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Chapter Three

EMOTION AND DISEASE: INTERFACING PSYCHOLOGY AND HEALTH USING A BIOPSYCHOSOCIAL MODEL

Antonio E. Puente, PhD and A. Griffin Pollock, BA

Psychology's history has seen two faces of the discipline, one academic/research and the other applied or clinical. Due to its origin within the psychiatry departments of the Veterans Administration system after World War II, the application of psychology quickly become focused—indeed synonymous—with mental health. With the advent of licensing laws and third-party reimbursement, the focus of clinical psychology has been largely, if not exclusively, on mental health. After all, the origins of clinical psychology were largely centered on psychiatric services.

In recent years, the expansion of clinical psychology outside the boundaries of mental health has yielded a number of theoretical and practical opportunities that have expanded the horizons of clinical psychology and, subsequently, of psychology itself. Of the expansions, one of the more robust has been the application of psychological principles to health and medicine. For the purposes of this chapter, health will be considered as all that is disease free but is biological and pertaining to humans, whereas medicine will be focused on the disease process. In many ways, this resembles the difference between health psychology, which often focuses on healthy behaviors, and behavioral medicine, which almost exclusively focuses on the amelioration or control of a disease process.

This chapter focuses on the interface between the application of psychology and the disease process. Of particular interest is the relationship between emotion and disease. Whereas the traditional area of psychosomatic medicine has a long history of attending to this interface, its focus has historically been

"medical" and psychiatric. The current focus is on how emotion affects the disease process and, in turn, how the disease process affects emotion. Further, as a means of providing a model for how this reciprocal deterministic model of disease and psychology interact, the primary focus will be on neurological diseases. These diseases are by far the most challenging for medicine as a whole, especially when the rehabilitation and control, including pharmaceutical, are involved. In addition, this focus is in greater synchrony with psychology because the role of mental processes is more directly involved (versus, for example, digestive diseases).

The chapter first defines emotion—including traditional versions—explaining the similarities and differences between positive and negative emotion and couching the concept of emotion within a neuropsychological perspective. Next, the chapter reviews the interface between emotion and disease process using a health psychology/neuropsychological perspective. The third section focuses on immunological diseases, especially multiple sclerosis and HIV/AIDS. This section will set the foundation for determining how their understanding has, in turn, helped develop viable theories of emotion and disease. The fifth section addresses alternative methods of understanding and altering immunity. A summary section reviews the major points developed in the chapter and provides methodological, clinical, and theoretical perspectives for the future.

DEFINING EMOTION

Emotion can be defined in numerous ways: traditional interpretations, based on concepts of valance, and neuropsychological. Whereas the concept of emotion has been defined repeatedly in the history of psychology and popularized by researchers such as Cannon and Selye, more modern and empirical interpretations such as those provided by Carver, Scheier, and colleagues as well as Taylor may be more applicable to the purposes of this chapter. Carver, Scheier and Weintraub (1989) have suggested that emotion is a response to stressors that are often environmental and overt and just as powerful as internal ones. In many respects, this concept follows Selye's ideas of a load being placed on a system and that system's ability to handle the load. The assumption would be that the lighter the perceived load is (since the perception may be more critical than the reality in terms of a response), the lower the emotionality associated with the load would be. A more cognitive perspective has been developed by Taylor and colleagues (1983) and continues to evolve. This perspective suggests that the individual's adjustment to a threatening event results in a cognitive adaptation, whether it be a habituation (as in the case of Wolpe's systematic desensitization) or a more resilient understanding and redirecting of goal-directed activity (as in the case of Meichenbaum's cognitive restructuring).

Regardless, there are now widespread stressful life events, such as those (e.g., death, divorce, etc.) ultimately conditioning and thus the development of health psychology and behavioral medicine in the last century of history. However, the accumulation of disease has seeped down to the point where we see the new health and behavior as a result of the American Medical Association's (2007). The assumption held by modern medicine, especially over the long term, is that disease is irreversible, and, in some cases, lethal.

What is not so clear, however, is whether a recipient of change or threat as a result of something as positive as a holiday or a vacation can induce significant changes that, in turn, produce undesirable effects to both the body and the mind of a good thing, especially for a long time. Further, the existence of positive emotions as restorative. In summary, cognition of the disease process and the development of emotion.

