Reframing Stress

The Roles of Appraisal, Physiology, and the Adaptive Use of Stress Responses in Navigating Well-Being

Stress Defined

We all believe we are intimately familiar with what stress is. In fact, we believe ourselves so acquainted with the topic that no further education is needed. Beyond our own first-hand experiences, we've been inundated with information related to the physiological correlates, the fight-or-flight system, and the long-term effects of chronic stress on our bodies. But indulge me for a bit as I run us back through what you probably already know, what you might not know, and a few things you've probably not yet heard.

Let's first talk about the stress response and how it happens. Lazarus and Folkman (1984) created a theory of stress that explains how the body reacts to perceptions of challenge. Lazarus and Folkman assert that first we experience an event. Within the time it takes for neurons to fire, we assess variables and possible outcomes that can be perceived. This is what Lazarus and Folkman call primary appraisal. Primary appraisal involves an initial assessment in which the event is judged to be threatening, challenging, or benign.

If the event is considered threatening or challenging, we move on to secondary appraisal (Lazarus & Fokman, 1984). This entails a quick scan of resources: *do I have what I'll need to defuse or meet the threat, and will I be equal to the challenge?* If we come up lacking in our assessment, the situation becomes threatening and the body reacts to help weather the onslaught.

Before we get into the nuts-and-bolts of the nervous system response, let's back up a bit and connect a few dots. Notice in Lazarus and Folkman's (1984) theory that there are no external criteria for strain or challenge on the body that make an event stressful. It is an internal, subjective evaluation: *Does this threaten or challenge me? Do I have the resources to deal with it?* Never mind if it actually does, and never mind if the resources are readily available—it all has to do with our assessment of the experience.

In fact, some of the most demanding stressors on our bodies are our internal responses: fear, anger, anxiety, grief, frustration, and others. When we encounter an experience and our split-second assessment suggests that it may generate a big, difficult emotional response, this alone can create a stressful event. It is the perception that we may encounter our vulnerability—or that we are facing a large emotional response on the horizon—that begins the physiological cascade meant to protect us from confronting the soft spots in our armor.

Stress Response

So, what exactly is the stress response? By this point in our collective understanding of this concept, we've all been thoroughly schooled in the effects of stress, or the issues that come with chronic activation of our sympathetic nervous systems (SNS)—otherwise colloquially known as the fight-or-flight system. The instructive analogy of a prehistoric ancestor being chased by some large beast has been used, *ad nauseam*, to illustrate how this system works. And then the story is followed by the reminder: in today's society there are no wild beasts, yet we still walk around with our SNS activated by internal stressors. I think we finally get it: no lions or tigers or bears… but still… lots of *Oh! My!*

When these analogies pop up, most people are quick to agree that their lives fit this picture. Often we populate the scene with our own examples of stressful moments that pose no real danger but activate the fight-or-flight response nonetheless: being cut off in traffic, disagreements with someone or trouble at work, crazy kids, fights with our mates, unexpected expenses, or physical symptoms.

And while these are notorious bandits that hijack our nervous system and push the pedal on SNS activation, they really aren't the main culprits. These are still external events that, in and of themselves, won't cause a prolongued stress response. They resolve, or at least we move on to something else. In that sense they aren't that different from the wild beast that activated our ancestors SNS response.

It's also not the frequency of these events that is causing the problem. Most people recognize that even if the danger isn't "real" and our system reacts anyway, it's not necessarily a big deal. This is what our bodies and nervous systems are designed to do. Instead, many people identify the frequency of stressors as the issue: one thing after another that keeps us reacting

and prevents the SNS from backing down from high alert. This viewpoint has also been overstated.

Our SNS—working in conjunction with the parasympathetic nervous system (PNS; together they make up the autonomic nervous system, or ANS)—helps the organism move flexibly between high-alert and low-danger situations (McEwen, 2007). When alarms occur frequently, these systems must exchange dominance more quickly. But when the threat is external, it resolves, and the systems are able to shift functions fluidly as many times as necessary without undue problems. In fact, there are different types of stress responses—but more on that in a minute.

