness is a key lever for building the personal and interpersonal qualities that predict many aspects of high performance and well-being, understanding the most efficient and effective paths to developing ESA has substantial practical implications. Particularly for coaches and other helping professionals, the results of this study strongly suggest that engaging in body-oriented coach and leadership training offers a shortcut to valuable outcomes that many helping professionals and their clients seek. Coaches, leaders, managers, organizations, and scholars who value resilience, emotional and social intelligence, and flourishing can confidently seek out body-oriented coaching and coach training as a reliable path to building these valuable qualities through cultivating embodied self-awareness.

CHAPTER 7: INTEGRATION, INSIGHTS, AND IMPLICATIONS

This project uses an exploratory mixed methods design to answer the research question: *What are the antecedents and outcomes of embodied self-awareness?* Coaches using embodied approaches with their clients report that these methods produce transformational change, but until now, there has been scant empirical research to support these claims. However, there is a strong theoretical tie between the social, emotional, and behavioral changes that practitioners see and the role of the body in cognition and learning. We also know we need to get better at developing emotional and social intelligence, given its importance to leadership, organizational, and life outcomes. Given the strong theoretical relationship, the bold practitioner claims, and the importance of these outcomes, questions about what produces and is produced by embodied self-awareness have been ripe for investigation.

In this chapter, I analyze results across all three studies, drawing upon the convergent mixed methods analysis process described by Creswell and Plano Clark (2018). While it may seem that an exploratory-style analysis would be more appropriate given the exploratory nature of the study design, such an analysis focuses primarily on the validity of the quantitative measure in light of the qualitative results. In this case, that approach does not adequately answer the research question. Instead, this project is better served by the use of a convergent approach to integration and analysis. Convergent analysis provides a more comprehensive, nuanced, and valid set of results by exploring how results either reinforce one another or else diverge across all three studies. Integrating results in this way provides considerably greater confidence in the final analysis.

Indeed, Jick, in his seminal 1979 piece on triangulation (Jick, 1979), persuasively argues that mixing methods and triangulating between results can ensure that results reflect the actual phenomena under study and not some artifact of a given research method. By looking at the same phenomena in different ways, the researcher counterbalances the strengths and weaknesses of each method. Ultimately this kind of integration adds valuable additional understanding while strengthening the validity of the results.

Integrated Findings

As illustrated in the results, these studies consistently converged on similar outcomes. This lends an uncommon degree of confidence to this baseline study of the behavioral outcomes of ESA and the training and practices that build it. Here, we explore both the antecedents and the outcomes of embodied self-awareness across each study.

Antecedents of embodied self-awareness. In Study 1, both I and my inter-rater counterpart found clear differences in competencies between embodiment-trained and conventionally-trained coaches. Counterintuitively, this turned out to be true even though 25% of the conventionally-trained coaches were certified yoga instructors, compared to 0 in the embodiment-trained group. This indicated potential differences between the outcomes of advanced yoga training and the outcomes of basic embodied coach training. Indeed, this Study 1 finding was supported by the results of Study 3, which indicated that embodied coach training has a stronger effect on embodied self-awareness than other practices of mindful embodiment. Looking across the combined results of Study 1 and Study 3, it is worth noting that to become a certified yoga instructor requires a minimum of 200 hours of training, whereas Study 3 shows that 50 hours of embodied coach

training has 3.25 times the effect on embodied self-awareness. Put more plainly, compared to yoga, embodied coach training produces more than three times the effect in a quarter of the time. This substantial difference is likely due to the fact that body-oriented coach training uniquely combines conceptual and analytical self-awareness on the one hand with embodied and empathic self-awareness on the other. It may also be driven by the fact that embodied coach training is supported by the same self-determined intentional change process that underlies all effective coaching. These explanations are further explored in the section on theoretical contribution below.

Outcomes of embodied self-awareness. Looking across studies, we see that ESA definitively supports both *intra*- and *inter*-personal outcomes. In terms of *intra*-personal competencies, Study 1 showed that embodiment-trained coaches had a greater capacity for Emotional Regulation than their conventionally trained peers, while Study 2 showed that higher ESA predicts increased Resilience and Adaptability. Specifically, in Study 1, we saw that embodiment-trained coaches used physical indicators and physical actions to exercise self-control and increase self-regulation, whereas their conventionally-trained counterparts did not. In Study 2, we saw that the presence of embodied self-awareness supports both resilience and adaptability, intrapersonal competencies that are key components of self-regulation. Overall, we can see that greater embodied self-awareness has significant potential to increase emotional regulation.

Turning now to *inter*-personal qualities, we see that both Study 1 and Study 2 clearly support a tie between ESA, Empathy, and Conflict Management. Study 1 indicates that embodiment-trained coaches more frequently exercised nonresistance as a path to conflict management than their conventionally trained peers. They also showed a

slightly higher degree of empathy, though those results were inconclusive. However, when Study 2 tested these findings in a larger and more representative sample, both conflict management and empathy were strongly predicted by the presence of embodied self-awareness. This convergent evidence lends considerable confidence to the conclusion that embodied self-awareness positively affects both empathy and conflict management. A preliminary post-hoc analysis suggests that the effects of ESA on conflict management may be mediated by empathy. This intriguing finding may be worthy of future research.

Study 2 also indicates that ESA has a positive effect on Connectedness. Unpublished findings from Study 1 indicate the same. In the interest of space and time, these Study 1 findings were originally held for a future report and were not subjected to tests of inter-rater reliability. However, there is a clear a correspondence between Study 1 and Study 2 results that tie connectedness to ESA—a correspondence that is also supported theoretically by the neurobiology of empathy explored in the first study, as well as anecdotally by stories from practitioners.

Finally, we turn our attention to flourishing, a construct that was measured only during Study 2. Practitioner literature consistently suggests that as embodied self-awareness grows, so too does one's overall well-being, sense of meaning, and satisfaction with life. Furthermore, both theoretical and empirical evidence lend support to the idea that the body plays a key role in quality decision making and values-aligned choices (Bar-On et al., 2003; Damasio, 2000). Given this, we chose the Flourishing Scale—a well-validated measure of purpose, meaning, optimism, relational quality, and well-being—to test this practitioner claim. Considering the increase in the other intra-and

inter-personal outcomes of ESA—resilience, adaptability, empathy, conflict management, and connectedness—it makes sense that one's overall sense of well-being would increase, and that is indeed what we see here.

TABLE 20
Consistency of Findings Across All Three Studies

Meta-Inference	Study 1 Findings	Study 2 Findings	Study 3 Findings
Antecedents	Embodied coach training…	Outcomes of ESA…	Antecedents of ESA…
Convergence of Study 1 & 3: Embodied coach training grows ESA more than other mind-body practices.	Produces increased ESA compared to conventionally trained peers.	--	≥ 50 hours of embodied coach training ($\beta \geq .13$*)
	25% of conventionally-trained coaches are certified yoga teachers; 0 embodiment-trained coaches teach yoga	--	Yoga, meditation, and bodywork at average levels of practice (β .04*)
INTRA-personal Outcomes			
Convergence of Study 1 & 2: ESA increases emotional regulation and supports resilience and adaptability.	--	Flourishing (β .45**)	
	Ability to manage difficult emotions more effectively.	Resilience (β .54**)	
	Use physical shifts to support an emergent change in perspective and a shift into a more resourceful state.	Resilience (β .54**) Adaptability (β .41**)	
INTER-personal Outcomes			
Convergence of Study 1 & 2: ESA increases capacity for empathy and conflict management.	Increased capacity for conflict management and empathy.	Empathy (β .41**) Conflict mgmt. (β .37**)	
	--	Connectedness (β .22**)	

*p < .05 **p < .01 (2-tailed).

