

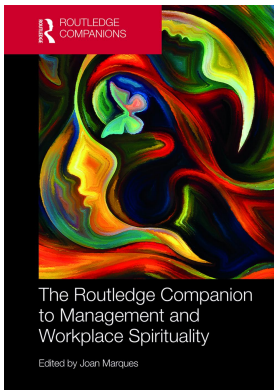
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Claude-Hélène Mayer, Dirk Geldenhuys

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WORKPLACE SPIRITUALITY AND WELLNESS

An Organizational Neuroscientific Perspective

Claude-Hélène Mayer and Dirk Geldenhuys

Introduction

Spirituality within the workplace has become a topic well addressed within the discourse of organizational management (Mayer, 2011) and leadership (Allison, Kocher, & Goethals, 2016). It has been pointed out that spirituality is closely linked to mental health, wellbeing, and wellness (Kamoche, 2000; Honiball, Geldenhuys, & Mayer, 2014; Mayer & Geldenhuys, 2014). However, at the same time, spirituality often in the past has been excluded from sciences because sciences and scholarly work have increasingly been influenced by materialistic worldviews, leading to a turn away from spirituality as a scientific research topic (Sheldrake, 2013). According to Mayer and Walach (2018), spirituality, therefore, has to (re-)gain legitimacy as a scientific research topic and should be addressed from various methodological and theoretical stances. The chapter focuses on spirituality as an important aspect in the workplace, from a neuroscientific perspective. Neurosciences have recently become favored within research contexts, exploring, for example, religious experiences (McNamara, 2009) or organizational and workplace contexts (Choi & Leroy, 2015). However, combined research on neuroscience and spirituality within workplaces and organizations seems still to be a void in research (Smith, 2008).

This theoretical chapter therefore aims at focusing on (workplace) spirituality with regard to wellness from neuroscientific perspectives. It further takes selected, related concepts to spirituality, such as mindfulness, into account to explore them within the workplace and organizational context. The discussion of these concepts from the described perspectives will lead toward new insights, conclusions, and recommendations regarding spirituality as an important research topic in the context of organizational and workplace studies and wellness.

In the following, spirituality and workplace spirituality will be defined and explored in the context of wellness during life and work. These concepts will furthermore be reflected from neuroscientific perspectives and explained with regard to leadership and managerial practices. The authors will present and describe more practical examples with regard to neuroscience and mindfulness as related concepts. Finally, conclusions are provided and recommendations for future research and practice given.

Defining Spirituality

Spirituality has been defined from various disciplinary perspectives (Salopek, 2004; Adams, 2017). Workplace spirituality has been referred to as a specific concept within the discourses on spirituality (Giacalone, 2004; Baldacchino, 2017). The discourses around the meaning of spirituality and workplace spirituality and the complexity of these concepts have led to in-depth discussions and challenges to define the concepts (Giacalone & Jurkiewicz, 2003; Mohamed, 2004; Jacobs, 2013) and scholars from theology (Klerk-Luttig, 2008) and other fields have been actively involved in the interdisciplinary discourses on spirituality (Mayer & Boness, 2011; Lean & Ganster, 2017). Spirituality has, however, also been discussed in the context of organizations and from management and industrial as well as organizational perspectives (Mayer & Geldenhuys, 2014; Mayer & Viviers, 2014a, 2014b).

Spirituality has been defined multifold; it is, however, often referred to as an inner concept which evolves from inner reflection and self-awareness (Han, 2006) and it usually develops throughout the course of life (Mayer, 2017) and represents a conscious attitude toward the self, the world, and beyond (Butts, 1999). To become aware of spirituality within daily life and activities, individuals need to become conscious of the interdependency and interconnectedness of things (Covey, 2005). Therefore, spirituality is always a subjective experience, which interrelates the self, the other, and the entire universe in a quest for meaning (García-Zamor, 2003; Swinton, Bain, Ingram, & Heys, 2011), and connects to the purpose of life and meaningfulness which becomes part of the individual's identity (Krishnakumar & Neck, 2002).

