De-stressing Stress:
The Power of Mindsets and the Art of Stressing Mindfully

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Abstract

Mindfulness is a state of mind which can serve to enhance our health, our performance and our wellbeing. It is best achieved when we are conscious and present, when we recognize the power of our mindsets, and when we proactively seek to view situations not from our old patterned and defaulted ways, but from new angles and possibilities. In the context of stress, mindfulness can be particularly useful. In this chapter we work to move beyond a mindless view of stress that focuses only on stress's deleterious effects into a mindful view of stress by highlighting the growing body of research demonstrating that stress can have enhancing effects on health, performance, and wellbeing. In uncovering this more balanced view of stress, we present research and theory supporting that the degree to which stress produces beneficial or harmful effects depends largely on the mindset through which stress is viewed (i.e., whether the experience of stress is expected to have debilitating or enhancing effects). Moreover, we discuss how mindfulness – including the Western (Langerian) and the ancient Eastern-derived perspectives - offers effective and powerful tools to access and alter our mindsets deliberately and to flexibly utilize stress as a resource for growth and wellbeing.

De-stressing Stress: The Power of Mindsets and the Art of Stressing Mindfully

"Stress: A Growing Plague." "Stress: The 21st Century Epidemic" "Stress: America's Number One Health Problem." These are just a few of the headlines from newspapers and media outlets worldwide proclaiming the negative nature and effects of stress. Such claims are well intended: they hope that by pathologizing stress they will motivate people to safeguard themselves against the potentially deleterious effects. However, these warnings ignore a broad and growing body of research showing that stress can positively affect health, wellbeing and performance. One-sided claims that trumpet the debilitating side effects of stress are ultimately mindless: couched in absolute language without regard to context or nuance (Langer, 1989). Furthermore the claims have seemed to evoke a predominant "stress is debilitating" mindset in today's society, one that may in fact make these debilitating outcomes persist. In other words, this mindless emphasis on the destructiveness of stress –this stress about stress – may paradoxically be making these negative outcomes more likely.

This chapter strives to paint a more balanced view of stress, and to propose how a mindful approach may help transform stress from a toxin into a resource. First, we show that, aside from the wealth of literature on stress's deleterious effects, there is a growing body of literature demonstrating that stress can have enhancing effects on health, performance, and wellbeing. Further, we argue that the degree to which stress produces beneficial or harmful effects depends largely on the mindset through which stress is viewed (i.e., whether the experience of stress is expected to have debilitating or enhancing effects). Finally, we discuss how mindfulness – including the Western

(Langerian) and Eastern-derived perspectives –can help to access and alter our mindsets deliberately and to flexibly utilize stress as a resource for growth and wellbeing. Mindfulness around the issues, research, and realities of stress can free us from limiting mindsets and allow us to capitalize on potentially more powerful mindsets as we face a world full of potential stressors.

The Paradox of Stress

When the body encounters stress – defined as the experience or anticipation of adversity in our goal-related efforts – a physiological stress response is triggered. The physiological stress response consists of an activation of the sympathetic nervous system (SNS), a parasympathetic withdrawal, and increased activity of the hypothalamic-pituitary-adrenal (HPA) axis. Together, these systemic changes increase physiological arousal and narrow our attention, focusing our physical and cognitive resources to deal with the task at hand.

This stress response can be debilitating. Over time, this "fight or flight" response can have a negative impact on health, performance, and wellbeing. For example, stress has been linked to the six leading causes of death (heart disease, accidents, cancer, liver disease, lung ailments, suicide) (e.g., Sapolsky, 1996; Schneiderman, Ironson, & Siegel 2005); absenteeism from work, increased medical expenses, and loss of productivity (e.g., Atkinson, 2004; Schneiderman et al., 2005); cognitive impairment, depression, and other mental illness (e.g., Hammen, 2005; McEwen & Seeman, 1999; Schwabe & Wolf, 2010; Wang, 2005); and aggression and relational conflict (e.g., Bodenmann, Meuwly, Bradbury, Gmelch, & Ledermann, 2010).

Although these negative consequences of the body's fight or flight response can occur, the expectation that they will occur consistently and inevitably is a mindless assumption, without regard for context, nuance, or alternative possibilities.