Negative emotions have historically been associated with morbidity and mortality (Friedman, 1992). Working with cardiovascular disease, Friedman's psychological stress, especially negative emotions, with the development of cardiovascular disease postulated that a pattern of behavior as the Type A personality, could include conditioning, including cortisol levels, and a significant cardiovascular disease—congestive heart failure, and myocardial infarction. The original concepts of Type A and Type B types of individuals and what types of emotions, especially negative, would be associated with a personality disorder.

More recent efforts, partially spurred by Seligman (2005), have focused on the impact of such on the understanding of disease. Seligman and colleagues (2005) have explored the relationship between hope and curiosity—and three disorders: respiratory tract infections. Hope and

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Regardless, there are now widespread understanding and acceptance that stressful life events, such as those measured by the Holmes and Rahe scale (e.g., death, divorce, etc.) ultimately, directly or indirectly, affect physical functioning and thus the development and/or exacerbation of disease. Indeed, health psychology and behavioral medicine have no more than a quarter of a century of history. However, the acceptance of the interface between emotion and disease has seeped down to the level of insurance reimbursement (e.g., see the new health and behavior assessment and intervention codes from the American Medical Association's Current Procedural Terminology manual, 2007). The assumption held by most is relatively straightforward: strong emotion, especially over the long term, will eventually produce serious, sometimes irreversible, and, in some cases, lethal results.

What is not so clear, however, is that emotion can be perceived by the recipient of change or threat as either positive or negative. Indeed, something as positive as a holiday or celebratory event (e.g., wedding) can produce significant changes that, in the long run, appear to produce similar undesirable effects to both the body and the mind. In other words, too much of a good thing, especially for a long period, can be in the end rather negative. Further, the existence of positive emotion can be prophylactic as well as restorative. In summary, cognitions about one's health and the perception of the disease process and the development of its symptoms can be affected by emotion.

Negative emotions have historically been reported to be associated with morbidity and mortality (Friedman & Booth-Kelly 1987). In groundbreaking work with cardiovascular disease, Friedman and colleagues reported that psychological stress, especially negative and long term, could be associated with the development of cardiovascular disease. Further, Friedman and colleagues postulated that a pattern of personality and of coping with stress, such as the Type A personality, could inevitably result in altered physiological functioning, including cortisol levels, and subsequently with the development of significant cardiovascular disease—including, but not limited to, hypertension, congestive heart failure, and myocardial infarctions. Since the development of the original concepts of Type A personality, a shift to determining what types of individuals and what types of specific emotional experiences, primarily negative, would be associated with the development of a "cardiovascular" personality disorder.

More recent efforts, partially spurred by the positive psychology movement of Seligman (2005), have focused on positive rather than negative emotion and the impact of such on the understanding and control of disease. Richman and colleagues (2005) have explored the relationship between two positive emotions—hope and curiosity—and three diseases—hypertension, diabetes mellitus, and respiratory tract infections. Hope and curiosity can be considered to be emotions

related to "interest." Hope motivates actions and has a subsequent effect on both thought and behavior. It is a forward-looking emotion that is accompanied by positive expectations about the future. Curiosity is a desire to explore, to understand as well as to integrate new experiences and new knowledge. Presumably, such information would, in turn, affect the evolution of goal-directed behavior. Their findings, as well as the findings of others, suggest a strong correlation between positive affect and enhanced immunological functioning. They reported evidence that positive emotions may have a protective effect on the disease process, which included cardiovascular, metabolic, and respiratory systems.

According to Chesney and colleagues (2005), the effects of positive emotion seem to do more than counteract or cancel the effects of negative emotion. Positive emotion has its own protective value, independent of negative emotion. Further, these authors postulate that the experience of positive emotion may actually boost the body's immune system. Positive emotion may ensure the individual to engage in healthy behavior and to seek help when help is needed. Also, positive emotion may assist in helping one adapt in a healthy way to new or stressful situations. Nevertheless, the interface between emotion and disease should be considered, at least relative to the interface between negative emotion and disease, to be in its early stages of development.