Definitions of spirituality therefore range from concepts that place spirituality within the concept of meaning-making—the moving away from materialism toward transcendence and a certain value orientation (Jirásek, 2013). As described by Mayer and Walach (2018), definitions of spirituality often include that spirituality is based on a human experience in an embodied sense, relating to the self, others, and the world, and transcending in scope, reaching out for a consciousness beyond the materialistic world. Walach (2017) has therefore defined spirituality as the habit of being motivated by a reality beyond the immediate needs and wants of the ego and a holistic, comprising cognition, emotion, and motivation or behavior.

For several researchers, spirituality includes transcendence and a sense of calling, which is usually related to meaningfulness and leading a meaningful and purposeful life (Ashmos & Duchon, 2000). The growing interest in spirituality has been seen as an increase in the search for meaning (Honiball et al., 2014), as well as in a search for an increasing meaningfulness at work particularly (Mayer, Surtee, & May, 2015; Person, May, & Mayer, 2016). Meaningfulness becomes a motivational component and is created through work—particularly when it leads to personal growth and self-development (Sheep, 2004; Mayer, Surtee, & Barnard, 2015)—and increases productivity, as well as wellness in life and at work.

Besides meaningfulness, mindfulness is associated with spiritual traditions (Cashwell, Paige Bentley, & Bigbee, 2007) and defined as a multilayered construct that is connected to cognition, awareness, and emotion (Sauer, Walach & Kohls, 2011). Mindfulness keeps the person in the present moment, opens up multiple perspectives (Atkins, 2008), and is aligned with a non-judgmental, non-attached, gentle, and kind attitude through spiritual practice, which is further seen as being associated with psychological wellbeing and inversely associated with distress (Masuda, Price, & Latzman, 2012).

Mindfulness and meaningfulness are further discussed with regard to their neuropsychological angle and the pros and cons of the application. Practical examples are provided for the reader to gain a deeper understanding of the interconnectedness of the concepts.

Exploring Spirituality in the Context of the Workplace

Workplace spirituality has advanced to a specific concept, which refers to spirituality within the workplace and organizations and it has been pointed out that spirituality can shift the focus within the workplace from a culture of having to a culture of being (Labuschagne, 2013), which further increases effectiveness, creativity, freedom, and wellbeing within the workplace. However, although spirituality has been emphasized as being an important aspect of the *homo economicus* (Yamagishi, Li, Takasishi, Matsumoto, & Kiyonari, 2014), it still seems to be underestimated and neglected in management and organizational studies (Visser, 2009) and the understanding of spirituality within the workplace is still limited (Van Tonder & Ramdass, 2009).

Over the past years, however, workplace spirituality has gained interest in different cultural contexts (Mayer & Walach, 2018) and various definitions of workplace spirituality exist. These definitions range from passionate and energized employees who find their meaning in life in their work, to a spiritual workplace culture, which includes specific values such as autonomy, trust, support, recognition, fairness, and innovation (Kinjerski & Skrypnek, 2004, p. 27). It also includes a sense of transcendence and human and spiritual interconnection and feelings of completeness (Giacalone & Jurkiewicz, 2003, p. 13), including the foci on inner life or spiritual identity, meaning and purpose in work, and a sense of connection and community (Ashmos & Duchon, 2000).

With regard to the workplace, spirituality has been researched particularly in connection with leadership studies (Leigh-Taylor, 2000). Mayer and Boness (2011) have emphasized that spirituality is successfully applied in conflict, conflict management, and mediation in leadership and organizations and it has also been argued by other researchers that spirituality needs to be taken into account when leadership is discussed within the context of the workplace to address leadership and change (Barrett, 2006; Dadabhay, 2011). Full (2010) has described the growing movement among business leaders to turn to mindfulness and spiritual practices, which lead to reduced stress and changes in values and attitudes within workplaces.