In fact, the body's stress response was designed to *improve* physiological and mental functioning to meet the imminent demands of survival (Sapolsky, 1996). Lazarus notes that stress is an inevitable aspect of life that plays a key role in development of the strengths that individuals need to survive and to flourish. This occurrence is referred to in the literature as *eustress:* "good" stress that yields a benefit (Alpert & Haber, 1960; Lazarus, 1974; Le Fevre, Matheny & Kolt, 2003; Selye, 1975; Yerkes-Dodson, 1908). Below we enumerate some of the research that exists in support of the proposition that the experience of stress can be advantageous, in contradiction to the mindless assumption that stress *must* have deleterious effects.

In the domain of performance and productivity, stress can lead to pro-activity, increased focus, cognitive aptitude, and boosted memory (Sapolsky, 1996). The stress response pumps hormones like adrenaline, cortisol, and dopamine throughout the body, fueling the brain and body with blood and oxygen (Cahill, Gorski, & Le, 2003; Epel, McEwen & Ickovics, 1998; Park & Helgeson, 2006). This response propels us into a state of increased energy, heightened alertness and narrowed focus, which can help meet the demands of any stressor. The narrowed attention and increased arousal facilitated by the stress response recruits resources which serves to increase the speed with which the brain processes information (Hancock & Weaver, 2005), and the hormones that are released during the stress response actually boost performance on cognitive tasks and memory (Cahill, Gorski, & Le, 2003). In other words, the hormones released while

stressed sharpen our attention and focus, which therefore makes our memory better. Moreover, the stress response can provide a boost in motivation and initiative-taking to acquire the necessary skills and self-efficacy needed to meet pressing demands (Fay & Sonnentag, 2002) and proactively problem-solve by anticipating and planning for all possible situations and outcomes (e.g., Norem & Cantor, 1986).

In the domain of health and vitality, the release of stress hormones can actually positively influence the underlying biological processes implicated in physical recovery and immunity, an effect researchers call *physiological thriving*. It is often assumed that this short-term stress response has debilitating effects on health and vitality because it brings the body out of balance. Although several accounts posit that this is often true (e.g., Goodkin & Visser, 2000; Sapolsky, 1996; Schneiderman et al., 2005), this finding is not universal, and in fact the exact opposite response can occur. Specifically, the experience of stress elicits a series of anabolic hormones that actually rebuild cells, synthesize proteins, and enhance immunity, leaving the body stronger and healthier than it was prior to the stressful experience (e.g., Dienstbier, 1989; Epel, McEwen & Ickovics, 1998). Vaccinations (in which the body is stressed to the effect of boosted immunity) and exercise (in which the muscles are stressed and broken down only to be rebuilt stronger) are good examples of the health-enhancing effects of stress.

In the domain of wellbeing, researchers have documented a phenomenon referred to as *stress-related growth*, by which stressful experiences fundamentally change individuals for the better: they learn and grow not in spite of the stress but because of it. The experience of stress can enhance the development of mental toughness, heightened awareness, new perspectives, sense of mastery, strengthened priorities, deeper

relationships, greater appreciation for life, and an increased sense of meaningfulness (e.g., Park & Helgeson, 2006; Tedeschi & Calhoun, 2004). Some experts suggest that true transformative change cannot occur without some form of stress or crisis (e.g., Holahan, Moos & Schaefer, 1996; Mahoney & Marquis, 2002; Park, Cohen & Murch, 1996). Experiencing greater joy in life after serious illness, increasing one's appreciation for life after being on the battlefield, and opening up to a heightened sense of self-efficacy after a difficult period at work or in one's relationship are some of the many examples of this phenomenon.

In summary, stress has been documented as having both debilitating and enhancing outcomes. The intention here is not to make the case that stress is fundamentally enhancing nor to try to refute the literature that stress does indeed have debilitating effects. Rather, the intention is to point out that the effects of stress are not pre-determined, but rather vary based on a complex suite of factors.

Mindsets and Stress: A Review of the Research

To function in the midst of complexity, we often use simplifying frameworks to select, organize, and interpret information. *Mindsets* are evaluative viewpoints or mental frames that focus attention and organize information in a manner allowing for simplified and automatic functioning in the presence of contradictory or uncertain information. For example, although the trajectory of aging is different and complex depending on individual and situational circumstances, the mindset that aging is a degenerative process will selectively inform the schema of the experience and effects of aging. Mindsets may originally form through conscious experience (Kolb, 1984), but become entrenched

through automatic, unconscious programs that powerfully shape perception and behavior (Bargh & Chartrand, 1999).

