

# Cultivating alternate mindsets to restructure the global economy by reducing stress and enhancing innovation

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## Keywords

mindfulness, meditation, well-being, creativity, innovation, positivity

## Abstract

*In contrast to traditional mindsets (TMS) – conscious awareness, controlled mental processes, and analytical-logical manipulation of symbols – alternative mindsets (AMS) are pre-conscious mental processes (i.e. associative, imaginative, intuitive) and holistic thinking (Davis-Floyd and Arvidson, 1997; Dane and Pratt, 2007; Hodgkinson et al 2009). Alternative mindsets – an array of such systems – were primarily explored for their individual benefits, while our research focuses on organisational benefits towards improving the global economy.*

*To do this, we used a bi-weekly meditative practice to induce an AMS in organisational actors. We hypothesized that following the shift from TMS to AMS, organisational actors will benefit from enhanced creative production and well-being. Empirical experiments were conducted with 144 self-selected participants at three organisations measuring well-being and creativity, consisting of eight 20 minute guided meditations (Fredrickson et al. 2008, Oz et al. 2009, Sears & Kraus 2009; for the control group a “placebo” technique of relaxation; Rausch et al., 2006). Statistical analysis, using the fixed effects model, showed significant increases in well-being, creativity and mindfulness for the experimental groups compared to the control groups for all three locations as of six sessions.*

*Our study shows that the induction of AMS, such as a global mindset, through meditative techniques has potential to transform the global economy by counteracting rising stress levels within organisations, as well as leading to higher employee engagement, higher productivity, improved innovation and intrapreneurship. All of these benefits permit for the restructuring of the global economy towards more optimal quality of life, strategic performance and intrapreneurship.*

## Introduction

Growing numbers of workplace wellness programs are being established internationally to aid employees in dealing with the uncertainty and instability which have become the norm in modern work environments. By encouraging meditative moments and pauses, employees can benefit from a ‘digital detox’, renewing their focus and energy, and bringing new inspiration. All the while, there is substantial room for attention given to mental health and wellness globally, to optimally steer our global economy towards enhanced effectiveness, innovation and sustainable growth.

We propose that utilising contemplative practices to induce alternate mindsets, such as mindfulness, positivity and global mindsets, can enhance functioning of people within organisations, by reducing conscious control over mental processing, allowing for more integrative and holistic perspectives. This, preconscious mental processing, has been previously shown to be beneficial to creative problem solving, insights, intuition, and other facets of life.

Alternate mindsets (AMS) are characterized in literature by pre-conscious (potentially available to the consciousness) awareness, uncontrolled mental processes (associative, imaginative, intuitive) and holistic thinking (Davis-Floyd and Arvidson 1997; Dane and Pratt, 2007; Hodgkinson et al 2009). In contrast, traditional mindsets (TMS) are characterized by conscious awareness, controlled mental processes, and analytical-logical manipulation of symbols. Since Plato, the West has considered TMS as the hallmark of intelligence and simply of any cognition. Yet, during these recent decades, various research showed alternatives to analytical-logical cognition mental systems (Damasio 1994; Nisbett et al., 2001; Wagner and Sternberg 1985). Alternate mindsets represent an array of such systems, which were partly explored for their individual benefits, whereas our focus is organisational and global impacts.

The purpose of this research is to define the psychological mechanism that specifies the path from cultivating alternate mindsets to positive benefits for organisations and the global economy.

### **1.1 Research sources for the exploration of alternate mindsets**

A number of existing fields of established research provide a basis for exploring alternate mindsets (AMS) and their potential organisational benefits. These include psychology, organisational science and cognitive neuroscience, which have literature sources providing the context for understanding and evaluating organisational applications of these mindsets. To provide a framework for developing our conceptual model, we outline key research in this rapidly evolving field. To begin with, Sedlmeier and his colleagues (2012) in a comprehensive meta-analysis of 163 empirical studies on psychological effects of mindfulness meditation, and other forms, found a medium average effect size of meditative techniques. Further, Sedlmeier and colleagues conclude from evaluation of these studies that the effects of meditation are different from relaxation and cognitive restructuring, and that the effects vary across different forms of meditation. Mental states compatible with AMS have been explored within the domains of positive psychology and positive organizational science, as a way of enhancing individual and organisational performance. We posit that the demonstrated benefits of the former are indications of the benefits of AMS.