Conclusions based on meta-inferences. The high degree of convergence across studies that we see here is not necessarily a given or even a common feature of mixed

methods research. In this case, the convergence is both consistent and strong. From this, we can confidently conclude:

1. Body-oriented coach and leadership training supports the development of embodied self-awareness over and above other commonly practiced methods of mindful embodiment—specifically yoga, meditation, and bodywork; also martial arts and dance.
2. Embodied self-awareness predicts increased intrapersonal competencies, including emotional regulation, resilience, adaptability, and flourishing.
3. Embodied self-awareness predicts increased interpersonal competencies, including empathy, conflict management, and connectedness.
4. Embodied self-awareness is a strong lever for building emotional and social intelligence.

Validity and Reliability. In addition to using a mixed methods approach to clarify and strengthen results, these studies also relied upon inter-rater reliability (Study 1) and structural equation modeling (Studies 2 and 3) to support causal inference. These checks on internal validity lend confidence to our conclusions about the relationship between ESA and the measured outcome variables.

Additionally, the triangulated validity among these three studies is quite high. Triangulating among results in a mixed methods approach functions similarly to replicating a study using a different method (Creswell & Plano Clark, 2018; Jick, 1979). One benefit of this within-study replication is that all of the research was conducted by a researcher who is personally experienced with the phenomena under investigation. As

laid out in the Implications section below, attempting to replicate these studies without experiential knowledge of ESA can easily lead to misleading results.

Although I originally anticipated that moving from a sample size of 26 to a sample size of over 500 would require revision, extension, or reconfiguration of some of the conclusions from Study 1, in actual fact, the opposite turned out to be the case. Instead, the findings in Study 1 were supported by findings in Studies 2 and 3, both confirming and further validating the initial findings. This interpretive agreement across studies further strengthens validity. While additional replications will certainly benefit this investigation, we can nevertheless place a high degree of confidence in these baseline results given this triangulation and subsequent convergence of results between methods and studies.

Contribution enhancement and shrinkage. We also benefit from an enhanced interpretation as a result of the mixed methods approach and would have experienced contribution shrinkage without it. If, for example, the initial qualitative study had been the stopping point, we would have seen a difference between embodiment trained and conventionally trained coaches, but we would have lacked the validation of testing these findings with a larger and more representative sample and thus would not have been nearly as well equipped to explain *why* such a difference might occur. In particular, the differences observed between those with advanced yoga training and those with basic body-oriented coach training would have remained a provocative post-hoc finding with little to explain the difference. The additional insight provided by Study 3 not only validated the original discovery; it also revealed a dramatic difference in effect size between advanced yoga training and embodied coach training in particular—one that we

would have missed had it not been for the combined insights of both studies. This naturally raises the question of whether such a significant difference in training effects extends to other mind-body practices, as well. These insights initiated a much deeper search for possible explanations than might have occurred otherwise, enriching our understanding of these phenomena. Similarly, had Study 3 been conducted in isolation, we would have missed the depth of the differences in coaches' lived experiences that helped to inform these integrated conclusions.

If the starting point for Study 2 had not been grounded in the qualitative exploration of Study 1, it would have been easy to select the wrong variables to study. The seven DVs selected came from a much longer list of possibilities discussed under various names and guises in the practitioner literature. Without the benefit of rigorously gathered qualitative data to guide the selection process, it is likely that several irrelevant variables would have made their way into the study, wasting both time and resources. That said, had I simply stopped at Study 1, I would not have had the benefit of statistical inference to validate and confirm those findings. In addition, Study 2 directly measured Flourishing, whereas Study 1 focused specifically on asking about incidents that evoked either a sympathetic stress response or a parasympathetic relaxation response (see Appendix A). Although both theory and practitioner literature point to a relationship between embodied self-awareness and personal well-being, in order to keep the scope manageable, questions related to flourishing and well-being were excluded from Study 1. Adding the dimension of Flourishing in Study 2 rounds out our understanding of the potential and promise of developing embodied self-awareness.

Boundary conditions. The results of these combined studies are uncommonly strong, and we can be very confident in generalizing from the representative coaching sample to the wider population of coaches. Also, it is reasonable to apply these findings to helping professionals whose work encompasses coach-like responsibilities, such as therapists, educators, leaders, managers, some healthcare professionals—and outside the professional sphere, parents and other caregivers.

Nevertheless, we must exercise some caution in generalizing these findings beyond coaches and helping professionals. The sample of coaches is a specialized population that differs from the population at large both in their interest in personal growth and in their commitment to ongoing learning. While the baseline results that this study establishes clearly apply to coaches and many other kinds of helping professionals, it is likely premature to presume these results apply to "all people." See the research agenda below for ideas on how to increase and extend the external validity of these results.

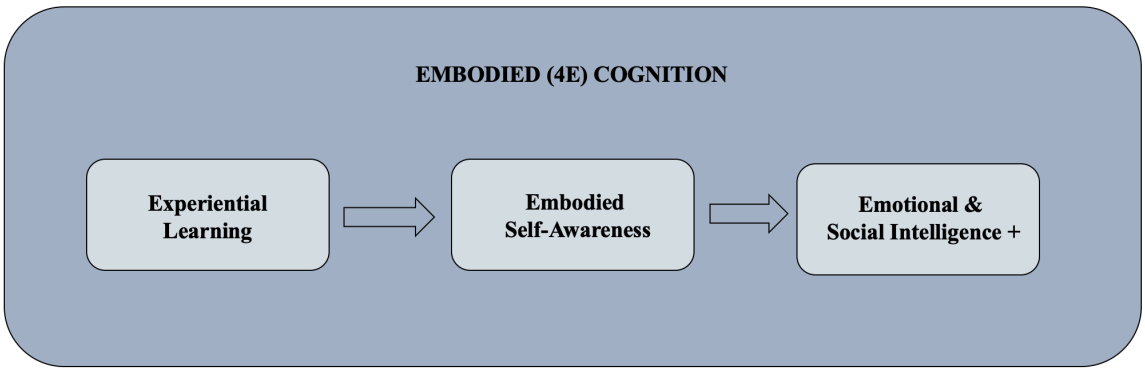
Theoretical Contribution

This research project provides new empirical evidence with which to answer the research question: *What are the antecedents and outcomes of embodied self-awareness?* Collectively, these studies provide considerably more robust, reliable, and nuanced insight into this question than was previously available. Prior to this study, we did not know very much about the behavioral outcomes of ESA, particularly with respect to coaching and leadership development. There was also little known about what produces ESA beyond touch-based bodywork. As a result of these studies, we know more about

both of those questions. The answers inform both theory and practice in a number of domains.

The theoretical framework proposed in Chapter 2, depicted again in Figure 25 below, sets embodied self-awareness within the context of 4E cognition, an empirically supported philosophical position that conceives of cognition as an embodied, embedded, enactive, and extended experience. Within that context, I proposed that experiential learning supports the development of embodied self-awareness, and that several behavioral outcomes—including emotional and social intelligence competencies—are among the effects of embodied self-awareness. The relationships among each of these constructs are supported by an underlying neural architecture that is built for embodied and empathic ways of knowing.

FIGURE 25
Theoretical Frame



In light of the results discussed above, this theoretical framing continues to hold explanatory power. In addition, this research makes several theoretical contributions.