In the case of stress, we employ mindsets to resolve complexity and uncertainty surrounding its potential effects. It is difficult for our minds to comprehend that stress is both beneficial and deleterious, so we mindlessly fixate upon one mindset or another. In large part due to constant and consistent negative media attention and coverage, as well as personal experience in having trouble dealing with stress, the predominant mindset people hold is that stress has debilitating consequences on various stress-related outcomes such as performance and productivity, health and wellbeing, and learning and growth (Crum, Salovey & Achor, 2013). This "stress-is-debilitating" mindset contrasts with a "stress-is-enhancing" mindset, in which stress is seen as a valuable resource in achieving health, performance, and wellbeing.

Of course, neither of these mindsets is absolute: the effects of stress can be debilitating or they can be enhancing and research exists to support both of these assertions. However, the mindset that we hold with respect to stress can alter and influence the effects of stress, thereby making the expected effects more likely. In other words, stress mindset becomes self-fulfilling prophecy. Research on over 400 employees in a large financial institution demonstrated that one's mindset about stress is related to perceived health and life satisfaction over and above measures of amount of stress and ability to cope with stress (Crum, Salovey & Achor, 2013). Regardless of the amount of stress experienced or coping strategy, individuals who believed more strongly that stress had debilitating effects were more likely to report lower levels of health and life satisfaction than those holding a more "stress-is-enhancing" mindset. Among this

population, simply expecting that the experience of stress would enhance one's health, performance, and wellbeing helped individuals realize these outcomes.

In another study, university students, acutely stressed by a surprise public speaking assignment that was to be evaluated by peers and professionals, demonstrated that stress mindset can be related to different physiological and behavioral indices (Crum, Salovey & Achor, 2013). Specifically, those students who held a "stress-is-debilitating" mindset were more likely to have de-regulated physiological arousal in response to the acute stressor, marked by excessively high or excessively low cortisol levels. Conversely, those who held the mindset that "stress-is-enhancing" tended to produce moderate cortisol reactivity to the stress, a response that research suggests is more adaptive in determining health and performance outcomes under stress (e.g., Kunz-Ebrachet et al., 2003). Furthermore, those with a "stress-is-debilitating" mindset tended to shy away from, and decline the opportunity to receive, feedback from their peers and professionals. Individuals who held a "stress-is-enhancing" mindset were more open to receiving the feedback of their peers and professionals. These studies together suggest that the mindset we adopt regarding stress may influence the manner in which we physiologically experience and behaviorally approach stress, effects which, in turn, are more likely to generate self-fulfilling consequences on health, performance, and wellbeing.

Felicitously, research shows that mindsets about stress can change. Just as we speculate that the predominant "stress-is-debilitating" mindset was affected by consistent exposure to that viewpoint and media warnings, new mindsets can be facilitated with media, messaging and communication. One study demonstrated that watching short film clips with factual information depicting the nature of stress in one of two ways ("stress-

is-enhancing" vs. "stress-is-debilitating") elicited corresponding changes in one's stress mindset (Crum, Salovey & Achor, 2013). Specifically, participants watched three short video clips presenting images, research, and examples that were designed to demonstrate either the enhancing nature of stress (enhancing condition), or the debilitating nature of stress (debilitating condition). (The control group saw no videos.) Whereas those in the enhancing condition developed more of a "stress-is-enhancing" mindset as a result of watching clips biased in that direction, those in the debilitating condition showed just the opposite- developing more of a "stress is debilitating" mindset. Intriguingly, eliciting a "stress-is-enhancing" mindset was accompanied by corresponding positive changes in participants' self-reported health and performance. Although participants in the debilitating condition did show movement in their stress mindsets, these negative changes in mindset were not accompanied by corresponding decrements in health and performance. This is likely because the "stress-is-debilitating mindset" was already the predominant mindset, and therefore, reinforcing this mindset is less likely to elicit change in health and performance than is introducing a new mindset. In summary, the results suggest that stress mindsets can be changed— in this case with less than ten minutes' of video exposure— and that eliciting a "stress-is-enhancing" mindset is accompanied by corresponding positive changes in self-reported health and work performance.