Positive psychology and positive organisational science literature convey individual benefits of AMS to result from shifting to focus on strengths and potential rather than dwelling on weaknesses and problems. First, Quinn (1990) showed how being in a mindset that is results-centered, internally directed, focused on others and externally open—a state compatible with AMS—yield leadership excellence. Similarly, Csíkszentmihályi (1990) showed that the state of flow, compatible to AMS, provides enjoyable and valuable experiences through complete absorption in an activity. In a similar vein, Gardner (2004) offered a framework for changing one's mindset, and its impact for enhancing intelligence, creativity and leadership. Also, Seligman and associates (2009) looked at how an optimistic mindset of anticipation, energy and excitement brought greater satisfaction. Finally, Dweck (2006) discussed how a growth mindset—a focus on the continued development, as opposed to a fixed mindset—enhances performance and achievements.

### **1.2 Basis for cultivating AMS**

Two areas of neurophysiological research are particularly relevant to alternate mindsets: (1) brain structure has plasticity; this supports the possibility of moving from TMS to AMS, and (2) reliable techniques exist to train the brain to access AMS.

In terms of brain plasticity, Davidson and associates (2007) described the changeable structure of the brain (neuroplasticity), and neurogenesis as experience-dependent alterations in brain function. Further on, Luders (2009) found using MRIs that the brain continues to change during one's lifetime thus indicating the potential to move from TMS to AMS.

In terms of training the brain to develop AMS, Brefczynski-Lewis and associates (2007) showed meditative techniques enhance concentrative abilities, awareness and widen perception, characteristics of AMS. Next, Luders and associates (2009) showed meditation increases gray matter (indicating more efficient or powerful information processing) in brain regions important for attention, emotion regulation, and mental flexibility. Further, Raffone and Srinivasan (2010) found AMS enhance attention, consciousness, self-awareness, and empathic development.

To summarise, diverse neurophysiological research has shown brain structure and function develops throughout one's lifespan, allowing, thus, the possibility to access and deepen AMS with meditative practices.

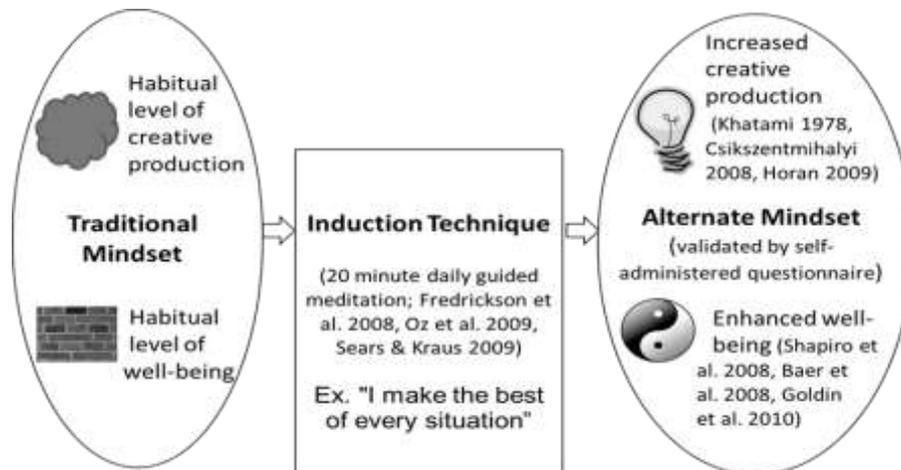
### **1.3 Mindfulness, a prominent alternate mindset**

One type of AMS that has been explored within psychology and other domains is mindfulness. First, Langer (1989) defines mindfulness as an ever-ready state of mind which is alert and open to new

perspectives. She states that while effort may be necessary to shift to a mindful mode, the state itself seems effortless. Similarly, Baer and colleagues (2006) define mindfulness as non-judging of inner experience, observing but not evaluating sensations and emotions, as well as non-reactivity to inner experience, such as in AMS. Further, Dhiman (2009) describe a mindful state as when the mind becomes serene, stable and strong, traits present in AMS.

### 1.0 Purpose of research and conceptual model

We propose that introducing a bi-weekly meditative practice into organisations, a psychological mechanism evidenced in research literature to induce an alternate mindset, will result in shifting from a traditional mindset, typified by habitual levels of creative production and well-being, towards an alternate mindset, where organisational actors benefit from enhanced levels of these traits. The conceptual model shows these two mindsets and their connecting psychological mechanism:



**Figure 1:** Conceptual model of transition from traditional to alternate mindset

For the purposes of this research we focus on psychological techniques of accessing AMS. Existing research literature has discussed a number of organisationally feasible psychological techniques for accessing AMS. The technique we selected from the literature for inducing AMS is meditation. The type of meditation we applied is focused – also called concentrative – meditation, which involves giving one's full attention upon an idea or object. In support of this mechanism inducing AMS, Benson and associates (2000) showed how focused meditation enables greater attention to, and control over, the autonomic nervous system, inducing physiological changes including greater ease and relaxation. Further, Lutz and associates (2009) described how mental training – meditation – enhances attentional stability, as in AMS.