Before discussing the differences between external and internal stress, let's briefly review what happens in the body when we perceive stress as a reaction to threat or unwanted challenge. One of the first things to occur is that muscles constrict to prepare for action and guard against injury (McEwen, 2007). When muscles remain bunched and ready for action over long periods of time, the continued tension begins processes that strain other parts of the body—such as the skeletal, circulatory, respiratory, and organ systems—and increase the likelihood of injury. Many chronic pain states, including migraine headaches and fibromyalgia, are linked to continually held muscle tension.

The endocrine system immediately signals the hypothalamic–pituitary–adrenal (HPA) axis to prepare the body for challenge (Sapolsky, Romero, & Munck, 2000). Its first directive is to send chemical messengers directing the immune system to stand by in its use of energy, while also signaling for glucose to be released from fat cells to provide more available energy. When glucocorticoids are distributed in high amounts for extended periods, the result can be dysregulation of communication between the HPA axis and the immune system. This dysregulation is associated with the onset of numerous metabolic disorders, including precursors to heart disease, type 2 diabetes, and many mental health issues.

The nervous system also reacts to perceived threats and undergoes a number of physiological adjustments to prepare for action (McEwen, 2007). As described above, the SNS asserts dominance and begins sending signals that alter the functioning of multiple body systems, including the cardiovascular, respiratory, digestive, and reproductive systems.

The immediate response of the cardiovascular system to perceived threats is to work harder. Heart rate increases, the heart contracts more forcefully, and blood vessels dilate. When this system remains chronically activated, the result is often inflammation within the circulatory system, which can contribute to heart attack (McEwen, 2007).

The respiratory system shifts to faster, shallower breathing (McEwen, 2007). Not only does this intensify pre-existing respiratory issues, it can also provoke panic attacks. Increased breathing rates are also associated with elevated blood pressure.

Activation of the SNS dampens gastrointestinal activity. If this continues long term, it creates a host of effects. Some immediate issues include reduced desire for food or rushed, tense eating when it does occur. This can increase indigestion, heartburn, gas, and bloating (Mayer, 2011). Over time, stress also disrupts the balance of the microbiome. This sets the stage for chronic bowel disorders and affects intestinal permeability, allowing a slow, constant discharge of unwelcome bacteria into the body. Although the immune system can initially manage this issue, chronic demands on immune resources may contribute to the onset of autoimmune conditions.

Reproductive functioning in both men and women is also inhibited during continual stress responses (McEwen, 2007). This can impact long-term sexual desire and may impair the ability to conceive.

The immune system itself takes a significant hit under long-term stress. Chronic activation decreases white blood cell production, initiates immunosuppression, and accelerates deterioration within immune processes (Padgett & Glaser, 2003). As a result, wound healing slows and resistance to infections and cancers decreases, while inflammation and autoimmune disorders increase.

Each of these descriptions of system function in response to stress is only an overview. In reality, there are vast numbers of physiological changes occurring simultaneously, affecting nearly every function of the human body.

A prolonged negative stress response is implicated in the onset of illness and disease (Cohen, Janicki-Deverts, & Miller, 2007). Increased production of pro-inflammatory chemicals, such as cytokines, contributes to the development of conditions including cardiovascular

disease, arthritis, osteoporosis, weakened immune function, gastrointestinal disorders, autoimmune conditions, Alzheimer's disease, and certain cancers.

Stress as a Component of Health

So, stress: Bad. Bad. Bad. Bad! We have to be vigilant about it and fight it and kill it. Right?! Well, no—not at all. Why?

If we look to Hans Selye's (1974) discoveries of stress, we find embedded in his definition the space for stress responses to extend beyond a single experience. He described stress as the response of the body to any demand placed upon it. This encompasses a wide range of physiological changes. In other words, there is no one-size-fits-all stress response. Not only does the stress response differ between individuals, it differs depending on the demand and on our perceptions of how the stress is affecting us.

