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Finding Inner Balance: The Mind-Body Connection

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Have you ever had a “gut feeling”, felt your “stomach in knots” when confronted with a difficult situation, or “choked under pressure”? Chances are you have had your fair share of experiences in this regard, and you are familiar with the powerful ways in which thoughts and emotions can create physiological changes in the body. The mind-body connection refers to the influence of thoughts and feelings on biological processes and vice versa. In other words, mind and body are closely connected and affect each other in a bidirectional fashion. Thus, it is not surprising that we frequently refer to the mind-body connection when we use phrases such as being “heartbroken”, something being a “pain in the neck”, or a situation “making us sick”. Yet, the existence of the mind-body connection has not always been recognized.

The Mind-Body Connection: A Brief History

Are the mind and body two separate systems, or are they part of one single unit? Historically, philosophers have been torn between these two perspectives. Earliest cultures viewed mind and body as a unit in which evil spirits were thought to enter the body to cause diseases (Taylor, 2006). Among the earliest civilizations to acknowledge the mind-body relationship were the Greeks, who believed that “mental and physical health were interrelated as they had found that the body and mind should be in harmony” (Kleisiaris, Sfakianakis, & Papathanasiou, 2014, p. 2). Thus, the Hippocratic tradition focused on environmental and psychological causes and natural treatments of diseases, nutrition and lifestyle (Kleisiaris et al., 2014). During the Middle Ages, mysticism, demonology, and supernatural explanations of illness arose once again; however, beginning in the Renaissance, advances in technology, medicine, and the growing understanding of cellular pathology resulted in medicine’s focus on bodily factors. Hence, a dualistic conception of the mind was born, in which physical evidence was considered the only basis for diagnosis and treatment. This perspective lingered for approximately three centuries, until modern psychology -- starting with Sigmund Freud’s work on conversion hysteria, followed

by the evolving field of psychosomatic medicine -- laid the groundwork for a change in beliefs about the mind-body connection (Taylor, 2006). Today, it is widely recognized that psychological and social factors can impact our bodies and vice versa. Therefore, when we look at the history, it seems that we have come full circle in our beliefs about the mind-body connection – how each can influence and is influenced by the other. Yet, both Brower (2006) and Mehta (2011) contend that mind-body dualism still persists in the field of medicine, which has not yet moved beyond the biomedical model that emphasizes biological factors in the development of diseases while dismissing psychological, social, and environmental influences.

Understanding the Mind-Body Connection

In contrast to the biomedical model, the biopsychosocial paradigm postulates that mind and body are interconnected. This model gives credence to the influence of psychological and social factors that affect body states and vice versa (Borrell-Carrió, Suchman, & Epstein, 2004). While the human brain is part of the body's visible components, the human mind is invisible and refers to a person's thoughts, emotions, beliefs, memories, attitudes, imagination, and past experiences that constitute his or her internal world. This internal world can have a tremendous influence on our biological functioning, while physical symptoms (and the way we treat our physical bodies) can influence what we think, feel, or do.

The 'fight-or-flight' mechanism illustrates how closely mind and body are connected. This mechanism is an evolutionary alarm system that keeps us safe from danger. This acute stress response allowed our ancestors to act quickly in a life-threatening situation, for example, if they were chased by a hungry tiger. This response comes with a host of physiological symptoms due to the release of the stress hormones epinephrine (also known as adrenaline) and cortisol. Although this mechanism has worked well for our species' survival in the past, it is generally not appropriate for the stressors we are experiencing today. Nevertheless, when faced with modern-day challenges such as work pressure, traffic jams, or family difficulties, our brains and bodies react in much the same way. Conversely, physiological symptoms can influence our thoughts and emotions. Consistent pain or health problems, for instance, can affect how we think and feel, as we may become stressed, anxious, or depressed. These feelings and accompanying thoughts in turn will affect how we are able to cope with the situation and our circumstances. Moreover, even our expectations about future events can impact the kind of experiences we will have. For example, simply anticipating to feel pain during a medical procedure could make the experience more painful.

Given this close connection between mind and body, it is not difficult to imagine how our interpretations and thoughts about events can have a powerful impact on how our bodies react, and whether or not the fight-or-flight response is triggered. For instance, meeting deadlines, going to a job interview, interpreting a health diagnosis, or arguing with a spouse can elicit the same physiological symptoms as being chased by a hungry tiger despite the lack of life-threatening danger. Moreover, research shows that merely expecting negative outcomes can trigger the same brain regions and therefore the same stress response as a negative event itself. Additionally, if we don't stop there and continue to think negatively about an event that has already passed (dwelling on what we could have done better at a job interview, for

example), we ensure that the stress response persists (Hanson & Mendius, 2009). Most of us can cope well with an occasional activation of the fight-or-flight system and the associated physical symptoms. However, it is the continual activation of this mechanism that can lead to chronic stress. Chronic stress is a critical health concern as it "can cause serious diseases [and] …appears to affect organ and system functions at multiple levels" (Mariotti, 2015, p. 5). It seems that we have the propensity to worry ourselves sick.