### 2.1 AMS individual level benefits

Research has shown that being in an alternate mindset brings several types of individual level benefits. A first type of benefits concerns improved information processing, heightened awareness and a widened perception of reality. For example, Quinn (1990) showed how the holistic perspective which AMS provide allows managers and leaders to function more effectively with the paradoxes and competing demands they are presented with and remain calm and focused. AMS mechanisms have been shown to improve functioning of the insular cortex and its related neural functions, including increased self-awareness and empathy, enhanced perception and cognitive functioning, and better regulation of the body's homeostasis, emotions and consciousness (Craig 2004; Lutz 2008; Singer 2008). Finally, Sadler-Smith and Shefy (2004) show how alternate mindsets allow integrative information processing, rather than linear and fragmented processing, as in TMS.

A second type addresses the increased ability for managers to focus and concentrate. For example, Kabat-Zinn (2002) showed that mindful states – a form of AMS – allow senior managers to focus better, sustain attention for longer periods of time, and at the same time, bring additional benefits of reduced stress, improved health and heightened creativity. Similarly, Weick and Putman (2006) found

that being alert and mindful, as in AMS, fosters better concentration, and greater ability to sustain focus than in TMS. Finally, Langer and associates (2010) discovered that AMS allowed subjects to overcome physiological limitations, have better visual abilities, improved health and longevity.

A third type of AMS individual benefits concerns enhanced intuition and greater wisdom. For example, Barnard (1938) found AMS enable “good sense,” intuition, inspiration, or even ‘genius’ abilities through holistic appraisal. Further on, Davis-Floyd and Arvidson (1997) found that AMS provide an inductive way of knowing which allows for more insights than TMS. Similarly, Rowley (2006) found that AMS provide for greater wisdom, better knowledge management and strategic leadership. Finally, Weick and Putnam (2006) have shown AMS improve mental alertness and organisational abilities, thus enhancing innovation and agility.

Lastly, a fourth type of individual benefits concerns better judgment in problem-solving, and sense-making. For example, Blattbergand Hoch (1990) showed AMS allows for good judgment when normative analyses break down. Further on, Dane and Pratt (2007) showed that AMS allow for affectively charged judgments that arise through rapid, non-conscious, and holistic associations. Finally, Ericson (2010) showed how AMS allows organisational actors to conceptualize a broader view of strategic decision making, leading to enhanced sense-making amongst managers.

## 2.2 AMS organisational level benefits

Research has shown that AMS bring several types of organisational level benefits. A first area of benefits is enhanced teamwork through a greater connectedness. For example, Sheldon and McGregor (2000), and Sheldon and Osbaldiston (2000) pointed to how the intrinsic focus of AMS leads to more cooperation and pro-social behaviour, as well as better ability to solve social problems. Further on, Imel and associates (2008) showed mindfulness-based stress reduction (MBSR) – a process inducing AMS – provides group benefits. Next, Yeganeh and Kolb (2009) outlined how mindfulness cultivates experiential learning, reduces automaticity and enhances quality of life. Finally, Shapiro and associates (2010) showed that AMS enable interpersonal attunement, fostering better relationships.

A second type of AMS organisational level benefits is improved international business strategy resulting from a global, holistic perspective. For example, Kedia and Mukherji (1999) have shown that a global outlook, as in AMS, transforms an organisation’s structure, process, people, and culture from autonomous business units to an integrated and effective global network. In a similar vein, Lahiri and associates (2008) found that a global mindset gives people a broader perspective, thinking beyond geographic boundaries and hence, viewing globalisation as growth opportunities. Further, Solomen and Schell (2009) and Cohen (2010) showed how a global mindset, spanning cultural and geographic divides is crucial for building business relationships, global business strategy and leadership.

## 2.3 Research methodology

A letter offering the on-site research study was sent to 19 organisations in Canada and 17 in France. After follow-up, three organisations accepted hosting the research study. Employees from Vancouver City Hall, a real estate development company in Vancouver, Canada (Aleph, for confidentiality reasons), and ESCP Europe were recruited, via newsletter for City Hall, and by email at Aleph and ESCP Europe, sent to each employee. Willing – self-selected – employees were invited to contact the researcher directly.

Two dependent variables – well-being and creativity – were measured. The experiments at the first two locations were single-blind and at the third location were double-blind. The independent variable of study is the type of technique: for the experimental groups, guided meditation in which the participant’s attention is drawn to a fixed point of internal focus through visualization and focused, concentrated thought which has been previously shown to elicit AMS; for the control groups, participants used relaxation activities in which their attention is simply allowed to wander, and which has been previously shown to not evoke AMS.