Although these results on the influence of mindset in the domain of stress are in their preliminary stages, they fall in context with a long line of research demonstrating the role of mindset in determining outcomes across a variety of domains including intelligence (e.g., Dweck 2008), exercise (Crum & Langer, 2007), nutrition (Crum, Corbin Brownell, & Salovey, 2011), and aging (e.g., Levy, Slade, Kunkel, & Kasl, 2003;

Levy & Meyers, 2004). For example, students holding a mindset that intelligence is malleable rather than fixed (i.e., "I can become smarter" vs. "I was born with my current IQ") experienced improvements in attitudes and academic performance. These included elevated appreciation of academics, motivation, learning, and higher GPAs (Aronson, Fried & Good, 2002; Blackwell, Trzesniewski & Dweck 2007). Hotel room attendants who adopted the mindset that their work is good exercise showed significant reductions in weight, body mass index (BMI), and systolic blood pressure (Crum & Langer, 2007). Individuals who held the mindset that they were drinking an indulgent, high-calorie milkshake showed steeper declines in ghrelin, a hunger-inducing hormone, than when they drank the same shake thinking it was a sensible, low-calorie milkshake (Crum, Corbin, Brownell & Salovey, 2011). Individuals holding negative mindsets about aging exhibited a suite of unhealthy orientations, choices, and outcomes. These individuals had a diminished will to live (Levy, Slade, Kunkel & Kasl, 2002), were less likely to adopt healthy behaviors like seeing a doctor, exercising, and healthy eating (Levy & Myers, 2004), suffered reduced cardiovascular function when exposed to negative stereotypes about aging (Levy, Hausdorff, Hencke & Wei, 2000), and died sooner than those holding a more positive mindset (Levy et al., 2002).

Mindfulness, East and West

As we have seen, mindsets can significantly influence health and behavior. This presents a high-leverage but challenging opportunity to achieve more desirable outcomes by using mindfulness to alter our mindsets consciously and deliberately, thereby harnessing the enhancing effects of stress. In this section we describe how mindfulness from both Langerian and Eastern perspectives may be an antidote to automatic

functioning in that each generates awareness of existing mindsets and presents a method through which to diffuse, change, or utilize mindsets for our benefit. We follow by discussing how both Langerian and Eastern forms of mindfulness can join together to help positively influence the stress response.

Both Langerian and Eastern accounts agree – as do scholars of unconscious cognition – that the default cognitive mode is the automatic, unconscious domination of thoughts, emotions, and behavior by prior experience (Bargh & Chartrand, 1999; Brown, Ryan, & Creswell, 2007; Langer, 1989). This mode beneficially facilitates goal-directed action, allows us to profit from prior experience, and conserves scarce cognitive resources (Bargh & Chartrand, 1999; Brown et al., 2007; Levinthal & Rerup, 2006). However, mindfulness accounts also identify the downsides of mindlessness. These include being shackled to a single perspective and using habitual action to achieve habitual goals regardless of context or alternative possibilities. Langer colorfully summarizes mindlessness and its pitfalls: "as we blindly follow routines or unwittingly carry out senseless orders, we are acting like automatons, with potentially grave consequences for ourselves and for others" (Langer, 1989; p. 4). Simply put, mindlessness can be defined as operating without awareness of automatic reactions and without regard to context, nuance, or alternative possibilities.

Mindfulness poses a radically alternative cognitive mode (Williams, 2008). It involves vibrantly experiencing the present – moment by moment – and using our consciousness to perceive and influence perceptions and corresponding goals and behaviors (Brown et al., 2007; Langer, 1989). Though Langerian and Eastern

mindfulness are both framed as opposites of mindlessness, depictions of these states diverge regarding what constitutes "opposite."

Langerian mindfulness is a mode of functioning through which we actively restructure our mindsets through the creation of new categories or distinctions (Langer, 1989, pg. 4). This process involves four interrelated characteristics: a) novelty seeking, b) engagement, c) producing novel categories, and d) flexibility. The key distinction in this approach is that we don't allow pre-existing mindsets to unconsciously dominate perception and actions, but rather we allow discrepant information to enter our awareness. These novel cues then inform the adaptation of existing mindsets toward settling on mindsets that are most advantageous given the current context.

Whereas Langerian mindfulness involves a proactive rather than automatic conceptual processing, Eastern mindfulness involves a substantial reduction in conceptual activity (Williams, 2008). Sometimes referred to as "bare awareness," Eastern mindfulness implies that we have enhanced present-moment awareness of mental and sensory content without filtering our experience through the usual conceptual overlays (Brown et al., 2007). The reduction in conceptual thought can be seen as supporting many other important properties of Eastern mindfulness. These include non-judgment and sense of acceptance, clear and continuous present-moment awareness, a "quiet" self, and the reduction of automatic thoughts and actions (Brown et al., 2007). The reduced mental noise fosters clear awareness of mental content, and this quality is reflected by the term "mindfulness."