In the past years, researchers have accumulated an impressive amount of empirical evidence that indicates how mind and body affect each other. From the stomach and the digestive tract to the cardiovascular and the immune systems, our thoughts and emotions can affect the body's reactions to stress, which in turn can lead to unwanted physical problems. For instance, the gut is sometimes referred to as the "*little brain*" due to its many nerve connections with the brain. Thus, the experience of gastrointestinal problems (e.g., upset stomach, bloating, diarrhea, inflammation) is not uncommon during times of stress (Gao et al., 2018; Mayer, 2000). In fact, Carpenter (2012) notes that "even mild stress can tip the microbial balance in the gut, making the host more vulnerable to infectious disease and triggering a cascade of molecular reactions that feed back to the central nervous system" (para. 3). Also, Yao et al. (2019) found that "chronic stress is an independent risk factor for the development of vascular disease and for increased morbidity and mortality in patients with pre-existing coronary artery disease" (p. 1429). Additionally, chronic stress has been correlated with macroscopic changes in various brain areas, inflammation elicited by the immune system, and the promotion of atherosclerosis and depression (Mariotti, 2015). Although the mechanisms by which thoughts and feelings can translate into physical symptoms are not yet completely understood, combined this evidence provides ample indication that physical changes in the body occur in response to our thoughts and feelings.

Finding Inner Balance: Promoting Health and Well-Being

Now that we know how mind and body can impact each other, how can we apply this knowledge to find inner balance and promote health and well-being? Given the knowledge that mind and body affect each other in a bidirectional fashion, it follows that the mind-body connection does not merely have negative effects. While recurrent self-defeating thoughts, emotions, and attitudes undoubtedly have detrimental consequences for our health and well-being, kind, positive, and inspiring beliefs can have quite the opposite effect. Therefore, in order to find inner balance, we need to take advantage of the brain's plasticity and incorporate practical mind-body techniques that support communication between the mind and body to promote lasting change.

"Vast amounts of biomedical research now indicate that our feelings, beliefs, attitudes, spiritual life, and physical well-being are closely intertwined" (Lemon & Wagner, 2013, p. 1), and that changing thoughts, emotions, and beliefs also change the brain. The continuous change of our brains throughout life is referred to as neuroplasticity. Understanding how our thoughts, feelings, and behaviors affect the brain empowers us to rewire our brains and form new connections for emotional and physical well-being. Practicing gratitude, mindfulness, positive thoughts and affirmations, attending with energy and focus, as well as purposefully

concentrating on strengths are mind-body techniques that support this effort, which are measurable through brain imaging. Neuroplasticity allows us to actively work on restructuring our thought processes, as is demonstrated in the following video by Sentis (2012); the resulting cognitive changes lead to emotional and behavioral transformations that will have a positive effect on our bodies.

In addition to cognitive restructuring, understanding the body's natural fight or flight response allows us to counteract and cope with stressful situations as we can employ strategies to calm down and relax our bodies to restore equilibrium. Powerful mind-body techniques are increasingly popular for self-care, prevention, and intervention. Varvogli and Darviri (2011) reviewed a number of evidence-based stress reduction techniques, including "progressive muscle relaxation, autogenic training, relaxation response, biofeedback, emotional freedom technique, guided imagery, diaphragmatic breathing, transcendental meditation, cognitive behavioral therapy, mindfulness-based stress reduction and emotional freedom technique" (p. 74) and found that all were successful in lowering stress levels, which resulted in disease symptom reduction, disease prevention and/or improvement of quality of life.

Finally, it is important to emphasize that we need to make an effort to treat our minds and bodies well. There are undoubtedly things we can do on a daily basis that are good for our physical and mental well-being, such as good sleep habits, healthy diet, routine exercise, regular downtime, as well as cultivating supportive social relationships, while other things (e.g., sedentary lifestyle, unhealthy diet, heavy drinking/drug use, smoking etc.) can have detrimental effects on mind and body. Eating and sleeping well, staying active, and avoiding unhealthy behaviors, as well as talking to someone when feeling anxious, stressed, or depressed, can

moderate chronic stress symptoms. Managing expectations, self-compassion, and holding ourselves accountable are key!

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