### 2.3.1 Experimental procedure overview

For experiments measuring well-being, participants completed the Satisfaction with Life Scale (SWLS; Diener et al., 1985) prior to each session. Next, they were led through a meditation session, and then completed the Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003) to assess the extent

of AMS. At the end of their work day, participants again completed the SWLS. For experiments measuring creativity, prior to the first session, participants outlined several current challenges they were encountering at work, from which one was selected by the researcher for each participant. Prior to each experimental session, participants took a creativity test, the Adjective Check List (ACL) Creativity Scale (Domino, 1970). Next, they were administered a meditative technique and then completed the MAAS to assess extent of AMS. Finally, at the end of their work day, they again completed the ACL, and reported solutions to their selected challenge. These solutions were assessed by a panel of three judges on two criteria (novelty and usefulness) using the piles method.

### 2.3.2 Statistical model

All the models included the following predictors: sessions (from 1 to 8), condition (experimental versus control) and interaction between sessions and condition. The Akaike Information Criterion (AIC) was used to compare models with only fixed effects compared with only random effects to discover whether context affected the experiment.

	Fixedeffect Model AIC	Randomeffect ModelAIC
Start-of-day Well-Being	1805.64	1826.83
End-of-day Well-Being	1821.46	1819
Start-of-dayCreativity	2295.85	2315.26
End-of-dayCreativity	2277.19	2298.12
AverageCreativity	994.44	1632.75
Mindfulness (AMS)	1569.34	1573.85

**Table 2.** Fixed and random effects models comparisons using AIC

Except for end-of-day well-being, the results suggest that the effect was the same across time and location. Given the statistical insignificance of variability across contexts for well-being, creativity and mindfulness levels, further analyses are based on the fixed effect model, as it is more appropriate for our data. For end-of-day well-being, corrected estimates of the random effect model are reported.

### 2.3.3 Predicting well-being, creativity and mindfulness

The estimates of the models are reported in Table 3.

	Start-of-day well-being	End-of-day well-being	Start-of-day creativity	End-of-day creativity	Average creative production evaluation	Mindfulness (Extent of AMS)
Session	-0.02	.01	-0.01	0.01	0.01	0.00
Condition (Exp.)	-0.42*	-.32	-0.82	0.82	0.07	0.01
Session: Condition (Exp.)	0.13***	0.10***	1.03***	1.20***	0.14***	0.12***

\*  $p < .05$  ; \*\*\*  $p < .001$ ; Intercepts are not reported but are all significantly superior to zero.

**Table 3.** Estimates of the GLMs predicting well-being, creativity and mindfulness

This analysis used the fixed effects model to assess impacts per session and overall of experimental groups compared to control groups for each well-being measure for the three locations combined, as well as each creativity measure for the two locations where it was tested, and finally, for mindfulness levels for the three locations, as an indicator of extent of AMS. The table above reports estimated values from the generalised linear model, of what predicted levels of well-being, creativity and

mindfulness would be expected for a participant to experience from experimental sessions, based on average values across all participants in each data set.

For all the variables, no simple effect of sessions was observed. The score of start of day well-being was found to be significantly lower in the experimental condition:  $B=-42$ ;  $p<.05$ . Except for this variable, no simple effect of the condition was observed. The interaction between the session variable and the condition is positive and significant for all the variables: the level of start-of-day well-being ( $B=.13$ ;  $p<.001$ ), the level of end-of-day well-being ( $B=.10$ ;  $p<.001$ ), the level of mindfulness ( $B=.12$ ;  $p<.001$ ), the level of start-of-day creativity ( $B=1.03$ ;  $p<.001$ ), the level of end-of-day creativity ( $B=1.20$ ;  $p<.001$ ), and the average creativity evaluation ( $B=.14$ ;  $p<.01$ ) all indicate that the cumulative positive effect of sessions on the levels of well-being, mindfulness and creativity is significantly stronger in the experimental condition.

### 2.3.4 Predicting increase of well-being between start- and end-of-day

The increasing of well-being (end-of-day well-being minus start-of-day) and creativity (end-of-day creativity minus start-of-day) were introduced as dependent variables in two GLM. The predictor variables were the same as in the first models: condition (Experimental versus Control), session (session 1 through session 8) and interaction between the two previous variables. Estimates of these GLM are reported in Table 4.

	Well-being increases	Creativity increases
Session	0.03	0.02
Condition(Experimental)	0.46***	1.65**
Session: Condition(Experimental)	0.00	0.18

\*\*  $p<.01$  ; \*\*\*  $p<.001$ ; Intercepts are not reported but are all significantly greater than 0.