To summarize, both mindfulness modes are seen as opposites to mindlessness. Both involve sharper awareness of present-moment stimuli, including internal mental

contents and external context. Both facilitate flexible and conscious responses to our milieu, including helping us to transform unhelpful mindsets. However, they may do so through different mechanisms. A simple way of thinking about the difference between them is that Eastern mindfulness shines a clear light of unbiased and unattached awareness on existing mindsets whereas Langerian mindfulness involves a continual process of restructuring and creating mindsets anew.

Although, both forms of mindfulness can contribute to more effective functioning, each type of mindfulness confers distinct capabilities and limitations. In the case of Eastern mindfulness, observing mindsets may reveal outdated perceptions and habits, but non-judgmental observation alone may not include developing and striving towards new goals, a more Western objective. In the case of Langerian mindfulness, developing new structures can be challenging when trying to build upon a landscape littered with old, deeply programmed thoughts, whereas these may loosen through the patient observation of Eastern mindfulness. Appreciating the possibilities and limitations of each perspective, we can see Eastern mindfulness and Langerian mindfulness as complementary capacities for fundamental change. Eastern mindfulness acts to enlighten us about our old habits, and Langerian mindfulness supports us in developing new and more appropriate ones. Together, both variants of mindfulness can be seen as partners enabling a continuous cycle of learning, flexibility, and contextual appropriateness.

Cultivating a Mindful Approach to Stress

How might mindfulness influence the stress response? Together, the two conceptions of mindfulness can create awareness of existing stress mindsets that are

guiding automatic functioning and biasing responses, and then help transform them, thereby harnessing the enhancing effects of stress. Building on existing models of mindfulness in the context of stress (e.g., Hayes, Strosahl, & Wilson, 1999; Ludwig & Kabat-Zinn, 2008) as well as research on the power or mindsets in determining the stress response (e.g., Crum, Salovey & Achor, 2013), Crum, Salovey, Achor & Rothman (under review), the following three-step process describes a mindful approach to developing healthy stress mindsets:

Step 1: Acknowledge Your Stress.

The first step to transforming the stress response is simply to acknowledge the experience mindfully. Acknowledging stress means, quite literally, witnessing the existence of stress that is current or recurring in your life. It also includes noticing your emotional, behavioral, and physiological responses without judging or trying to change them. To facilitate this process, mindfully consider these questions:

1. What is stressing you right now? Simply state in words, without judgment, the aspects of your life that are causing stress at this moment.

2. What are your emotional responses? What kind of thoughts, beliefs and feelings are you generating in response to the stress (e.g. frustration, sadness, longing to get rid of the stress)?

3. What are your behavioral responses? What actions are you taking or not taking in response to the stress (e.g. arguing, avoiding, eating ice cream)?

4. What are your physiological responses? What sensations or changes are occurring in your body in response to the stress (e.g. difficulty sleeping, tunnel vision, cloudy head, racing heart, stomach upset, fatigue)?

5. What is your current mindset about the stress you are experiencing? Do you expect that experiencing this stress is going to have enhancing or debilitating outcomes?

Being in a state of acknowledging describes how you function while being mindful (particularly in the Eastern mindfulness tradition). In this state, all mental and physical events are observed and experienced without judgment or bias from conceptual filters. Eastern mindfulness allows you to gain awareness of your habitual stress responses, and helps you suspend your pre-existing frames of mind. Finally, this type of mindfulness may help you identify causal relationships between external events and internal responses. By quieting automatic cognitions and the associated "noise" you may find it easier to perceive linkages that you can subsequently employ to address your stressors. Research on the science of the brain shows how simply acknowledging stress can move activity in your brain from the automatic and reactive centers to the more conscious and deliberate ones (for review, see Lieberman et al. 2007). In other words, simply acknowledging stress and your automatic reactions allows you to take an essential pause before reacting to stress in a mindless manner.

Step 2: Welcome Your Stress.

Once stress is acknowledged, the next step is a more proactive one: to actively welcome stress. This "welcoming" mentality may sound counterintuitive, but it is essential for several reasons. First, the step to move toward your stress, as opposed to

away from it, ironically makes stressors less menacing. Although strategies such as suppression and rumination are well-intended, they often are counterproductive. Suppression may paradoxically increase unwanted thoughts (Carver et al., 1989; Wegner, 1994), and rumination may interfere with problem solving, alienate social support, or even create additional cognitive distortions (e.g., Lyubormirsky & Tkack, 2004; Nolen-Hoekesma et al., 2008). Therefore, the act of welcoming stress into your mind and life can reduce anxiety, improve health, and increase your sense of control (for review, see Pennebaker, 1997).