Spirituality in the workplace is often connected to related concepts of mindfulness and meditation (Mayer, 2014). The concept of mindfulness in particular has been proven to increase quality of life, decrease symptoms of clinical conditions, and to contribute positively to psychological variables (Khoury, Sharma, Rush, & Fournier 2015; Kuyken et al., 2016). Mindfulness programs, as part of workplace spirituality programs, have increasingly been adopted in organizations and workplaces to reduce stress, but it should be noted that, in this regard too, there is no valid and reliable evaluation research (Ruprecht & Walach, 2016). An increased conscious application of spirituality, however, could support a more sustainable, wellness-oriented workplace culture and lead to an orientation beyond immediate ego-driven needs. It further leads to an increase in ethics and ethical behavior in the workplace (Lips-Wiersma & Mills, 2002), and, according to Glauner (2014), growing sociability and sustainability. Finally, Albertini and Smith (2009) have highlighted that workplace spirituality also leads to improved teamwork, trust, ethical and moral behavior, contentment, feelings of belonging, as well as meaningfulness in the workplace.

Spirituality and its Connection to Wellness in Life and in the Workplace

Spirituality has been described as generally improving human conditions with regard to mental, physical, and spiritual wellness. Wellness is often either defined as subjective wellbeing (SWB) or as psychological wellbeing (PWB) (Diener & Lucas, 2000); however, definitions of wellness, wellbeing, and mental health often overlap (Mayer, 2011). Wellness is defined as experiencing

positive emotions (Goleman, 2000) and as a specific approach to personal health and wellbeing (Freidl, 2004). Wellness is viewed as a positive leadership task, which needs to be recognized as an integrative force of mind, body, and spirit (Mayer, 2011). Employees, when experiencing wellness, are described as being energetic, motivated, healthy, productive, and committed to the organization and its goals (Rothmann, Van der Colff, & Rothmann, 2006). The holistic approach of health and wellbeing includes emotional, intellectual, spiritual, occupational, social, and physical dimensions of the individual (Sapp, 2004). Wellness, as in this definition, includes spirituality as one dimension.

Researchers have described spirituality as an important aspect in medical sciences, psychiatry, and psychotherapy (Van Rensburg, 2014; Mayer & Walach, 2018). Others, such as Bojuwoye (2005), have highlighted its importance for therapies and healing interventions. According to Mayer (2011) and Honiball, Geldenhuys and Mayer (2014), workplaces need to expand their often rather rational and logical focus toward a more spiritual dimension to increase employees' health and wellbeing. Through spirituality, a balance between work and self is increased at work through improved interpersonal relationships, innovative practices, problem-solving, and creativity (Hankin, 2005). This leads to an increase in wellness (Mayer & Geldenhuys, 2014). However, spirituality also functions as a coping mechanism for challenges experienced at work, such as downsizing, risks, rapid changes, or threats of unemployment or increasing organizational diversity (Mayer, 2011). By functioning as a coping mechanism, spirituality increases wellness and enables organizations to flourish (Moore & Casper, 2006), thereby impacting positively on the organizational (wellness) culture.

The role of mindfulness as a spiritual activity in the work context has already become a popular topic in literature (Alberts & Hülshager, 2015; Choi & Leroy, 2015; Reb & Atkins, 2015). Although the focus still seems to be on interventions, especially through training programs, attempts to scientifically study mindfulness in organizations have already started to gain attention (Ellen & Leroy, 2015). Theoretical studies have already been conducted on the role of mindfulness and wellbeing in the work context (Glomb, Duffy, Bono, & Yang, 2011), the relationship between mindfulness, performance, and turnover intention (Dane & Brummel, 2014), and the role of effective leadership (Boyatzis, 2015). Furthermore, Alberts and Hülshager (2015) refer to empirical studies indicating initial evidence regarding the positive effect of mindfulness on aspects such as work-family balance, leadership, employee engagement, job satisfaction, stress reduction and quality of sleep, recovery during a short respite, emotion regulation at work, and job performance. Yet, there is still no consensus in conceptualizing mindfulness (with different frameworks and dimensions) (Choi & Leroy, 2015), as well as the practices and programs, ranging from differences of duration to mode of delivery (Alberts & Hülshager, 2015).