First, this set of studies makes a substantial contribution to construct validity for embodied self-awareness by creating a baseline map of its nomological network. The project has furthered our understanding of ESA by mapping out its relationship to certain

behavioral competencies relevant to coaching and leadership, particularly the ESI competencies of emotional self-control, empathy, and conflict management. Previously such a relationship was theoretically supported by both neurobiological theory and 4E cognitive science, but the empirical data had not been gathered and put to the test. Perhaps one of the most significant contributions of this research has been to illustrate the strong relationship between ESA and ESI, which points the way to new methods for helping coaches and leaders develop the emotional and social intelligence they need to succeed.

Second, we now have far more insight into the kinds of activities that reliably develop ESA. Popular mind-body practices—yoga, meditation, and bodywork—all have a small but significant effect. Embodied coach training is differentiated from these practices and from conventional coach training by its considerably larger effect on ESA and, therefore, subsequently on ESI and other outcome variables. This investigation helps us infer why this may be the case. It seems that experiential learning that combines embodied and conceptual self-awareness—for example, by incorporating embodied exercises into exploration of one's vision, or by cultivating ESA during moments of high pressure—can help people both know themselves more deeply and more easily make desired changes to their behavior. This makes sense because this sort of approach uses all aspects of the human biological equipment for learning. Such a physical, experiential process of discovery, learning, and practice in the context of your own life becomes highly relevant, salient, and memorable, thereby supporting behavior change.

This research thus contributes to theories of experiential learning by expanding its domain from primarily acquisition of propositional knowledge to acquisition of

behavioral competencies. It also enhances and supports existing understandings of the underlying neural architecture that supports emotional and social intelligence. This, of course, has important implications for the field of coaching and for other helping professions, which are discussed further below.

Finally, these studies contribute to theories of 4E cognition by deepening our understanding of the role of the body in the social and affective aspects of cognition. Embodied ways of knowing affect both self-awareness and behavior, changing the way people understand themselves and others, and positively influencing relationships. This project provides compelling additional evidence in support of 4E cognition and fleshes out some important points that are being hotly investigated now.

Practical Implications

A critical caveat. Before discussing implications for different groups that might take an interest in this research, a critical caveat is in order. Both practitioners and researchers simply must develop embodied self-awareness themselves before they can truly understand the outcomes reported here or make use of them. If this study has shown nothing else, at a minimum, it irrefutably illustrates that not all knowledge lies in the intellectual domain. There are other important ways of knowing, learning, and being.

Therefore, prior to attempting to implement, build upon, or further investigate any of the findings that have emerged out of this research, it is absolutely critical to *experience* embodied ways of knowing yourself. If you grasp this research intellectually, but you have not spent at least 50 hours developing your own embodied self-awareness, then you have not yet truly understood it. You actually have to know ESA from the inside out, through your own felt sense, in an embodied and experiential way. Without that

foundation of embodied knowing, you cannot hope to accurately or effectively explore and share from within this domain of knowledge.

A researcher who forges ahead without this experiential knowledge is likely to travel down some very misleading paths. It would be like trying to study the concept of "flavor" without ever having tasted food. Trying to interpret the data without having a personal frame of reference yourself leaves you unable to understand the phenomena on its own terms. Thinking *about* the phenomenon is very different from actually *experiencing* the phenomenon.

For practitioners, attempting to share embodied ways of knowing without personal experience of embodied self-awareness risks misleading, confusing, or even doing damage to others and to your own reputation. Teaching embodiment is deceptively simple. It can appear very straightforward on the surface, but critical nuances are easily overlooked if your lens is primarily analytical. Again, knowledge *about* is not equivalent to *know-how*. If you wish to help others develop ESA, you must develop your own first. You simply cannot guide someone where you yourself have not been.

Bottom line: heed the results of this study and develop your own embodied self-awareness before attempting to research, teach, coach, or otherwise use this research in ways that impact others.

With that said, this research holds important implications for a number of different roles, individuals, and organizations. It is to these implications that we now turn.

Implications for practice: coaching. This body of work makes it clear that embodied self-awareness is an essential competency for any kind of helping relationship, particularly for coaching. Not only does body-oriented coach training have the potential

to offer many benefits to one's life and work, but it also helps coaches deepen the self-awareness that is required to do their job effectively. By way of illustration, at a recent presentation of these research results to Case Western Reserve's Coaching Research Lab community, I posed the question, "What are the implications of this research for you as a practitioner?" Following an exercise that gave people an experience of embodied self-awareness, the top two responses were (1) embodied approaches to listening help me be more present with others in my role as a coach or a manager, and (2) this in turn supports deeper listening and a more positive impact on the client or employee.

Given the results of this research and how coaches in the real world respond to it, coaches of all kinds ought to make body-oriented coach training a top priority for their own ongoing professional development. This applies to health, relationship, life, leadership, and executive coaches, internal coaches, and managers, HR professionals, and leaders who use coaching-infused approaches to management, among others.

Whatever a coach's focus, they should recognize the importance of embodied approaches as a critical aspect of their career and step onto the path of embodied learning early on in their development of coaching skills. Because the body learns through repetition, rehearsal, and practice over time (for example, consider how a musician builds the muscle memory to play a song by heart), it is best to approach embodied learning more as a marathon than a sprint. Coaches that make a long-term commitment to cultivating ESA over time are likely to be more successful and satisfied—and see better results—than those seeking a quick fix.

Based on the strong relationship between ESA and the intra- and inter-personal outcome variables studied as part of this project, coaches should also feel very confident

in using embodied approaches to help clients achieve personal development and behavioral change, where that is relevant and valuable. Of course, using embodied methods presupposes that the coach has been properly trained to do so.

Given that, and given that these studies looked specifically at outcomes of body-oriented coach training, those involved in training coaches—or in training managers, leaders, and others to use coaching skills in their work—should develop avenues for their students to both cultivate their own ESA and learn how to help their clients do the same. Whether it be an in-house corporate program, a university program, or an independently run program, curriculum designers for coach and leadership training organizations should review their training designs for opportunities to infuse their programs with more embodied and experiential learning, bearing in mind the important caveat that ESA can only be successfully shared by those who have obtained experiential knowledge of it.

Given this, there are two primary paths to consider based on a given training organization's mission, goals, and structure. One option is to partner with outside experts to create "bolt on" programs that are added alongside the primary curriculum. This might be achieved through special workshops, reciprocal discounts, or other kinds of joint ventures with qualified and experienced body-oriented coach trainers. This approach has the benefit of speed and flexibility. An alternative approach is to invest the time and money to build embodied expertise in-house. While this is a slower and higher investment path, ultimately, it may lead to a more integrated coach training program. For many organizations, a hybrid approach will work best, partnering to begin with while gradually building in-house capacity over time.

Finally, professional associations that certify or accredit coaches should begin factoring embodiment into their standards now. As the cultural zeitgeist drives interest from individual coaches and clients, demand for body-oriented coaching is poised to grow rapidly in the coming decades. Organizations such as the International Coach Federation, the European Mentoring and Coaching Council, and the Center for Credentialing in Education are just a few of the many certification providers that should be exploring how to incorporate aspects of embodiment and embodied self-awareness into both their core competencies and their evaluation process. This will require working with training organizations and other leaders in the coaching field to further clarify, define, and up the standard of practice for embodied coaching.