A second reason to welcome your stress is that inherent in the experience of stress is the connection to something you care about. While numerous definitions of stress exist (e.g., Lazarus & Folkman, 1984; Robbins, 2001), stress can generally be defined as the experience of encountering or anticipating adversity in one's goal related efforts (Carver, 2010). If you are mindful about this you realize that the only reason you are stressed is because the stressor impacts something you care about. For example, consider a common stressor: money. Money is not inherently stressful. However, money incites stress when you experience or anticipate adversity related to achieving your monetary goals. Either anticipating a layoff or having insufficient funds to cover a mortgage payment would interfere with common goals like survival, comfort, or entertainment, and this is why they induce a stress response. Yet if money were unrelated to your goals, these events would not be stressful. You simply do not stress about things that do not matter to you. To facilitate this process, mindfully consider these questions:

1. *What is the care beneath this complaint?*

2. *Since you are only stressed because you care about something, what is it that you care about?*

Becoming aware of the fact that what you care about is causing your stress helps reframe your stress as a signal or a sign, reminding you of what matters most. Clarifying this intrinsic passion allows you to invest your resources fully in achieving those goals. Likewise, it allows you to eliminate goals not closely aligned to your core desires, and conserve stress resources that are unnecessarily consumed by worrying about desires lacking intrinsic interest. This is where Langerian mindfulness can serve complementary ends, especially in a goal- and productivity-oriented society. Aspects of Langerian mindfulness - such as noticing and generating distinctions, and flexibility - can be particularly helpful in this process. Often desires and goals are selected not by conscious intent, but by automatic programming (Bargh & Chartrand, 1999). When you can welcome your stress mindfully, you can recognize the opportunity to choose to address the inherent values or goals, to flexibly change them, or to let them go. Understanding that stress is inherently connected to your goals and values can help open the gate toward a "stress-as-enhancing" mindset.

Step 3: Utilize Your Stress Response.

The combination of steps one and two leads to a non-judgmental and welcoming attitude towards stress and its connection to your values and goals (e.g., "I acknowledge that I *am* stressed *because* I want to have a good job and the financial resources it provides for my family"). The final step is to not see stress as an impediment to your goals, but to utilize it as a resource in achieving them.

Research shows that stress has evolved to help motivate you to meet the task at hand by increasing your energy and heightening your focus. However, instead of focusing on resolving the situation and responding to the request, or meeting the concern that is generating the stress, a "stress-is-debilitating" mindset triggers the desire to jettison the stress itself. This can hijack you into irrational strategies which debilitate your wellbeing rather than facilitate it. You can ameliorate this by acknowledging that your initial stress response is serving your values, but your stress-about-stress is most likely not.

When this is understood, the increased arousal and heightened energy can be directed toward meeting the demand creating the stressor and/or working to find additional opportunities made possible by experiencing the stress. Consider the phenomenon of stress-related growth (or post-traumatic growth) as a label applied to the process by which the experience of stress and adversity ultimately leads to positive outcomes such as deeper social bonds after a fight with a spouse or a shared stressful experience, greater appreciation for life after a bout with cancer or loss of a loved one, or increased self-efficacy and sense of mastery after a stressful occurrence at work) (Park et al., 1996; Tedeschi & Calhoun, 2004). You can attain increased awareness and attain a high level of wellbeing not in spite of the stress but, perhaps, because of it. To facilitate this, mindfully consider the following questions:

1. *Are your responses to this stress facilitating your positive purpose? Are your actions directed towards removing the stress or improving the value underlying the stress?*

2. *What changes can you make in responding to this stress so that the stress you experience can be enhancing as opposed to debilitating? Can you utilize this stress to build social bonds? Reconnect with your values? Increase self-mastery?*
3. *What might be the hidden opportunities inherent in this stress - the possibilities, lessons, and/or insights – that could arise as a result of experiencing this stress/situation?*

This third step – utilizing stress – involves the mindful adoption of a "stress-is-enhancing" mindset. This does not mean that you are blind to the fact that both enhancing and debilitating outcomes are possible. On the contrary, when adopted after the first steps of acknowledging and welcoming are completed, the choice to view stress as enhancing is a conscious and deliberate one. This step demonstrates the added value of Langerian mindfulness to Eastern mindfulness. While Eastern mindfulness can help with loosening our mindsets, Langerian mindfulness can help you appropriately restructure those mindsets.