**Table 4.** GLM estimates predicting well-being and creativity increases

The results suggest that both increase of well-being and creativity between start- and end-of-day are significantly higher for the experimental condition than the control condition. This means the experimental condition also has a within-day, before/after effect on both well-being and creativity.

## 3.0 Discussions and conclusions

In this section, we discuss the implications of (1) AMS and its potential to counteract the global stress epidemic, (2) enhanced well-being from AMS, leading to greater productivity and pro-social behaviour and (3) enhanced creativity from AMS, leading to greater technical innovation and intrapreneurship.

### 3.1 Impacts of increased alternate mindsets

Occupational stress has been classified as a "global epidemic" by the UN International Labour Organisation, and according to researchers at Fairleigh Dickinson University, 3 of 4 workers are on the brink of meltdown due to high stress. Rather than ameliorating over time, stress levels are increasing, emphasising the importance of finding a way to reverse the trend. Selye (1978) and others pointed to the need for 'stress therapy', in a preventative and holistic manner, citing that "adopting the right attitude can convert a negative stress into a positive one," thus AMS could create eustress - curative stress - which otherwise would be harmful, in TMS. The process through which AMS techniques could reduce stress has been linked by various research. In exploring the mechanisms that could assist in managing stress, Benson and colleagues (1974) showed how meditation, an AMS technique, reduces somatic-arousal, potentially allowing for stress levels to be curtailed. Further, Smith (1986) explored how meditation alters cognitive appraisal and perceived self-efficacy, allowing for increased awareness of how thoughts and emotions arise in response to various events, ultimately leading to better handling potentially stressful situations.

Research shows that wear and tear caused by prolonged stress can increase risk of illnesses, such as heart attacks, strokes, high blood pressure and diabetes (Benson 1975). Learning to 'switch off', allowing AMS to return, through meditation or other AMS techniques, can dampen these effects. This can be done by applying one's willpower, or internal resources, to inhibit the stress response and gain control

over one's response to potential threats. Edelman (2007) describes how resisting unpleasant emotions or sensations create secondary pain that amplifies the initial source of distress. In the default mindset, TMS, mind-wandering is persistent and typically involuntary, that is, a lot of endogenous mental activity occurs even when the mind is supposedly 'at rest'. An interior dialogue ensues, termed 'mental chatter', that is often self-focused rumination about the past and the future (Christoff, Gordon, Smallwood, Smith, & Schooler, 2009). To counteract this, AMS techniques strengthen the ability to bring the mind back to a positive or at minimum, a neutral state.

The mechanism through which AMS techniques bring about reduced stress and the possibility of an alternative choice to be made to override the otherwise automatic stress response is by reducing distractive and ruminative thoughts and behaviors, as shown by Jain and colleagues (2007) in a randomised controlled study of a month of mindfulness meditation compared to somatic relaxation training. Their findings that meditation counteract stress is strengthened by findings of other researchers, including van den Hurk and colleagues (2011) who found that meditation is linked with personality traits that prevent repetitive negative thoughts and worry, allowing for greater openness and extraversion and lower neuroticism and conscientiousness. They explain that AMS training takes effect through a process of taking notice of and accepting all thoughts and feelings, including unwanted and negative ones, without judging and then letting them pass, and in doing so, a downward spiral can be averted (ibid, Baer et al. 2006).

Consistently practising AMS techniques has been suggested to build a reservoir of mental calm, resilience and willpower, strengthening one's ability to dampen the mind and body's automatic responses to stress triggers (Kabat-Zinn & Davidson 2011). A 'Pause and Plan Response' – in contrast to the fight or flight response – can then occur when an internal threat is recognised, allowing a conscious choice to be made in response to stimuli in place of the automatic stress response, according to Segerstrom and her colleagues (2012). This alternative was explored by Baumeister and colleagues (2012), who described how AMS mechanisms reduce stress by building willpower and self-control. Ryan (2013) furthered this by explaining how AMS enable greater insight, self-control and self-monitoring.

### **3.2 Impacts of increased workplace well-being**

Paradoxically, in modern society, objective conditions continue to improve but populations are not experiencing greater well-being. Income and other factors including gender, education, and marital status have little impact on levels of subjective well-being (Barber 2013). Thus; cultivating AMS can provide an inexpensive effective solution for bolstering well-being.