Based on this overview, the authors argue that organizational neuroscience offers the possibility of synthesizing the constructs with specific implications for leadership and managerial practices.

Spirituality, Workplace Spirituality, and Wellness from a Neuroscientific Perspective

Organizational neuroscience as an emerging field of study investigates particular networks of brain systems responsible for attitudes and behavior in the workplace (Ghadiri, Habermacher, & Peters, 2012). Selective neuroscientific principles are applied in the study of intuition, emotions in organizations, ethical decision-making, organizational justice, and leadership (Becker, Croponzano, & Sanfey, 2011; Ghadiri, Habermacher, & Peters, 2012, Habermacher, Ghadiri, & Peters, 2014; Henson & Rossouw, 2013). It is a multidisciplinary field, translating neuroscientific

principles, such as the functioning of the fear-based system, to topics related to the work context to further understand, enrich, validate, and offer a framework for management sciences.

Whereas wellness models in the organizational sciences traditionally rely on applied theories and models from psychology and psychotherapy, current organizational wellness models deriving from a neuroscientific perspective, are primarily based on neuroscientific principles and neuropsychotherapeutic models (Pillay, 2011), for example the work of Grawe (2007) and Grawe's model as refined by Rossouw (2014). These principles and this model serve as the foundation for this discussion. It differs from, but augments, the traditional analytical and humanistic schools of psychology, as the focus is on the neural processes underlying psychology.

Most of the research on organizational wellness interventions mainly studies the stress response with the purpose of determining the causal relationship between exposure to stressors in the workplace and health or organizational performance (Biron, Karanika-Murray, & Cooper, 2012); seemingly, without acknowledging the crucial role the brain plays in the stress response. The reason for this is probably the fact that the majority of the brain's responses occur before the organism is even aware of the stressful condition (Henson & Rossouw, 2013). It is the brain that determines if the environment poses a threat to the individual, and whether the course of action will be to approach or avoid the stressor, both physiological and psychological.

To understand the role of the brain in the stress response and the subsequent implications for spirituality, one first needs to consider the neuroscientific perspective on human development (Hanna, 2014). This theory is called the triune brain theory (three brains in one) developed by Paul MacLean (1990). According to MacLean, the human brain developed through evolution in a sequence, starting with the Reptilian Complex (the most primitive structure that we share with all animals), followed by the Paleomammalian Complex (that we share with mammals), and third the Neomammalian Complex as the most recent step in the evolution of the brain. This development, from the most primitive to the most advanced structures, can be recognized in human beings.

Although the specifics of the theory is today challenged by some neuroscientists (Brann, 2014), there is agreement that the human brain comprises three interconnected brain systems (Dahlitz & Rossouw, 2014) with the primitive brain comprising the brainstem, pons, and medulla, as the first system. This system is fully developed and fully functional at birth and is responsible for physical survival as it regulates breathing, heart rate, motor planning, and the physiological aspects of basic affect such as aggression and anxiety (Hanna, 2014; Henson & Rossouw, 2013; Rossouw, 2014). This is the most protected system of the brain and in need of constant blood flow.

The next is the limbic region (Hanna, 2014), also known as the emotional or impulsive brain and comprises the thalamus, hypothalamus, amygdala, hippocampus, basal ganglia, and nucleus accumbens. This system is fully developed at birth, but not fully functional. It interacts with the environment where it gets cues for learning and for protection. It enables emotions, social behavior, and the ability to refine basic affect (aggression and anxiety) that originates in the primitive brain (Henson & Rossouw, 2013). This is followed by the development of the cortical systems (especially the left and right pre-frontal systems) (Hanna, 2014), also known as the smart brain. This system is mostly underdeveloped at birth and develops until early adulthood. The cortical systems or frontal parts of the brain are responsible for executing control, namely the language, abstract cognition, sequential planning, and perception abilities. Another function of this system is that it serves to down-regulate the limbic system (Dahlitz & Rossouw, 2014). Other than in the case of the primitive systems (such as the brain stem region and the limbic system), damage in this part of the brain is in most instances not life threatening. As the primitive