In the case of stress, both forms of mindfulness can work continually throughout the process of becoming aware of limiting mindsets and capitalize on the enhancing possibilities. In other words, you can consciously and continually notice that the effects of stress are not uniform, that they are unique to each situation and context, and that the manner in which they are met provides possibilities to consciously alter your mindsets to harness the enhancing effects. Taking steps to utilize the stress response rather than fighting against it is inherently mindful. Mindfulness allows for an openness and spaciousness that allows you to not only see what is so about a particular stressor, but

also what is possible. From this more powerful perspective, you can respond to a stressor in a more optimal way, choosing to create and capitalize on the enhancing aspects of experiencing the stress.

Outcomes of a Mindful Approach to Stress

Mindfulness allows for an openness and spaciousness that allows us to not only see what is about a particular stressor, but also what is possible. From this more powerful perspective, we can respond to a stressor in a more optimal way. When stress is acknowledged as opposed to denied; when stress is welcomed as opposed to avoided, and when stress is utilized as opposed to combated, several important outcomes can occur. First, we are more likely to maintain a state of "appropriate awareness" defined by having a mindful awareness that we are indeed experiencing stress and that that stress is related to something we value. Second, we are more likely to achieve a state of "appropriate arousal" defined by having enough arousal needed to meet goals and demands, but not so much as to compromise action toward those ends or to debilitate physiological health in the long run. And third, we are more likely to perform "appropriate action" defined by actions that serve to meet the demand value or goal underlying the stressful situation as opposed to ones that deplete time, effort, and energy solely to avoid or get rid of the stress. Each of these distinctions of the mindful approach to stress has important effects on health, performance, and wellbeing which are described more thoroughly below.

Effects on Health

Approaching stress mindfully is not an attempt to reduce arousal; rather, it is a mental context for conducting appropriate mental and physiological regulation. It is often assumed and taught that effective stress management involves staying calm under

stress, or counteracting the negative impact of the natural physiological manifestations of stress (e.g., Benson, Greenwood & Klemchuk, 1975; Sapolsky, 1996). Achieving balance in the Autonomic Nervous System (ANS) is indeed important in maintaining health and homeostasis, as extended activation of the ANS by stressful stimuli can result in negative physiological consequences including impairment of the hippocampus (the part of the brain associated with working memory), loss of frontal lobe control, and increased susceptibility to illness through the depression of the immune system (e.g., McEwen & Seeman, 1999; Sapolsky, 1996). However, some attempts at reducing arousal may be counter-effective. One reason for this is that the ANS is also associated with potentially adverse physiological effects such as down-regulating the immune system (e.g., Kunz-Ebrecht et al., 2003). Another reason is that attempts to reduce arousal often have negative effects of their own such as the overuse of food or other substances to reduce anxiety, increased anxiety, rumination, or compulsory behaviors (e.g., Hayes et al., 1996; Kushner, Sher, Wood & Wood, 1994; Robbins & Fray, 1980). Indeed, trying to relax or avoid the arousal experienced while stressed can result in experiential avoidance: the suppression or avoidance of an array of psychological experiences (thoughts, emotions, sensations, and urges). Experiential avoidance is associated with a variety of maladaptive outcomes (such as problems with mood and health) because it paradoxically can increase negative thoughts and anxiety and prevent us from taking necessary action (Hayes et al., 2004; Mowrer, 1947).

When we mindlessly adopt a "stress-is-debilitating mindset" (i.e., when we operate reactively to the assumption that stress is debilitating, without awareness of alternative possibilities), arousal levels may be under-active as a result of successful

avoidance or denial of the stress or the use of counteractive coping mechanisms such as medications or substance use (Crum, Salovey, and Achor, 2012). Alternatively, arousal levels may be over-activated directly as a result of the additional stress that comes from having a "stress-is-debilitating" mindset, or indirectly through counter-effective reactions of emotional suppression, experiential avoidance, or ruminative thought (e.g., Hayes et al., 2004). Conversely, if we mindfully choose to adopt a "stress-is-enhancing" mindset, then we will be more likely to achieve an optimal level of arousal when under stress, defined as having enough arousal needed to meet goals and demands, but not so much as to compromise action toward those ends or to debilitate physiological health in the long run.

One important mechanism underlying these findings is "stress about stress." In response to a stressor, individuals with either a "stress-is-enhancing" or "stress-is-debilitating" mindset will experience a stress response. However, the latter will have an additional layer of "stress about stress." This meta-stress response may be especially harmful, because it counterproductively activates and drains coping resources otherwise intended to meet the demand generating the original stress response.