The relationship between emotion and neuropsychology is even less developed than that of positive emotion and disease. Examination of the neuropsychological literature indicates a preponderance, to a fault, of cognition as the primary, if not the sole, factor in neuropsychological processes. For example, over the first decade of publication of the highly regarded journal *Neuropsychology Review*, only two articles focused on the role of emotion in neuropsychological processes. Historically, emotion, almost exclusively negative, was a result of diminished capacity due to the acquisition of a brain dysfunction. For example, individuals became depressed as cognitive capacity (e.g., memory) was reduced secondary to a dementing process such as Alzheimer's disease. However, the pioneering research of Sperry (1982) with split-brain patients provided an initial glimpse into the right hemisphere. It turns out that this hemisphere, though relatively "silent" due to the language centers being primarily in the left (or dominant) hemisphere, is directly associated with emotion. The first author has seen unpublished or undistributed films of the emotion emitted but denied (at least verbally) by male split-brain patients who had been shown sexually explicit films to the right hemisphere. There is increasing clinical and more recent empirical evidence that alteration of right hemisphere integrity (e.g., head trauma) results in perceived positive emotional changes such as disinhibition and, in other cases, negative

emotional changes such as emotional and emotional stimuli.

THE EMPIRICAL INTERFACE OF NEUROPSYCHOLOGY WITH EMC

This section focuses on the idea and that such emotion can be either disease process. As mentioned previous relationship expresses itself in disease of nervous system dysfunction.

Research on HIV/AIDS has probed the close relationship between nervous system (Kemeny et al., 1994). link between immunological process or affecting the nervous system. Many described multiple neuroendocrine hypothalamic-pituitary-adrenal (HPA) (HPG), hypothalamic-pituitary-thyroid hormone axes and how they interface modulated by glucocorticoids. These late the immune system. Thus, indirectly to disease and inflammation. HPA axis results in extended activation of immune system. Such an inhibition in infection. Examples of diseases that exacerbated include inflammatory arthritis, asthma, and atopic dermatitis. Furthermore, they are important in immunomodulation in a way similar to the dichotomy between

The HPT axis hormones have been studied in cells. The hormones included thyroxine (T3), and thyroxine (T4). T3 immunity can result from either the interaction between the HPT and HPA axes. T3 system in two ways. It directly affects the immune system. Indirectly, it does so through interaction with the HPA axis. The probability of this occurring is increased and contribute to changes in one's susceptibility to diseases as well as the expression of

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THE EMPIRICAL INTERFACE OF HEALTH AND NEUROPSYCHOLOGY WITH EMOTION

This section focuses on the idea that emotion can be positive or negative and that such emotion can be either directly or indirectly associated with the disease process. As mentioned previously, the primary focus is on how this relationship expresses itself in diseases that are associated with or are a function of nervous system dysfunction.

Research on HIV/AIDS has produced a wealth of information that illustrates the close relationship between emotion and diseases that affect the nervous system (Kemeny et al., 1994). Recent studies have described the close link between immunological processes and emotion, especially in diseases of or affecting the nervous system. Marques-Deak, Cizza, and Sternberg (2005), described multiple neuroendocrine pathways, including the hormones of the hypothalamic-pituitary-adrenal (HPA), hypothalamic-pituitary-gonadal (HPG), hypothalamic-pituitary-thyroid (HPT), and the hypothalamic-growth hormone axes and how they interface with the immune system. The HPA axis is modulated by glucocorticoids. These substances suppress, enhance, and modulate the immune system. Thus, indirectly, emotion plays a pivotal role in immunity to disease and inflammation. Extreme or prolonged stress of the HPA axis results in extended activation of glucocorticoids, which, in turn, inhibit the immune system. Such an inhibition increases the likelihood of susceptibility to infection. Examples of diseases that are more likely to be developed or exacerbated include inflammatory arthritis, systemic lupus erythematosus, allergic asthma, and atopic dermatitis. Further, it was thought originally that glucocorticoids were only immunosuppressive. However, there is mounting evidence that they are important in immunomodulation and immunoenhancement as well, in a way similar to the dichotomy between negative and positive emotion.

The HPT axis hormones have been shown to directly stimulate immune cells. The hormones included thyroid-releasing hormone (tSH), triiodothyronine (T3), and thyroxine (T4). The effects of these thyroid hormones on immunity can result from either the HPT axis itself or from an interaction between the HPT and HPA axes. The HPG axis modulates the immune system in two ways. It directly affects the sex hormone effect on the immune cells. Indirectly, it does so through interactions between the HPG and HPA axes. The probability of this occurring is increased during periods of stress and may contribute to changes in one's susceptibility to autoimmune and inflammatory diseases as well as the expression of those diseases.