systems are better developed than the cortical systems, the primitive systems take precedence in activation in situations when danger or threat is perceived, leading to a stress response. The stress response is a psychological survival response of fight, flight, or freeze and is primarily initiated by the amygdala (Hanna, 2014). During the stress response, the hypothalamus–pituitary–adrenal axis (HPA axis) is activated, shutting down systems such as the immune system, digestion, and even the pre–frontal cortex (PFC). This explains why stress can lead to physical illness as well as psychological pathology.

The brain is thus primarily wired for survival (Hanna, 2014; Rossouw, 2014). It is only when survival is secured that the higher order systems, such as the smart brain, can function optimally.

The survival function of the brain is needed in times of danger. However, extensive or prolonged activation of these primitive systems leads to even stronger wiring in this area, the strengthening of neural connections due to the ongoing firing between neurons, the activation of stress chemicals such as corticotropin–releasing factor (CRF), adrenocorticotrophic hormone (ACTH), adrenalin, and cortisol, and the inhibition of serotonin, which is associated with smart brain development (Dahlitz & Rossouw, 2014). This in turn leads to compromised neural proliferation in the frontal systems, resulting in the development of the “anxious brain.” The stress response is thus not only a neurochemical reaction, but also changes the neural networks and even structures of the brain. It may lead to cell death and a decrease in brain volume (Henson & Rossouw, 2013).

Due to the principles of neuroplasticity and epigenetics, synapses are modified by experience (Dahlitz & Rossouw, 2014). The same gene can thus be expressed differently, depending on the experience of the influence of the environment. Experiencing a compromised environment constantly activates the protective patterns that surface in the stress response, leading to the development of motivational schemata of avoidance (Grawe, 2007). However, if the environment is experienced as physically and emotionally safe, the over–activation of these systems will be downregulated, leading to the development of approach motivational schemata (Dahlitz & Rossouw, 2014). According to Grawe (2007), motivational schemata of “approach” and “avoidance” are developed throughout life to satisfy consistently basic human needs and to protect human beings from the violation of these needs. These schemata form the basis of Grawe’s consistency model (2007).

Grawe (2007) identified neural correlates for the basic human needs of Seymour Epstein’s “cognitive–experiential self–theory” (Epstein, 1990, 1993) and postulates that the need for attachment (Ainsworth, Blehar, Waters, & Wall, 1978; Bolby, 1969, 1973) is one of the most fundamental needs for the infant’s psychological wellbeing and development. This is the first survival need that needs to be fulfilled, as infants are not able to ensure their own survival (Hanna, 2014). As the infant’s neocortex is still underdeveloped at this stage, the attachment processes entail more reactive responses than responses that are cognitively controlled. The development of secure or insecure attachment patterns therefore depends on the consistency of the caregiver’s availability, proximity, and sensitivity (Bowlby, 1973; Hanna, 2014; Henson & Rossouw, 2013). If the basic need for attachment is met in a consistent manner, the infant feels safe to explore the environment further. This facilitates learning, resulting in optimal stimulation and neural growth (Grawe, 2007; Henson & Rossouw, 2013).

The interpersonal need for attachment is also linked to a sense of belonging (Hanna, 2014; Siegel, 2012). According to Hanna, Harper, and Nelson as cited in Hanna (2014), the interplay of belonging and individuality as elements of attachment, guide children as they gain a sense of identity in sibling roles.

Another crucial fundamental need for human functioning is the pervasive need for control and orientation (Epstein, 1990; Grawe, 2007). The need for control begins when an infant

needs to respond to the environment in order to survive. As the mother is instrumental in satisfying the need for control, there is a clear relation between the need for control and the need for attachment. If the need for control is not met, the infant experiences incongruence between its goals and its perception of the extent to which the environment can satisfy these goals and hence a violation of this need. However, if the need is met, congruence is experienced and neural proliferations are enhanced.