Effects on Performance

When we hold a mindset that stress is debilitating, it is logical that the primary motivation is to avoid or manage the stress to prevent debilitating outcomes. Conversely, if we are able to approach stress with the possibility that enhancing outcomes are possible, the mental and motivational context in which we act and approach the stress at hand is fundamentally different. From this mindful view, focus shifts toward engaging in actions that help meet the demand, value, or goal underlying the stressful situation, as opposed to

engaging actions and coping behaviors that serve to avoid or manage the stress itself (in an effort to prevent debilitating outcomes from happening).

Take, as an example, two students studying for an important final exam: Imagine both students hope to achieve an "A" on the exam (valued the goal or outcome of receiving an "A" equally) and experience significant stress due to that goal. The first student, with a "stress-is-debilitating" mindset, may engage in coping behaviors that would help to avoid or manage the stress. These behaviors could take different forms, such as procrastinating or using substances, or seeking affirmation from friends about how much studying they have done. Overall the actions and behaviors would focus on avoiding the experience of stress.

On the other hand, the student with a "stress-is-enhancing" mindset may utilize the enhancing nature of stress to address directly the goal at hand, rather than the stress itself. These behaviors could take forms such as using the possible additional energy to study late into the night, seeking feedback about how to improve, or speaking with students who had taken the test in previous years. These behaviors may not eliminate the stress directly but rather satisfy the underlying value, goal, or demand.

Failure to confront stress-inducing threats, which has been called the "threat rigidity effect " (Staw, Sandelands, & Dutton, 1981), can have dramatic consequences. At an organizational level, for example, in the recent collapse of a major investment bank, the firm's management was reported as not confronting the highly risky or morally questionable investment practices the organization developed (Cohan, 2009). This likely would have been personally stressful, as this action would have interfered with other goals, such as short-term profitability. The

outcome of inaction was that the highly esteemed and profitable firm went bankrupt almost overnight. It had maintained and in some cases increased reliance on strategies that to some insiders were apparently risky until the very end. This response of increasing reliance on old strategies as a default is a classic example of the nature and pitfalls of mindlessness (Langer, 1989).

Effects on Wellbeing

A mindful approach to stress lends itself to a more flexible and a more appropriate approach to a stressful situation, preparing us to utilize the stress itself to resolve the situation, respond to the request, or meet the concern that created the stress in the first place. A critical distinction is that, when we approach stress mindfully, "appropriate action" will be different for each situation and will depend on our criteria for what constitutes an effective or valued outcome (e.g., health, wellbeing, social functioning, achievement). For example, if a company announces upcoming layoffs, two employees who experience the stress mindfully may have different behavioral responses. One valuing upward advancement may utilize stress to work longer and harder in order to impress supervisors before possible layoffs. Another employee valuing their family's emotional and financial stability may utilize stress to seek out opportunities to find an alternative job with better work-life balance. The choice to move toward valued actions can lay the foundation for greater wellbeing under stress.

However, a mindful approach to stress is not necessarily about "approach coping" (e.g., Carver, 2010). Taking appropriate action under stress can sometimes mean letting go of a goal or endeavor that is no longer serving us (e.g., choosing not to get that additional Master's degree). Or it can mean doing the same action in a distinct frame of

mind: going to bed early could be a mindless decision when you are doing it in reaction to fear and anxiety regarding a stressful situation. Or the same activity could be a mindful one, understanding and appreciating your need to rest. Such an ability to flexibly adapt our behavior to affect wellbeing in ever-changing contexts, situations, and needs is the essence of mindfulness.

Conclusion

Although stress can provoke debilitating anxiety and physiological deterioration, it may also comprise the essential starting points for eliciting transformational change and physiological thriving. In this chapter we have argued for a mindful approach to stress, developing a sense of stress's potential contributions by viewing stress nonjudgmentally and openly as the experience of anticipating or experiencing adversity in achieving goals. From this orientation, it is possible to consciously reframe the mindset that stress is toxic into a perspective that stress supports physical vitality, achievement, and satisfaction. For those imprisoned by the mindless attitude that stress is always debilitating, the strength and capacity of the human mind can unleash new possibilities. Two variants of mindfulness – Eastern and Langerian – can help unlock these possibilities through the dual process of suspending and transforming the cognitive structures that shackle our potential and leave us frightened by the challenges inherent in life. Ultimately, this mindfulness allows us to meet stress not as an enemy to be avoided, but as an ally to be embraced, an ally that will help us enjoy and appreciate this challenging world.

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