Selye (1974) expanded on this by describing the concept of stress called eustress. Selye recognized that some types of stress are good for us. It is the feeling of a wanted challenge, or how we feel when we are able to rally the resources necessary to cope or rise to the challenge by developing the needed skills.

Eustress inspires us to experience self-efficacy and flow in our lives, and is positively correlated with satisfaction in life (Selye, 1974). Selye also recognized that there is an optimal amount of stress necessary to keep us engaged and responsive to our environments. This can be likened to the degree of nerves experienced before taking a test you are prepared for, participating in a competition, or beginning an exciting new experience. If we didn't feel a little nervous about these things, we often wouldn't feel compelled to try. We also wouldn't have the internal reaction—SNS activation—to help us focus mentally or prepare physically to engage in activities that demand greater performance from our bodies.

We have been somewhat misguided by popular psychology's focus on the harmful effects of negative stress responses (Goren, 2025). This emphasis has encouraged the belief that stress is an evolutionary holdover mismatched to modern life, and even that it is maladaptive. According to this "mismatch" perspective, stress is something to eliminate—a vulnerability, a weakness, or an error in functioning. Unfortunately, this mindset obscures the important role stress plays in maintaining a healthy, engaged life.

When the adaptive functions of stress are considered, it is clear that even when stress is experienced positively, there is still a physiological reaction. Muscles constrict for action and focus, blood is diverted from internal systems toward the brain for sharpened attention, breathing becomes shallower to provide faster bursts of oxygen to the muscles, and hormone cascades shift. Temporary changes like this are not problematic. Our bodies are designed to move in and out of different states of nervous system activation.

Stress, when positively experienced, fuels both physical and mental faculties. We often hear about incredible feats of strength that occur under duress, but this same surge of adrenaline that can help us move mountains also sharpens attention to a laser point. Beyond this, an adrenaline surge enhances cognitive processing, sharpens the senses, and produces a flood of neurotransmitters and hormones that can make us feel energized and enlivened.

There are also different types of stress responses beyond the stereotypical depletion or overwhelm models. While we often hear about what happens during a panicked fight-or-flight response, we rarely hear about the benefits of the body shifting into a challenge response (Dienstbier, 2015). Many of the same physiological changes occur—heart rate and breathing increase, adrenaline and cortisol spike, and glucose is released to provide more energy for brain and muscle function. But along with these changes, the body also releases chemicals that help us connect, recover, and learn. We often label this state as *flow* or *absorption*, but it is simply another way the body experiences stress—and it can be good for us.

Even in situations we would label traumatic, there are misunderstood elements of the stress response. For example, the word cortisol has almost risen to the level of a curse word in our current understanding of stress. Yet higher levels of cortisol have been associated with greater ability to employ coping strategies that lead to resilience and improved recovery from highly stressful events (Sladek, Doane, Luecken, & Eisenberg, 2016). Cortisol has also been found to reduce inflammation and help restore systemic balance.

Other beneficial hormonal changes occur as well. Oxytocin and DHEA production increase during stress (Dutheil et al., 2021). Both hormones play important roles in physical and emotional recovery. Oxytocin is known to help repair damage and support regenerative effects in the cardiovascular system, while DHEA helps regulate other hormones, promotes

neural plasticity, rebuilds muscle, strengthens the immune system, and boosts energy and mood.

If all of this is true, then what is the problem with the SNS being activated often? The problem does not arise simply from the frequency of external stressors or from the system being used. It is designed to be used, nor is it, as many argue that it was never meant to be activated as frequently as it is in the modern world.

The problem is not that we are being challenged.

The problem comes from our reactions to those challenges.

Specifically, it comes from the inner dialogue that runs constantly in most of our minds from the moment we wake until we go to sleep. It is the perception that we didn't get enough sleep, that there are too many things demanding attention today, that we must rush to get ourselves or our children ready. These thoughts often arise from a pervasive sense of lack—not enough time, not enough freedom, fear that we are not good enough to manage everything.