Human beings need to experience that their environment, or their perceptions of their environment, is congruent with their activated goals (Dahlitz & Rossouw, 2014). They therefore need to experience a sense of control and orientation over their environment. For growth to happen, incongruence is hence needed, but to such an extent, that control is still experienced. Past life experiences, influence the perception of controllability and predictability, of the extent to which life makes sense in general, and about whether investing resources and approaching life is likely to be rewarding (Henson & Rossouw, 2013). The need for control does not only refer to control over the current situation but also to the maximum number of options available for the future. If there are options available for the future, a sense of control is thus experienced (Dahlitz & Rossouw, 2014; Grawe, 2007).

The need for orientation also forms part of the need for control (Grawe, 2007). Orientation refers to the ability to form an accurate appraisal of a situation and to make sense of what is happening (Dahlitz & Rossouw, 2014). If a situation is understood clearly, it will in most instances result in the experience of a greater sense of control.

According to Epstein (1998), another crucial need is the need for pleasure maximization (good, beautiful, etc.) or distress avoidance. Experiences are neurologically evaluated as either good or bad, with the motivation to maximize good experiences and minimize bad experiences. This even happens when people are prepared to suffer for the greater good, or to deny some short-term pleasure to obtain something better in the future (Dahlitz & Rossouw, 2014). Dopamine is released when a sense of pleasure is expected as well as when people are successful in avoiding pain or discomfort.

The evaluation of what is good or bad is subjective and influenced by the individual's activated goals and how the experience of the environment is consistent with satisfying the other basic needs (Rossouw, 2014). According to Grawe (2007, p. 244), we are in a maximal state of pleasure when our "current perceptions and goals are completely congruent with one another, and the transpiring mental activity is not disturbed by any competing intentions." This maximum state is similar to the concept of "flow" (Csikszentmihalyi, 1991), with its focus on intrinsic motivation and the alignment of perception of experience with intentions.

The fourth basic need, the need for self-esteem enhancement or protection, differs from the other needs in the sense that it is distinctly human (Grawe, 2007), probably because the neural circuits associated with this need seem to be more complex and perhaps more extensive than those associated with the other needs (Henson & Rossouw, 2013). Self-esteem is defined as an individual's subjective self-evaluation of his or her worth as a person. As a basic need, it is secure and congruent, as opposed to unstable, narcissistic, or discrepant (Grawe, 2007; Henson & Rossouw, 2013). Conscious self-awareness and the capacity for reflective thinking are required for the regulation of self-esteem and probably evolved as result of the survival value of social relationships. As these qualities are primarily facilitated by the cortical areas, they are still absent in young humans, and thus the last to mature. However, life experiences that occur before the development of these qualities already influence the self-image and self-esteem of the individual. According to Grawe (2007), the tendency to enhance self-esteem can be related to approach motivational schemata, whereas self-esteem protection can be related to avoidance schemata.

Grawe's consistency model (2007) was refined by Dahlitz and Rossouw (2014) who suggest that the need for self-esteem is an emerging property of the other basic needs and that the "condition of safety is essential for the satisfaction of those needs" (Dahlitz & Rossouw, 2014, p. 32). Furthermore, it is argued that the self-esteem concept does not seem to have an approach/avoidance reflex in relation to the environment. It should rather be seen as an emerging property of the other needs, "an emergent sense of self—shaped by basic need satisfaction and the motivational schemata that serve those needs—as a neural meta-structure that influences our approach/avoid violation" (Dahlitz & Rossouw, 2014, p. 32). Habermacher et al. (2014) also adapted Grawe's model by viewing control and orientation as two separate needs.