Implications for practice: helping professionals. Looking more broadly to helping professionals in other domains, it stands to reason that anyone intending to help, guide, inspire, support, challenge, or champion others should also take note of the results of this research. This includes therapists, clergy, nurses, doctors, leaders, managers, parents, educators, mind-body practitioners, and many others—those of us whose personal, professional, and volunteer commitments bring us into roles that require resilience and adaptability, connection and empathy, and the ability to manage conflict. Embodied self-awareness builds all of these qualities. Where such qualities serve to support our success, we should be keenly interested in how to cultivate them. Leaders, trainers, and certifying bodies in coaching-adjacent helping professions should prioritize engaging in body-oriented coach and leadership development themselves, with an intent to explore how to adapt these methodologies for the specific needs of their field.

For instance, leaders and managers inside of all manner of organizations—from large corporations to local governments, from scrappy startups to established nonprofits, from preschools to universities—are consistently more successful when their emotional and social intelligence is high (Boyatzis & McKee, 2005; Boyatzis et al., 2013). The ripple effect of such high-quality leadership means those fortunate organizations with strongly resonant leaders consistently outperform and outlast their counterparts with dissonant leadership, sometimes dramatically so. Since we now know that cultivating embodied self-awareness is a reliable path to developing at least three and perhaps more of the ESI competencies, any organization seeking to cultivate high-quality leadership should explore how to leverage embodied self-awareness as a path to cultivating ESI in its leadership team and staff.

On a related note, fast-moving organizations too often compromise effectiveness with an over-reliance on multitasking, context switching, and urgency. Complementing these high-pressure analytical approaches with embodied ways of knowing and relating will support resilience and relationships inside of organizations, thereby improving leadership, effectiveness, and outcomes. Organizations that are adopting relevant practices into their operations tend to flourish and thrive at greater rates than organizations that do not (Tsao & Laszlo, 2019). In addition, those organizations that view mind-body wellness as a high priority and that already invest in yoga, mindfulness, and similar programs can continue doing so with confidence. They might also explore how to adjust existing wellness programs that are currently treated as distinct from the business at hand into more integrated workplace-oriented behavioral and leadership development opportunities.

Furthermore, as practices like mindfulness and yoga grow in popularity both within and outside of the workplace, teachers of such practices should be asking themselves: Might there be better, faster, and more applied ways to get the results we seek from existing mind-body practices? This research suggests the answer is yes. Thus, mindfulness teachers, yoga teachers, bodyworkers, and others in related disciplines should explore how to incorporate the lessons from embodied coach training as a way to better serve their clients. Depending on the kind of work they do, it may be beneficial for such practitioners to expand their skills by pursuing some amount of body-oriented coach training as a supplement to their primary mode of practice.

Finally, schools that focus on social and emotional learning programs should explore how to adapt the unique features of embodied coach training—in particular, the combination of conceptual and embodied self-awareness—in age-appropriate ways. Educators ought to familiarize themselves with the role of the body in social and emotional learning so that they are better equipped to support their students' development on all levels, not simply the intellectual and academic plane. In addition, educational administrators should think twice before cutting arts and physical education programs. This research makes it clear that whole-person approaches to learning are vital for learning, growth, and change – particularly in the emotional, relational, and behavioral domain. Where this is true for adults, it is likely to be even more so for children.

Implications for research: orientation and future opportunities. Both embodied self-awareness and 4E cognition are relatively new areas of study that provide a wealth of opportunities to expand the boundaries of what we know. Researchers who are interested in these matters and who are willing to do or have already done the work to experientially

educate themselves on ESA can look forward to a goldmine of exciting research opportunities. In particular, researchers in mindfulness, management, coaching, workplace learning, and behavioral health should allow these results to inspire future research questions.

The assumptions underlying 4E cognition give rise to a critical premise that should guide future research into embodied ways of knowing. Ultimately, it is impossible to fully explain the phenomena of cognition, particularly the phenomena of embodied cognition, without a combination of non-observable subjective measures and more observable objective measures. As we have seen in this study, a mixed methods approach allows for a kind of internal replication that lends greater precision to interpretation and stronger confidence in results. For these reasons, future research should emphasize methodological approaches that allow for triangulation between methods.

For instance, since embodied ways of knowing are inherently internal and not easily accessible to observation, it is critical to collect subjective measures. But limiting a study to subjective measures exposes research to all the biases and confounds of self-report data. Combining self-report data with more easily observable and reliably verifiable data such as physiological measures and/or reports from close others (boss, spouse, peers) would constitute the gold standard for research in this domain. As Tressoldi et al. (2017) point out, first and third-person data are non-reducible data types that cannot substitute for one another. Thus, future studies would do well to continue down a mixed methods path, integrating and triangulating between data types to form the most robust conclusions possible.

In addition, the results of this project would be supported not only by robust replication studies but, in particular, by experimental and longitudinal studies that take people through a process of embodied learning and measure outcomes both pre- and post-intervention. Experimental studies would either validate or challenge the results found here by more firmly establishing causality. Longitudinal studies would help us understand what effects of embodied learning are truly transformational and last the test of time versus those that might fall away with disuse. This would contribute valuable insights to the conclusions we have drawn about the outcomes of ESA. It may also be worthwhile to develop a new ESA-specific scale in order to address some of the known psychometric limitations of the otherwise robust MAIA. One approach would be to develop a scale that measures each of the three states of embodied self-awareness: restorative, modulated, and dysregulated.

In addition to these recommendations on methodological design, new research on embodied self-awareness should prioritize open questions in three major categories. First, further research on antecedents could dig deeper into what exactly sets body-oriented training apart from other forms of coach training as well as from other forms of mind-body practice. Researchers should clarify the relationship between direct instruction and self-guided practice, as well as investigate what other independent variables might affect the development of ESA. In particular, it would be useful to develop a deeper understanding of the factors that moderate the development of ESA.

Second, it would be valuable to explore the relationship between a coach's embodied self-awareness and their clients' coaching outcomes, and to explore parallel questions for other helping professions. What happens to the helping relationship and to

client outcomes when a coach (or other helping professional) is either strong or weak in ESA? Beyond just embodying stronger ESA themselves, what happens when a coach applies embodied methodologies to their work with a client? How does such an approach affect the client's experience and ultimate outcomes? Pinning down answers to these questions will help us understand how to best use this modality.

Finally, we can expand our understanding of ESA by exploring additional outcome variables. A starting point is to return to an investigation of nondual awareness using the data gathered for the current set of studies. One might also look into mediating relationships between ESA, resilience, empathy, and conflict management, for example, or dig deeper into the relationship between ESA and connectedness. While this project has contributed a great deal of new knowledge about ESA and its outcomes, much opportunity for exploration remains.

Limitations

As with all research, this project has several limitations that are important to bear in mind. For instance, since these studies were all conducted using self-report measures, they inherently carry a risk of social desirability bias, confusion about the self, or other self-delusional bias. Although we tested for common method bias and did not find any concerning results, it is important to be aware of the limitations of such an approach. As noted above, future studies should aim to replicate the results found here by triangulating among additional methods and validating self-report measures against second-person and third-person data.

The need to manage the scope of this project prevented us from looking at all possible influences on ESA. Hence, there could very well be one or more omitted

variables that might simultaneously influence ESA along with both its antecedents and its outcomes. For instance, perhaps genetics plays moderating role, concurrently influencing all or several parts of the model. A history of trauma could influence both one's access to ESA and one's interest in the antecedent activities. A history of athletics or performing arts could do the same. In short, there are many variables that influence ESA, and we doubtless have much more to learn beyond the results reported here.