#### **3.2.1 Productivity**

Better workplace performance and global economic functioning can result from employees experiencing greater well-being. First, those with higher well-being levels are significantly more likely to receive high ratings from customers, and in one study, retail stores scoring higher on employee life satisfaction (a measure of well-being) generated \$21 more in earnings per square foot of retail space than stores in the comparison group, adding \$32 million in profits to the company overall (Gallup Poll 2006). This allows companies to make more efficient use of space and resources as a result of AMS techniques. Second, in a meta-analysis of 225 academic studies, Ljubomirsky, King and Diener found that employees with high well-being have, on average, 31% higher productivity and 37% higher sales. Overall, organisations and the global economy benefit from greater success, higher productivity and efficiency, as a result of the enhanced well-being that AMS mechanisms can provide.

#### **3.2.2 Pro-social behaviour**

Next, enhanced well-being has been linked with more pro-social behaviour such as displaying greater empathy, compassion and consideration of others. As a result, employees who score high on providing social support are 40% more likely to receive a promotion, have higher job satisfaction, and feel ten times more engaged at work than those in the lowest quartile (Anchor 2008). As well, corporate culture can improve and employee turnover can decrease, from having stronger social bonds and employees having greater commitment to their employer (Goleman 1998). Thus, the benefits of enhanced

well-being from AMS mechanisms extend beyond the individual - of being more empathic, satisfied and engaged at work - to enhance group and organisational factors.

### 3.3 Impacts of increased workplace creativity

Two potentially valuable categories of organisational implications of enhanced creativity resulting from AMS are technical innovation and intrapreneurship.

#### 3.3.1 Technical innovation

The enhanced employee creative production resulting from AMS could benefit firm performance by allowing for greater technical innovation to stem from all employees. To begin with, Torrance (1959) explained the serendipitous nature of technical innovation, in that creativity and invention happen unexpectedly during experiences, and called for 'renewed energy for continuous adaptation'. In light of this, Collins and Porras (1997) pointed to the need for 'mechanisms of progress', systematic approaches, for continuous improvement and innovation from all organisational actors. This aligns with AMS mechanisms, as, following a 20 minute technique, employees continue with their normal working day, as a result of which they have greater creative potential to notice what improvements could be made and what new ideas could be implemented from all available sources while they are carrying out their tasks, rather than separating innovation to a distinct department. In support of this, Robinson and Stern (1998) state that the creative potential of firms is typically greater than their creative performance, thus enabling fuller expression of employee creative potential could narrow this gap. These researchers, along with Torrance, also emphasise that corporate creativity tends to occur in unplanned and unexpected ways, thus, implementing AMS techniques to enable expression of innate creative potential could prove more advantageous and economical.

#### 3.3.2 Intrapreneurship

Intrapreneurship, defined by Shabana (2010) as internal entrepreneurship, that is, employees using their creative ideas and entrepreneurial skills towards enhanced innovation within their organisation. Also referred to as corporate entrepreneurship, intrapreneurship can improve from utilising creativity that results from AMS techniques by allowing employees to use their experiences to come up with insights to devise and exploit opportunities (Rerup 2005). Towards this, Kok and Fredrickson (2013) suggest AMS techniques allow greater intrapreneurship by strengthening self-regulation of the vagus nerve of the parasympathetic nervous system, allowing participants to 'calm and connect', improve social skills and self-awareness.

In conclusion, this domain of research is receiving increasing attention, as noted by Kabat-Zinn and Santorelli (2002) and Seligman, Peterson, Park, Hall (2009), and has substantial potential for enhancing the global economy.

## 4. Research limitations and directions for future research

In terms of research limitations, in order to implement meditative techniques to elicit AMS, employees must be willing to give of their time and attention to participate in meditation sessions. Because only a portion of employees are self-motivated to attend and participate in meditation sessions on their own time, which introduces a self-selection sample bias, alternative enrollment solutions must be attempted if all employees are to participate.

Future possibilities for research involve replicating the experiments at additional—business and/or not-for-profit—organisations, measuring either: (1) the same individual benefits of AMS, to strengthen ecological validity of results and have sufficient numbers of participants to make demographic comparisons, or (2) additional AMS benefits, at the individual (such as level and duration of concentration, fulfillment or work engagement), team (such as group cohesiveness, team productivity or extent of synergy) or organisational level (such as corporate citizenship, turnover levels, absenteeism levels or productivity), or global level.

## 5.0 References

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & L. Toney. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13, 27–45.