This same pattern appears in everyday moments: grabbing a pastry and coffee on the way to work and thinking, *I shouldn't be eating this. I'll never lose weight. I'm not good enough compared to others.* Or sitting in traffic and thinking, *I'm going to be late. I'm going to get in trouble. I shouldn't have to waste my life in these pointless situations. I'm helpless here.*

Most of us would argue that we don't consciously think these thoughts all day. Yet what we experience are the emotional tones that accompany them. If we slow down and examine the emotionally charged reactions that arise throughout the day—while eating, interacting with others, or completing tasks—we often find thoughts like these running beneath the surface.

These internal narratives can create ongoing physiological stress. They keep us feeling "on," ready for danger. They repeatedly trigger negative stress responses (McGonigal, 2015). Because these perceptions remain unresolved, they create a semi-conscious flow of habitual internal reactions that keep the SNS dominant and gradually diminish the flexibility of the system.

Research by Kelly McGonigal (2015)suggests that it is not stress itself that harms us, but our perception of stress. In fact, believing that stress is harmful has been associated with significantly worse health outcomes. So, while we often try to manage or eliminate external

stressors, it is frequently our internal landscapes—our interpretations and internal monologues—that slowly erode our health.

Stress itself is adaptive. It is a natural process that helps the body respond to challenges, short-term threats, and novel situations. Stress signals that something meaningful is happening—something that matters to us.

However, when these experiences are cognitively labeled as harmful, draining, or “against us,” they can initiate physiological cascades that reinforce those interpretations. For this reason, it is vital to become aware of the self-talk and stories that accompany stress responses. These underlying beliefs can then be observed, questioned, and ultimately released.

Stress as a Mental Construct

If stress itself isn’t the problem—if it is our mental associations with stress that are the issue—how does a normal physiological response become attached to a negative perception and begin a process of physiological deterioration? First, because we are predominantly taught that stress is a bad thing. We expect that it is harmful. But more importantly, stress feels negative because of our perception that something should not be happening.

Much of what we label negative emotion—anger, jealousy, disappointment, sadness, and even negative interpretations of stress—emerges from judging a condition, behavior, or event as something that should not occur. When we endure slights or abuse as children, both in the moment and when looking back, we judge those experiences as things that should not have happened. When a partner breaks an agreement or fails to support the relationship, it feels like something that should not happen. When someone lies to us, cuts us off in traffic, steals from us, or betrays us, the reaction is the same: it should not happen. Even when someone is removed from our lives through accident or death, we often feel that it should not have happened.

Logically, we may understand that such events occur in life. Yet when they enter our awareness as something done to us, we rarely recognize that the core issue is not the event itself, but our perception that it violates some internal code about fairness, morality, or personal rights.

When this perception initially arises, we make split-second physiological adjustments. We experience negative emotion, which is the first indicator that a perception is affecting our physical system. If this response is temporary—if it is fully experienced and allowed to move through us with acceptance—the harm may not register. It becomes a natural wave passing through the system.

However, when we cannot remain with the initial emotional experience—perhaps because it feels too intense, the timing is inconvenient, or we do not want others to see us experiencing something "negative"—the emotional energy begins to stagnate. If we also become attached to the perception accompanying the emotion ("*That's right! That should not have happened*!"), we begin to build stories, justifications, and sometimes fantasies of retaliation. At that point, the energy becomes further distorted. The longer we remain within the perception that something has gone wrong, the greater the impact on the system, both physiologically and psychologically.

All feelings of stress initially signal that we are perceiving something that must be resisted or guarded against. When we notice the physiological signs of sympathetic nervous system activation—muscle tension, narrowed attention, shallow breathing—we often respond by pushing against the discomfort. Thoughts such as *this shouldn't be happening*, *this is killing me*, or *I can't handle this* arise automatically. These interpretations reinforce the stress response rather than allowing it to resolve (McGonigal, 2015).