Sampling coaches provided the advantage of being able to distinguish between populations with high and low ESA. While we are confident that we can rely on our representative sample to comfortably infer to the wider population of coaches at large, we must acknowledge that this group has some unique characteristics that may challenge external validity. Helping professionals of many kinds share overlapping characteristics with coaches, making these results generalizable beyond the coaching profession per se. But due to the fact that coaches tend to be more interested in personal growth than the broader population, any inference of these results to audiences beyond coaches and helping professionals should be done with caution. In order to confidently apply these results to broader audiences, further testing is in order.

In addition, these studies rely on a measure of ESA that has some known psychometric limitations, as discussed in the relevant sections above. While extensive review of the available measures and wide consultation with research advisors all resulted in the conclusion that MAIA is the best available measure of ESA, and while the MAIA is a well-validated scale that allows us to draw robust conclusions and make strong inferences based on this project, it is wise to bear in mind that a more precise measure of ESA would lend additional clarity to these results.

Finally, the conclusions we draw about the relationship between different antecedents are limited by our data collection model, which gathered data on the frequency of practice for common mind-body practices (e.g., yoga, meditation, bodywork) alongside hours of embodied coach training. Frequency of practice and hours of training are obviously not an apples-to-apples equivalent, although they do represent the most common ways of engaging with these forms of learning in the real world. Nevertheless, this gap in equivalency invites further research on the antecedes of ESA as a means of sorting out these differences more precisely.

Conclusion

Altogether, these studies clearly show that embodied self-awareness supports many desirable intra- and inter-personal qualities. Resilience and adaptability are critical in an era where the pace of change is ever-increasing. Empathy, connectedness, and conflict management are helpful to us at home as well as in the workplace. And flourishing—a measure of one's sense of meaning and purpose, strength of social support, and optimism about the future—is a marker of personal well-being that contributes to thriving organizations and communities. If embodied self-awareness offers us such valuable benefits, why are we all not paying more attention to it more of the time?

Our habitual ways of living and learning emphasize analytical modes of thinking and conceptual ways of knowing at the expense of the more subtle, experiential, embodied, and empathic ways of knowing. This comes at a tremendous cost, compromising the kinds of intelligence that are essential for supporting well-being and workplace behaviors that make the biggest difference in quality of life, relationships,

career satisfaction, and organizational performance. Given the importance of these underutilized embodied ways of knowing, and given the results we see here, I believe it is time for embodied ways of knowing to be restored to a more central place in our lives.

In order to do that, we need to take a different approach to education than we have in the past. Learning—particularly behaviorally-oriented learning such as coach training, leadership training, and social and emotional learning—must be both experiential and embodied in order to effectively achieve the aim of equipping people with stronger skills in the domain of emotional and social intelligence. Integrating embodied self-awareness with conceptual self-awareness as part of the learning process may hold our best key to unlocking the best of what humans can be. And it is only by unlocking our best that we will be able to successfully navigate the many personal, social, and planetary challenges that have arisen out of the existing imbalance between analytical and embodied ways of knowing. May this research contribute to that important endeavor.

APPENDIX A
Interview Protocol

1. **Let's start with a few background questions.**
   Probes:
   a. What work do you do? What is your current position and your last few jobs?
   b. What led you to engage in the training with (organization name)?
   c. What other kinds of training or post-secondary degrees do you have?
   d. Do you have any hobbies or non-work activities? If so, what?
   e. Do you have any habits or practices you use to keep you at your best?
   f. Tell me a bit about your home life. Do you live with anyone? If so, who?

Speaking about the last 6 months to a year…

2. **Tell me about a time when you bounced back after feeling stressed out or overwhelmed.**

3. **Tell me about a time when you had an argument with someone important to you. This could be someone at work or at home.**

4. **Tell me about a time when you felt deeply connected to someone else.**

5. **Tell me about a time when you were able to convince others to join you in a major undertaking or a big project.**

6. Have you ever had any spiritual experiences? If so, tell me about a recent one.

8. Is there anything else you'd like to share?

Possible Probes for questions 2–6, to be used as needed:
   a. What led up to it?
   b. Who was involved?
   c. What did you say or do?
   d. What were you thinking or feeling?
   e. Did you notice anything about your internal experiences or state during this event?
   f. Did you notice anything about other people's physical or emotional expression?
   g. What happened next?
   h. What was the outcome or result?
   i. What's another example of that?

Possible Probes if emotions or embodied states are mentioned:
   a. At that moment, what were you feeling?
   b. At that moment, were you aware of any sensations in your body?
   c. If yes, what was the location of the strongest sensation?
   d. If yes, what was the nature of that sensation? How would you describe it?
   e. What sensations do you notice right now, as you are talking about this?

APPENDIX B
Codebook

TABLE B1
Top-Level Codes

Code	Definition	Code if…	Example
Self-Awareness			
Different Before	A self-assessment that one has fundamentally changed.	a) the existence of a previous self, an "old me," or a different prior behavior b) the "old me" is less resourceful and/or less effective than the "new me"	*So my way of handling in the past would have been to turn around and kind of like give him a whack. And instead I, I said, [brother], that's inappropriate. That's inappropriate. What are you doing? (Ella)*
Body Wisdom	Sees the physical body as a source of valid intelligence.	a) refers to the body as a source of valuable and/or trustworthy knowing b) refers to mind or thinking self as problematic or interfering in some way	*It's like this thing that I always think about, like this whole thing about centering and everything. It's like our minds are constantly confused. This is a quote from something that I always think about. Our minds are constantly confused. We have been ill for a very long time. (Forest)* *I'm living an embodied life, helping other people do. I think it's fundamental for, um, for our wellbeing and the wellbeing of the planet. (Frank)*
Stress Recovery			
Centering	A deliberate physical action made while in the midst of an event, with the intent to shift one's state in a positive direction.	a) mentioning physical cues that alert the person to their current state b) describing a deliberate interruption of one's initial impulse for action c) describing a deliberate physical shift intended to positively shift one's state, which the person makes as the event is unfolding. The physical act may or may not be noticeable to others (e.g. relaxing the eyes, sitting up straight).	*Well, just through my breathing or particular parts get tense. My throat's tight and I can just be like, I'm holding myself. The whole body is just being held a little, um, as a general frame usually. Then I just let it go. Do a lot of wiggling. (Frank)*

Code	Definition	Code if…	Example
		Exclusions: Physical action that requires "time out" from the event as it is occurring or that the participant engages in after the event (i.e., going to a yoga class)	
Perspective Shift	A deliberate shift in mindset made with the intent to shift one's state in a positive direction.	a) seeks to see a difficult situation through a more positive lens b) reframes challenges to look for opportunities rather than obstacles c) seeks to align their interpretation with their most important priorities or values	*I thought to myself, you know, if I look at him from a different perspective, I see him struggling with feelings of not being respected by the management team, the deans, I see him struggling with the same things. I can do one of two things. I can fight him or I can partner with him. And so I came at it from the partnering perspective and the result has been that he is actually opened up to me about his problems as well. And we're actually partners even though at the end of the year, he's the one that's got to sign off on my appraisal. (Helen)*
Conflict Management			
Empathy	Internal or out loud recognition of another person's needs or state.		*I said, I know that that is your lifeline, your TV. And I know that it's your way of connecting to the world and you know, it's really important to you. And I know that the girl that lives downstairs has to go to work every day and feel refreshed and she needs a sleep. And I'm just wondering what we could do so that you can have your, your tv and everything that you like, but the girl can have a sleep. Because she really needs to sleep to go to work. She's a working lass. And um, and I just said, there must be a solution that we could figure out that would make that better for both of you. (Claire)*