- Baumeister, R., Bertrams, A., Dickhäuser, O. & Englert, C. 2013. Role of Self-Control Strength in the Relation Between Anxiety and Cognitive Performance. *Emotion*, Online First Publication, doi: 10.1037/a003192.
- Barber, S. (2013). Les misérables: Despite welfare state and wine, unhappiness reigns in France. *The National Post*. March 26 edition.
- Bechara, A., & Damasio, H. (1997). Deciding advantageously before knowing the advantageous strategy. *Science*, 275 (5304), 1293-1296.
- Benson, H., Moore, S., Christopher, I. & Fischl, B. (2005). Meditation experience is associated with increased cortical thickness. *NeuroReport: For Rapid Communication of Neuroscience Research*, 16(17), 1893-1897.
- Benson, H. (1975). *The Relaxation Response*. New York: William Morrow.
- Benson, H., Beary, J., & Carol M. (1974). The relaxation response. *Psychiatry*, 37(1), 37-46.
- Carmody, J., Baer, R. (2009). How long does a mindfulness-based stress reduction program need to be? A review of class-contact hours and sizes for psychological distress. *Journal of Clinical Psychology*, 65, 627-638.
- Csikszentmihályi, M. (1990). *Flow: the psychology of optimal experience*. Harper Perrenial: New York.
- Csikszentmihályi, M., & LeFevre, J. (1989). Optimal experience in work and leisure. *Journal of Personality and Social Psychology*, 56(5), 815-822.
- Damasio, A. (1994). *Descartes' Error: Emotion, Reason and the Human Brain*. HarperCollins: New York.
- Dane, E. & Pratt, M.G. (2007). Exploring Intuition and Its Role in Managerial Decision Making. *Academy of Management Review*, 32(1), 33-54.
- Davidson, R., Brefczynski-Lewis, J., Lutz, A., Schaefer, H. & Levinson, D. (2007). Neural correlates of attentional expertise in long-term meditation practitioners. *PNAS Proceedings of the National Academy of Sciences of the United States of America* 104(27), 11483-11488.
- Davis-Floyd, R., & Arvidson, P.S. (1997). *Intuition: the inside story: interdisciplinary perspectives*. Academy of Consciousness Studies. Routledge, Chapman & Hall: Princeton Engineering Anomalies Research Laboratory.
- Diener, E. (2006). Understanding Scores on the Satisfaction with Life Scale. <http://internal.psychology.illinois.edu/~ediener/Documents/Understanding%20SWLS%20Scores.pdf>  
Copyright by Ed Diener.
- Diener, E., Emmons, R., Larsen R. & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71-76.
- Dweck, C. (2006). *Mindset: The New Psychology of Success*. New York: Random House.
- Fredrickson, B. (2009). *Positivity: Groundbreaking Research Reveals How to Embrace the Hidden Strength of Positive Emotions, Overcome Negativity, and Thrive*. New York: Crown.
- Gardner, H. (2004). *Changing Minds: The Art and Science of Changing Our Own and Other People's Minds*. Boston: Harvard Business School Press.
- Goleman, D. (1998). *Working with Emotional Intelligence*. New York: Bantam.
- Jain, S., Shapiro, S., Swanick S., Roesch, S., Mills P., Bell, I. & Schwartz, G. (2007). A randomized controlled trial of mindfulness meditation versus relaxation training: effects on distress, positive states of mind, rumination, and distraction. *Annals of Behavioral Medicine*, 33(1): 11-2.
- Kabat-Zinn, J. & Davidson, R. (2011). *Mind's Own Physician: A Scientific Dialogue with the Dalai Lama on the Healing Power of Meditation*. New Harbinger Publications: Oakland, CA.
- Kabat-Zinn, J., & Santorelli, S. (2002). *Mindfulness-Based Stress Reduction Professional Training - Scientific Papers from The Stress Reduction Clinic*. Boston: Center for Mindfulness in Medicine, Health Care, and Society, UMMS.
- Kedia, B., & Mukherji, A. (1999). Global Managers: Developing A Mindset For Global Competitiveness. *Journal of World Business*, 34(3), 230-251.
- Klein, G. (1998). *Sources of Power: How People Make Decisions*. MIT, US.
- Kok, B., Waugh, C., & Fredrickson, B. (2013). Meditation and health: The search for mechanisms of action. *Social and Personality Psychology Compass*, 7(1), 27-39.
- Lahiri, S., Perez-Nordtvedt, L. & Renn, R. (2008). Will the new competitive landscape cause your firm's decline? It depends on your *mindset*. *Business Horizons*, 51(4), 311-320.