Over time, repeated exposure to situations we judge as undesirable strengthens this pattern. We begin interpreting the physiological sensations themselves—tense muscles, quickened breathing, heightened alertness—as evidence that something is wrong. We may attempt to talk ourselves into calming down, or try to eliminate the situation entirely. While these strategies sometimes provide short-term relief, they can reinforce the underlying resistance to the stress response.

Stress then compounds. Repeated sympathetic activation combined with repeated negative judgment creates a feedback loop between perception and physiology. Over time, these cycles can produce physiological adaptations associated with chronic stress and disease (Sapolsky, 2004).

At this moment, for example, I am interested in writing. Ideas are flowing. But there is also a four-year-old boy and a three-month-old cat who very much want my attention. As their antics escalate, I feel the familiar constriction arising in my body. At first, I remain patient and attempt to redirect them. Gradually, however, irritation builds and I feel the impulse to lash out. Resisting that impulse creates additional tension.

At first glance, it might appear that the irritation is caused by the external circumstances interrupting my work. Yet through extended observation of my physical reactions, I have recognized that the deeper issue is the belief that I cannot write under these conditions. Further, there are beliefs that these interruptions shouldn't be happening. That this situation is not fair. Beneath these beliefs lie others: that there is not enough time or space for my needs to be met and hat I will never find the ability to focus on what I want. At an even deeper level is a broader belief that life does not consistently support or care for me.

I became aware of this process by first noticing the physical sensations associated with stress. My neck would become so tense that it triggered tension headaches. At times, my entire body would feel condensed, as though it needed to be stretched open to restore flexibility and space. Observing these sensations allowed me to notice the accompanying thoughts: *I will never have time to do the things that matter to me. Someone else's needs always come first. Life is an endless stream of demands requiring immediate attention. I have to push to make things happen. Life is not a safe place to express my needs.*

Through experience, I have also noticed that if I do not consciously pause during periods of high intensity—relaxing the body and observing the thoughts accompanying these sensations—the physical expression of stress continues to escalate. Muscle tension intensifies, headaches develop, and eventually stomach discomfort or acute illness may follow. This awareness emerged only through extended practice of observing the relationship between thoughts and physical symptoms.

We readily accept that in extremely traumatic situations the brain may shut down to protect itself. Memory encoding may be disrupted, and individuals may experience dissociation or immobilization (Van der Kolk, 2014). In other cases, the stress response may become highly activated in order to protect the organism. These responses are widely recognized as functional survival mechanisms.

However, when traumatic experiences cannot be fully processed, the body may periodically revisit them. This recurrence is often triggered by stimuli resembling aspects of the original event. Rather than recognizing this as the body's attempt to process unresolved experience, we frequently become frustrated with ourselves, wondering why the reaction persists. In reality, these responses often represent protective mechanisms that became habitual following the original trauma.

In this way, many forms of discomfort and stress represent the body's efforts to protect and regulate itself. What appears to be malfunction is often an adaptive response to conditions that once overwhelmed the system. The body is not acting against us; it is attempting to preserve function and support continued survival.

Conclusion

Stress is a vital function of life—a signal that we are engaged, aware, and responding to the world around us. It is neither enemy nor error. It is a messenger and when allowed, a support, that nudges us toward growth, focus, and resilience. The real peril lies not in stress itself, but in the stories we tell about it—the judgments, the "shouldn'ts," the inner voices that insist we are powerless.

When we shift our perception, stress transforms. It becomes eustress, the spark that ignites courage, sharpens attention, and fuels achievement. Even in moments that feel overwhelming, stress carries the seeds of adaptability and renewal.

Without exception, stress offers us a road map to follow to our ultimate well-being and function. . . when we stop to consult it. Viewed with awareness and acceptance, stress becomes not a burden, but a companion, guiding us toward health, wholeness, and the deeper satisfaction of a life fully lived.

If you would like guidance in using stress to be a road map to greater well-being, contact Dr. Jenny.

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