Code	Definition	Code if…	Example
Nonresistance	Removing oneself as an opponent or a source of resistance in situations involving conflict or disagreement.	a) an overall calm and non-violent mood b) a response to conflict that's characterized by goodwill c) not fighting back, pushing back, or blaming d) taking action to reduce tension and/or de-escalate a conflict	*I have learned that if I turn my palms forward, there's an open. There's an invitation, it's an invitation to my body to calm down. But I actually think it sends energy to the recipient somehow because I actually ran into that with a contractor on somebody else's house, um, and I used the same body and he really did get in my face and I stayed confident in my open body and it didn't stop him from behaving aggressively, but I wasn't afraid of him actually. (Ella)*
Resistance	Meeting conflict with some form of resistance.	a) blaming and/or being dismissive b) avoiding or ignoring (leaving it unresolved, pretending all is well, sweeping it under the rug) c) commanding, telling, shouting, or yelling d) reacting to their own negative emotions	*But I said, okay, if she doesn't want to see me, well then, um, I don't want to see her, so that's fine. Uh, and that was a last thing for a while. My wife was kind of the advocate them saying, you know, you need to go see your mom, you and let you go. And I said, no because she doesn't want to see me. (Andrej)*

TABLE B2
Perspective Shift Sub-Codes

Code	Definition	Code if…	Example
Agency			
Chosen	A deliberately chosen perspective shift.	Participant indicates an intentional choice to shift perspective.	*I'll just change my thinking a little by saying that I trust [my partner] and she's very good at manifesting money and it will be all right. It's inside. Just reframe a little. (Frank)*
Emergent	A shift in perspective that emerges out of an embodied shift.	A perspective shift occurs alongside a physical shift, typically without deliberate choice.	*I had to feel the tightness, just acknowledge it so that I could let it go. Because attachment is what kills us, right? An attachment to my fear. It comes into form physically, somatically in that place. My jaw and my traps. Right? So when I can let that go, it's a form of acceptance, somatically. (Forest)*
Approach			
Inquiry	Asking oneself a question leading to a shift in perspective.		*It's taking a few moments to go where am I now? And being able to look at what I want to make important for myself. (Katarina)* *A lot of reflecting and just asking what do I need right now? (Starling)*
Advocacy	Telling or encouraging oneself to shift perspective.		*Me being in the state I was in was not going to serve them. And it also didn't serve me by the way, so me trying to behave from that place wasn't going work either. So it's like compartmentalize that, put that aside, focus on what's happening right now and then when that's done we can take a deep breath and if that's still important, I can always go back and pick it up. (Shannon)*
Timing			
During event	The shift in perspective occurs in the midst of the challenge.		*From then on I was in a completely different mode ... I felt I was coming to my best again and I was getting more creative. I had much more humor. And then when we met the director, with whom I had only 15 minutes for short briefing, which is much shorter than I usually have, I felt that I could give 95 percent of my good listening skills and I could really be curious about what really mattered to her, as to what we were about to do. (Willa)*
After event	The shift in perspective occurs after the challenge is over.		*I didn't feel at my best in terms of how I did with the first talk, so I really tried to invoke, what can I learn from this? How can I improve? Not as a way of beating myself or flagellating, but more in terms of what can I do for the future? What are my lessons here? What are the positive things that I can take from this experience or maybe negative now, but can be turned into positive. (Zipporah)*
Ongoing	The shift in perspective is part of an ongoing habit or approach.		*I'm working on a positive mindset to think positive and to take things positively. So how to deal with emotions and how to turn everything into appreciation, in the morning ritual, nightly ritual for myself on a daily basis. (Merida)*

APPENDIX C
Constructs, Items, and Definitions

Construct	Definition	Items	Source
		1-5 scale *Not at all like me* to *Very much like me*	
Grit	Passion and perseverance for long-term goals.	**Consistency of Interest (.76)** New ideas and projects sometimes distract me from previous ones. I often set a goal but later choose to pursue a different one. I have difficulty maintaining my focus on projects that take more than a few months to complete. My interests change from year to year. I have been obsessed with a certain idea or project for a short time but later lost interest. **Persistence of Effort (.67)** Setbacks don't discourage me. I don't give up easily. I am a hard worker. I finish whatever I begin. I am diligent. I never give up. I have overcome setbacks to conquer an important challenge.	(Duckworth et al., 2007; Duckworth & Quinn, 2009)
		0-5 scale, *Never* to *Always*	
Interoceptive Awareness (MAIA-2) *as a proxy for* **Embodied Self-Awareness**	**Interoceptive Awareness** is defined as the conscious level of interoception. Interoception is defined as the process by which the nervous system senses, interprets, and integrates signals from within the body. **Embodied Self-Awareness** is defined as present-moment, non-judgmental attention to sensation, movement, and emotion. The concept of	**Noticing (.64)** When I am tense, I notice where the tension is located in my body. I notice when I am uncomfortable in my body. I notice where in my body I am comfortable. I notice changes in my breathing, such as whether it slows down or speeds up. **Not-Distracting (.74)** I ignore physical tension or discomfort until they become more severe. (R) I distract myself from sensations of discomfort. (R) When I feel pain or discomfort, I try to power through it. I try to ignore pain. (R) I push feelings of discomfort away by focusing on something. (R) When I feel unpleasant body sensations, I occupy myself with something else so I don't have to feel them. (R)	(Fogel, 2009; Mehling et al., 2009, 2011, 2016, 2018)

Construct	Definition	Items	Source
	embodied self-awareness includes both interoception and proprioception, which is the ability to sense the position of one's body in space.	**Not Worrying (.67)** When I feel physical pain, I become upset. (R) I start to worry that something is wrong if I feel any discomfort. (R) I can notice an unpleasant body sensation without worrying about it. I can stay calm and not worry when I have feelings of discomfort or pain. When I am in discomfort or pain, I can't get it out of my mind. (R) **Attention Regulation (.83)** I can pay attention to my breath without being distracted by things happening around me. I can maintain awareness of my inner bodily sensations even when there is a lot going on around me. When I am in a conversation with someone, I can pay attention to my posture. I can return awareness to my body if I am distracted. I can refocus my attention from thinking to sensing my body. I can maintain awareness of my whole body even when a part of me is in pain or discomfort. I am able to consciously focus on my body as a whole. **Emotional Awareness (.79)** I notice how my body changes when I am angry. When something is wrong in my life, I can feel it in my body. I notice that my body feels different after a peaceful experience. I notice that my breathing becomes free and easy when I feel comfortable. I notice how my body changes when I feel happy/joyful. **Self-Regulation (.79)** When I feel overwhelmed, I can find a calm place inside. When I bring awareness to my body, I feel a sense of calm. I can use my breath to reduce tension. When I am caught up in thoughts, I can calm my mind by focusing on my body/breathing.	