- Langer, E. (1989). *Mindfulness*. Perseus: Cambridge, MA.
- Langer, E., Djikic, M., Pirson, M., Madenci, A. & Donohue, R. 2010. Believing is Seeing: Using Mindfulness (Mindfully) to Improve Visual Acuity. *Psychological Science*, 21(5), 661-666.
- Luders, E., Toga, A., Lepore, N. & Glaser, C. (2009). The underlying anatomical correlates of long-term meditation: Larger hippocampal and frontal volumes of gray matter. *NeuroImage*, 45(3), 672-678.
- Lutz, A., Davidson, R., Slagter, H. & Dunne J.D. (2008). Attention regulation and monitoring in meditation. *Trends in Cognitive Sciences*, 12(4), 163-169.
- Lutz, A., Greischar, L., Rawlings, N.B., Ricard, M., & Davidson, R. (2004). Long-term meditators self-induce high-amplitude synchrony during mental practice. *Proceedings of the National Academy of Sciences*, 101, 16369-16373.
- Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review*, 108, 291-310.
- Quinn, R. (1990). *Beyond Rational Management: Mastering the Paradoxes and Competing Demands of High Performance*. San Francisco, CA: Jossey-Bass.
- Raffone, A., & Srinivasan, N. (2010). The exploration of meditation in the neuroscience of attention and consciousness. *Cognitive Processing*, 11(1), 1-7.
- Rausch, S., Gramling, S., & Auerbach, S. (2006). Effects of a single session of large-group meditation and progressive muscle relaxation training on stress reduction, reactivity, and recovery. *International Journal of Stress Management*, 13(3), 273-290.
- Rerup, Claus. (2005). Learning from past experience: Footnotes on mindfulness and habitual entrepreneurship. *Scandinavian Journal of Management*, 21 (4), 451-472.
- Robinson, A. & Stern, S. (1998). *Corporate Creativity: How Innovation & Improvement Actually Happen*. Berrett-Koehler: San Francisco, CA.
- Rowley, J. (2006). What do we need to know about wisdom? *Management Decisions* 49(9), 1246-1257.
- Ryan, N. (2012). Willpower: Rediscovering the greatest human strength, by Roy F. Baumeister and John Tierney. *The Journal of Positive Psychology*, 7(5), 446-448.
- Sedlmeier, P., Eberth, J., Schwarz, M., Zimmermann, D., Haerig, F., Jaeger, S. & Kunze, S. (2012). The Psychological Effects of Meditation: A Meta-Analysis. *Psychological Bulletin*, 138(6), 1139-1171.
- Seegerstrom, S., Hardy, J., Evans, D., & Winters, N. (2012). Pause and plan: Self-regulation and the heart. In: *How motivation affects cardiovascular response: Mechanisms and applications*. Wright, Rex A. (Ed.); Gendolla, Guido H. E. (Ed.); Washington, DC, US: American Psychological Association, 181-198.
- Shabana, A.M. (2010). Focusing on Intrapreneurship: An Employee-Centered Approach. *Advances in Management*, 3 (12), 32-37.
- Shapiro, S., Brown, K., Thoresen, C. & Plante, T. (2011). The moderation of Mindfulness-based stress reduction effects by trait mindfulness: Results from a randomized controlled trial. *Journal of Clinical Psychology*, 67(3), 267-277.
- Sheldon, K.M. & Houser-Marko, K. (2001). *Self-concordance, goal attainment, and the pursuit of happiness: Can there be an upward spiral?* *Journal of Personality and Social Psychology*, 80(1), 152-165.
- Sheldon, K.M. & Kasser, T. (2001). Goals, Congruence, and positive well-being. *Journal of Humanistic Psychology*, 41, 30-50.
- Torrance, E.P. (1959). *Surviving Emergencies and Extreme Conditions: A Summary of Six Years of Research* (Unpublished manuscript prepared for the survival training unit of the Air Force Personnel and Training Research Center). Washington, D.C.: US Air Force: 37.
- van den Hurk, P., Wiggins, T., Gionni, F., Barendregt, H., Speckens, A., & van Schie, H. (2011). On the Relationship Between the Practice of Mindfulness Meditation and Personality – an Exploratory Analysis of the Mediating Role of Mindfulness Skills. *Mindfulness (N Y)*, 2(3): 194-200.
- Wagner, R. K., & Sternberg, R. J. 1985. Practical intelligence in real-world pursuits: The role of tacit knowledge. *Journal of Personality and Social Psychology*, 49, 436-458.
- Williams, J. & Mark, G. (2010). Mindfulness and psychological process. *Emotion*, 10(1), 1-7.
- Weick, K. E., & Putnam, T. (2006). Organizing for Mindfulness: Eastern Wisdom and Western Knowledge. *Journal of Management Inquiry*, 15 (3), 275-288.

Zeidan, F., Kraft, K., Gordon, R., McHaffie, N., Coghill, J., & Robert C. (2011). Brain mechanisms supporting the modulation of pain by mindfulness meditation. *The Journal of Neuroscience*, 31(14), 5540-5548.

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