Organizational Neuroscience for Leadership and Managerial Practices

Although leadership theories and managerial practices are currently, in most instances, not developed from a neuroscientific perspective per se, using organizational neuroscience as a framework or as a benchmark for assessing these is becoming popular among scholars and practitioners. For example, coaching with compassion is an approach developed by Boyatzis, Smith, and Beveridge (2012), of which the aims can be regarded as congruent with basic neuroscience principles. According to the authors, compassion includes both increasing hedonic wellbeing in response to pain, but also eudemonic wellbeing in response to the need to grow. This correlates well with satisfying the basic human needs and providing stimulation for growth.

Henson and Rossouw (2013) applied Grawe's consistency theory to leadership development and Habermacher et al. (2014) and Brann (2014) to coaching as a leadership development intervention. Ghadiri, Habermacher, and Peters (2012) are of the opinion that leadership, from a neuroleadership perspective, means to lead one's own and others' brains and to satisfy the four basic neuroscientific needs. Hence, the goal of management is to strive for harmony with these basic needs, the brain, and the working environment. According to Henson and Rossouw (2013), optimal brain functioning in organizations is achieved when individuals are able to self-regulate the experiences of new stimulation. They can build resilience by including confidence and competence through exposure to, and adapting to increased levels of change. This implies an organizational culture that is characterized by safety and an optimal stimulation and cognitive load (Henson & Rossouw, 2013). Optimal stimulation refers to a "controlled disruption of inconsistency" (Henson & Rossouw, 2013, p. 80) and cognitive load refers to a thinking environment where the correct amount of time is dedicated to ensure deep thought, reflection, and analysis, while, at the same time maintaining a sense of urgency. Based on this discussion, we argue that organizational neuroscience can serve as a scientific validation for applying spiritual activities such as mindfulness in the workplace.

Spiritual Concept of Mindfulness from a Neuroscience Perspective

Studies about the relation between mindfulness as a spiritual practice and neuroscience are still in its infancy (Chiesa, Calati, & Serretti, 2011) and are regarded as a promising avenue for future research and practice (Brann, 2014; Choi & Leroy, 2015). However, preliminary studies have already indicated an association between the two major approaches in mindfulness training, namely focused attention and open monitoring, and portions of the cortical areas such as the prefrontal cortex, anterior cingulate cortex, and the parietal cortex (Tang & Posner, 2013).

Spirituality offers an advantage point for increasing wellbeing in organizations by lowering cortisol levels and enhancing the development of the neocortical systems (Henson & Rossouw, 2013). This in turn leads to the enhancement of wellbeing in organizations, improved leadership

and managerial practices, and hence improved productivity. From the perspective of applied neuroscience, the capacity to reflect and the development of self-awareness are regarded as mainly as a smart brain function that develops throughout life. In essence, self-monitoring facilitates a shift from being a victim of external forces to taking control (Henson & Rossouw, 2013). The practice of spirituality with its emphasis on non-judgmental reflection and self-awareness can therefore assist in neural proliferation in these systems thereby enhancing well-being (Cloninger, 2007). Awareness of stress without judgment can decrease negative thoughts about the self and contribute to the enhancement of self-esteem. That is, according to Dahlitz and Rossouw (2014), an emerging property of the other basic needs.

Furthermore, another major component of spirituality, namely to become conscious about the interdependency and interconnectedness of things, probably also relates to approach motivational schemata whereby humans approach the environment instead of avoiding challenges that the environment may pose. Approach motivational schemata can be enhanced even further with the non-judgmental curiosity and kindness that is characteristic of practicing mindfulness as a spiritual activity.

It can also be argued that practicing mindfulness can assist in down-regulating fear-based avoidance motivation, as human beings cannot develop self-awareness when overly fearful, stressed, or angry (Hanna, 2014). More specifically, spirituality can probably address the basic human needs for attachment and control. As discussed earlier, making sense of life experiences can enhance the experience of being in control. Only when this need is satisfied on a basic level, are people able to strive for exercising control over their environment. According to Cloninger (2007), people find meaning in life by experiencing acts of kindness or compassion. In this sense, spirituality can assist in activating feelings of hope and life satisfaction. This corresponds with the relationship between the needs for attachment and control whereby the need for control can be satisfied by the proximity and sensitivity of a caregiver. The experience of belonging thus provides safety, allowing focus on approaching life and difficulties instead of avoidance behavior.