Construct	Definition	Items	Source
		Body Listening (.80) I listen for information from my body about my emotional state. When I am upset, I take time to explore how my body feels. I listen to my body to inform me about what to do. **Trusting (.83)** I am at home in my body. I feel my body is a safe place. I trust my sensations.	
		1-5 scale, *Strongly disagree* to *Strongly agree*	
Resilience	The ability to bounce back or recover from stress.	**Resilience (.86)** I tend to bounce back quickly after hard times. I have a hard time making it through stressful events. (R) It does not take me long to recover from a stressful event. It is hard for me to snap back when something bad happens. (R) I usually come through difficult times with little trouble. I tend to take a long time to get over setbacks in my life. (R)	(Smith et al., 2008)
		1-5 scale, *Never, Rarely, Sometimes, Often, Consistently*	
Emotional & Social Intelligence	Emotional intelligence is defined as the ability to identify and manage one's own emotions. Social Intelligence is defined as the ability to strengthen relationships by recognizing others' emotions. The ESCI scale from which these constructs are derived counts 14 factors of ESI. We measure three constructs that are most theoretically related to embodied self-awareness.	*Per intellectual property rules, only 2 sample items from each scale* **Adaptability (.85)** Adapts overall strategy, goals, or projects to fit the situation Adapts by smoothly juggling multiple demands **Empathy (.86)** Understands others perspectives when they are different from their own Understands others by listening attentively **Conflict Management (.79)** Tries to resolve conflict instead of allowing it to fester Resolves conflict by bringing it into the open	(Boyatzis et al., 2017; Goleman, 2005)

Construct	Definition	Items	Source
		1-7 scale, *Strongly disagree* to *Strongly agree*	
Flourishing	Flourishing is a measure of well-being that includes relationships, self-esteem, purpose, and optimism.	**Flourishing (.87)** I lead a purposeful and meaningful life. My social relationships are supportive and rewarding. I am engaged and interested in my daily activities. I actively contribute to the happiness and well-being of others. I am competent and capable in the activities that are important to me. I am a good person and live a good life. I am optimistic about my future. People respect me.	(Diener et al., 2010)
		1-10 scale, *Not at all* to *Very much*	
Nondual Awareness	A background field of awareness that is unified, immutable, and empty of mental content, yet retains a quality of cognizant bliss.	**Self-Transcendence (.94)** I have had an experience in which I felt myself to be absorbed as one with all things. I have had an experience in which all things seemed to be unified into a single whole. I have had an experience in which the boundaries of my self dissolved. I have experienced all notion of self and identity dissolve away. I have experienced a feeling of oneness in which the boundaries between what is me and what is not me have dissolved. I have experienced the insight that "all is One." I have had an experience in which my mind expanded into space. I have experienced a melting or merging with others; I became others, and they became me. It has seemed to me that my environment and I were one. **Bliss (.81)** I have experienced an all-embracing love. I have felt a sense of awe and wonder. I have experienced a perfectly peaceful state. I have been surrounded and filled with a blissful warmth or energy.	(Hanley et al., 2018; Mills et al., 2018)

Construct	Definition	Items	Source
		1-7 scale, *image selection*	
Connectedness	Connectedness is defined as the inclusion of others in one's sense of self.	**Select the image that describes your relationship with…** Your coaching clients Your loved ones The community at large Nature **Fig. 1.** Venn-like diagrams used for the Inclusion of Nature in Self scale.	(Mashek et al., 2007)

APPENDIX D
Johnson-Neyman Floodlight Analysis

FIGURE D1:
Embodied Coach Training on ESA Moderated by Instructional Hours

0.5 loghrs = 3 training hours | 1 = 10 | 1.5 = 30 | **1.7 = 50** | 2.0 = 100 | 2.5 = 315

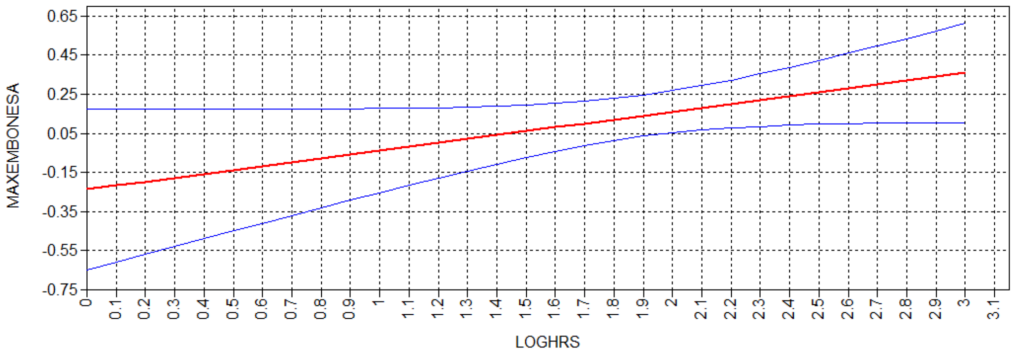


FIGURE D2
LogHours on ESA Moderated by MaxEmb

0.5 SD maxemb (standardized) = degree of embodiment of 83/100

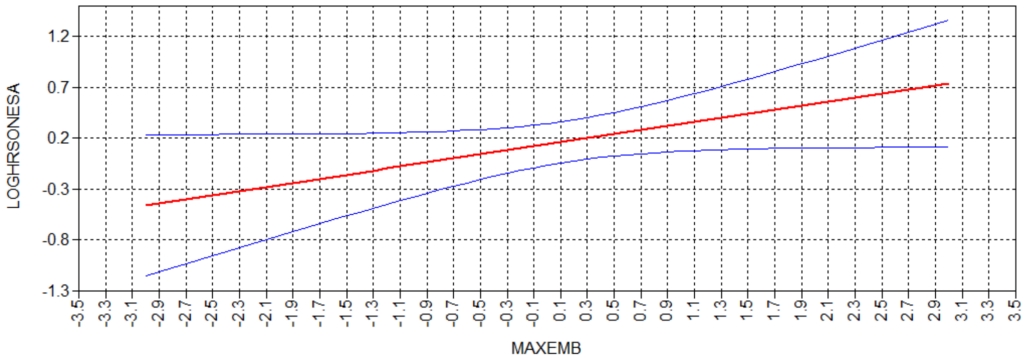


FIGURE D3
Embodied Coach Training on ESA Moderated by Grit

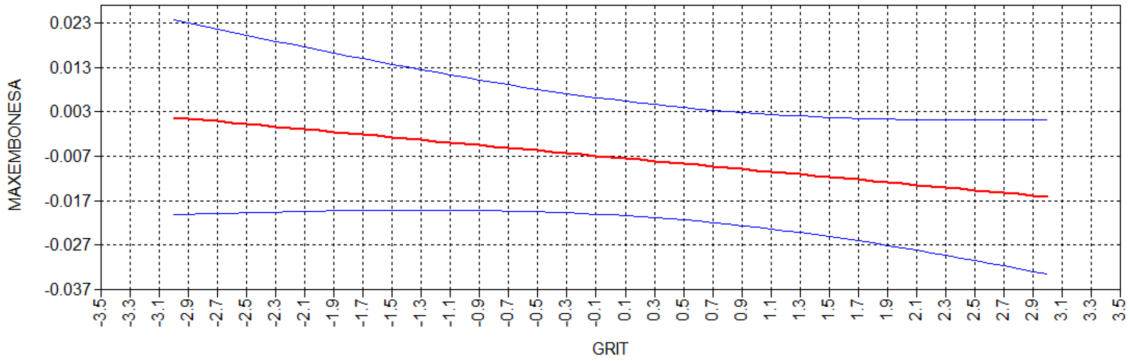


FIGURE D4
Yoga on ESA Moderated by Grit

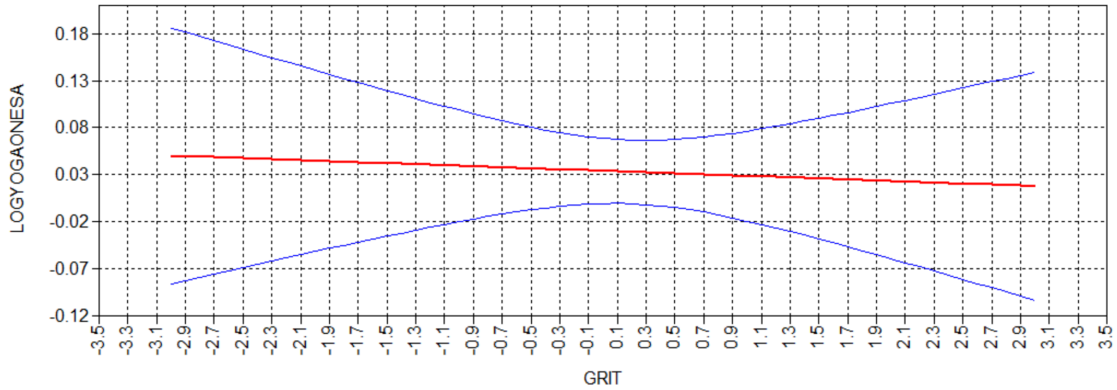


FIGURE D5
Meditation on ESA Moderated by Grit

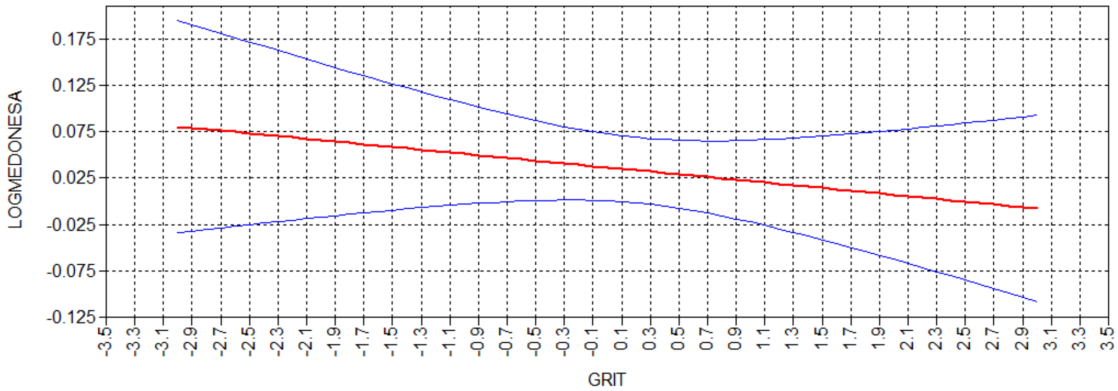


FIGURE D6
Martial Arts on ESA Moderated by Grit

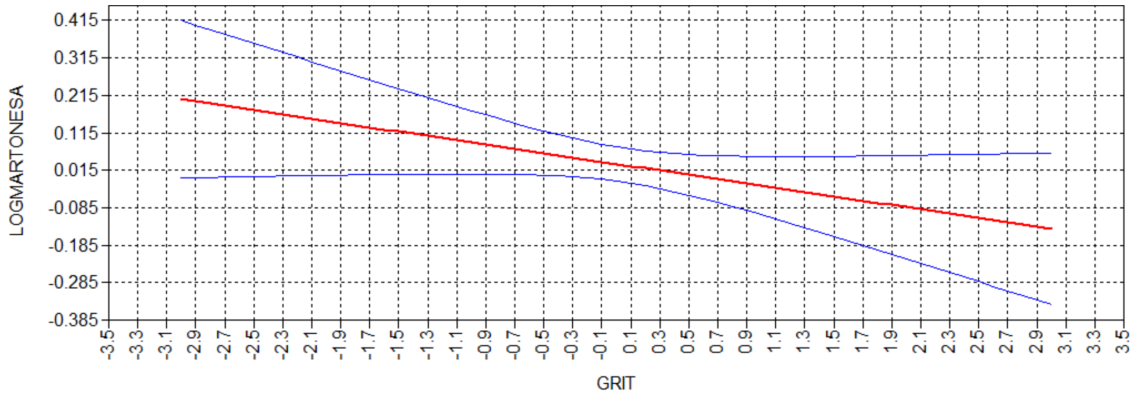


FIGURE D7
Bodywork on ESA Moderated by Grit

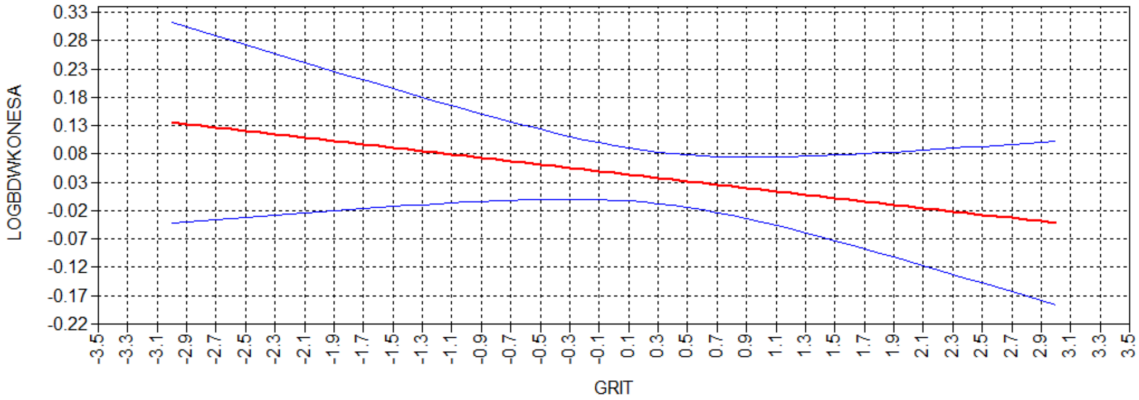
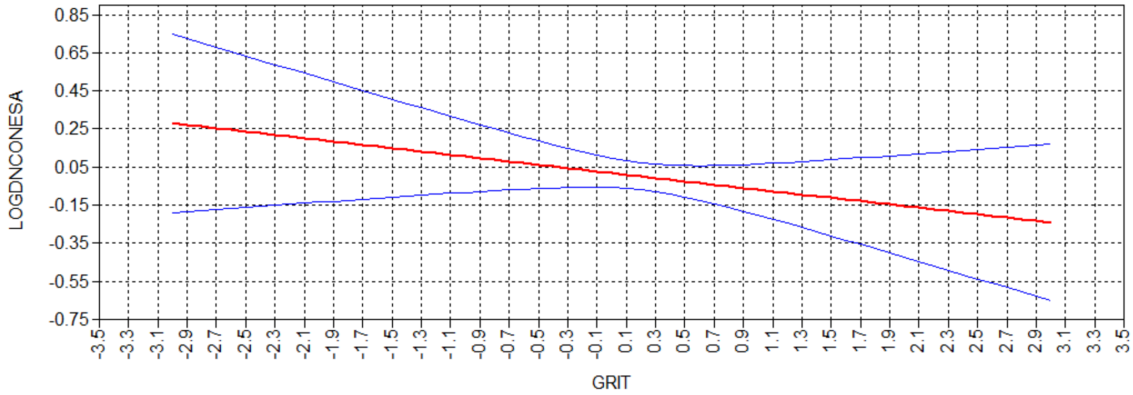


FIGURE D8
Dance on ESA Moderated by Grit



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