We also argue that the basic need for pleasure maximization relates to spirituality. As mentioned, the maximal state of pleasure is similar to the concept of flow. According to Seligman (2002) who built on the concept of flow, happiness in life entails three dimensions that can be developed, namely the pleasant life, the good life, and the meaningful life. The last dimension to be developed, the meaningful life, refers to a sense of fulfillment that is experienced when people use their personal strengths to serve a purpose greater than their own needs by contributing to the happiness of other human beings. As dopamine is released when a person experiences success in avoiding pain or discomfort as well as when pleasure is experienced, spirituality can assist in satisfying this need to such an extent that life is not only pleasurable but even experienced as meaningful.

Although links between mindfulness and neuroscience have already been made, there is still resistance to implementing mindfulness interventions in the workplace. According to Reb and Atkins (2015), the tension between spirituality and the workplace can, for instance, be ascribed to value conflicts between spiritual practices and workplaces, the growing secularization of society and the need for many to retain a separation between work life and personal life. According to Hall (2015), scholars and practitioners could frame mindfulness in a secular context in an attempt to address these concerns. This, however, could lead to concerns about losing the essence of mindfulness (Reb & Atkins, 2015). We argue that applied neuroscience can offer such a vantage point by not only providing a secular but, more importantly, a scientific lens for introducing mindfulness as a spiritual concept in the workplace.

An openness to the introduction of formal mindfulness programs in organizations can be facilitated by including a theoretical neuroscientific component as part of the program.

Furthermore, mindful leaders can imbed mindful practices in the organizational culture. This can be done by using self-awareness and self-regulation to create a safe, but stimulating, culture through instilling policies and processes that foster open communication. Simple but practical techniques could be, for instance, to learn to reflect on the motivational schemata that drive decisions; to make reflective rather than reactive decisions; to broaden thinking by asking how the opposite of your own assumptions might be true; to observe and name external and internal stimuli without judgment; to develop the habit for asking for alternatives before decision-making (Brann, 2014; Henson & Rossouw, 2013).

Conclusions and Implications for Theory and Practice

The aim of this chapter was to provide insights into spirituality and wellness from a neuroscientific perspective. The authors conclude that organizational neuroscience can assist in providing a scientific basis for applying mindfulness as spiritual practice in the work context.

Researchers and practitioners need to be mindful about organizational neuroscience becoming an applied field of study. In a world that is progressively characterized by interdisciplinary, multidisciplinary, and transdisciplinary studies, there does not seem to be a need for behavior specialists working in organizations to do clinical studies with functional magnetic resonance imaging (fMRI) and similar technology. Translating and researching the contribution of applied neuroscientific principles seem to be more appropriate and useful. In this sense, as organizational interventions to a large extent apply theories, models, and practices based on psychotherapeutic principles, it is reasoned that neuropsychotherapy can already serve this purpose and be adjusted to neuropsychological-based coaching in the workplace.

However, this being said, this field of study is still in its early stages. Empirical research to validate current hypotheses about the correlations between neuroscientific principles and mindfulness as spiritual activity in the workplace is still largely lacking. Multidisciplinary research and particularly neuroscience, for instance, can assist by identifying and offering insights into the neural correlates of mindfulness as spiritual activity in the workplace.

Regarding future practice, we argue that applied neuroscientific knowledge can form a theoretical component of skills training interventions and mindfulness. Equipping participants with the relevant knowledge of how the brain functions will assist in grounding the interventions and creating meaning and a deeper understanding of the workplace and workplace interactions for participants. Furthermore, applied mindfulness techniques can be practiced by employees, leaders, and workers alike to create a mindful and spiritual workplace culture in which all participants can strive for wellness and success.

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