Major depressive disorder appears to cause a disruption of communication between the neuroendocrine and immune systems. Cohen, Doyle, Turner, Alper, and Skoner (2003) have reported that emotional style affects susceptibility to the common cold. The opposite also appears to be true. That is, a positive style of coping decreases the likelihood of disease or the expression of disease. This has especially been found in work with cardiovascular disease. Gallo, Ghaed, and Bracken (2004) reported on both risks and resiliency as well as social contexts in the interface between emotion, cognition, and coronary heart disease. Ray (2004) provided a provocative and comprehensive review on the topic. The title of the article is as descriptive of the contents as any paraphrasing of the material could be: "How the mind hurts and heals the body."

Two diseases that exhibit a close interface between emotion, immunological processes, and brain function are multiple sclerosis and HIV/AIDS. In multiple sclerosis, ample evidence suggests the existence of depression secondary to the development of the disease. However, a review of some of the findings indicates that much of the literature appears to confuse symptoms of depression with symptoms of physical, emotional, and cognitive fatigue. In general, more commonly seen is a deregulation of emotion, including, but not limited to, emotional flatness or even agnosia, where there is little understanding or interest in emotional information. In other cases, there is an emotional deregulation where there is little connection between the emotion and the social context. For example, an individual may cry over a particularly provocative commercial but may cognitively consider the act of crying to be foolish.

The HIV/AIDS literature is replete with information on the interface between emotion and the disease process. Sikkema, Hansen, Meade, and Lee (2005) reported that psychological health is related to disease progression, HIV-related symptoms, and even death. The researchers examined HIV-infected individuals who had suffered from the loss of a partner or other type of close friend or relative due to an AIDS-related death. The authors examined the possibility that coping group intervention could improve the lives of these individuals. Using the Functional Assessment of HIV Infection scale, they examined physical health status and symptomatology. Those in the intervention group showed a significant improvement in general health-related quality of life and in health issues/symptoms specifically associated with HIV/AIDS.

In a related study, Stein and Rotheram-Borus (2004) examined different coping styles: positive, passive, depressive withdrawal, and escapist. They examined the relationships among environmental stress, self-esteem, social support, coping style, AIDS symptoms, and CD4 count. Results indicated that CD4 counts were not related to coping styles. However, AIDS-related symptoms were predicted only by the passive coping style but not by the others.

The authors conclude that greater self-esteem, which, in turn, may lead to better coping, Rotheram-Borus (2002) found that emotional distress related to HIV/AIDS symptoms predict greater HIV/AIDS symptoms and worse.

Reed, Kemeny, Taylor, Wang, and Visscher (2000) found that individuals with AIDS who scored high on realistic expectations had better health than those who scored low. The research even unrealistic expectations, may increase health. Kemeny, Taylor, and Visscher (1999) report that unrealistic expectations were associated with a greater rate of disease progression. Negative HIV-specific expectations were associated with the onset of prognostically relevant symptoms in asymptomatic HIV seropositive gay men. These findings are associated not only with a more rapid progression of disease in those diagnosed with AIDS, but also with those who had previously been asymptomatic.

These findings have been reported by others and reflect an intricate and bidirectional relationship between emotion and disease (e.g., Friedland, Renwick, & McColl, 1995; Gruenewald, 2000; Weitz, 1989).

DEVELOPMENT OF THEORIES OF THE INTERFACE BETWEEN EMOTION AND DISEASE

The interface between emotion and disease has been a topic of increasing interest in the evolving research literature. In the past few years, a number of theories have come forward. Several viable theories have emerged. Fetterman, Kemeny, Shapiro, and Taylor (2000) have led researchers to postulate viable theories of the interface between emotion and disease. They postulate that physiological capacity, and vice versa, were related to mood. Taylor and colleagues (2000) suggest that, concerning the future, even unrealistic ones are associated with a slowing of the illness. It is hypothesized to have a protective psychological effect to extremely threatening or negative events. Encouraging positive emotion may be useful in the prevention of disease. Taylor and colleagues (2000) suggest probable routes by which emotional states may influence health habits that improve health (such as exercise).

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The authors conclude that greater self-esteem may lead to improved coping skills, which, in turn, may lead to better health outcomes. Leslie, Stein, and Rotham-Borus (2002) found that emotional distress directly influenced distress related to HIV/AIDS symptoms. Emotional distress was able to predict greater HIV/AIDS symptoms and may make physical symptoms worse.

Reed, Kemeny, Taylor, Wang, and Visscher (1994) reported that gay men with AIDS who scored high on realistic acceptance died nine months earlier than those who scored low. The research suggests that positive expectation, even unrealistic expectations, may increase longevity. In a similar vein, Reed, Kemeny, Taylor, and Visscher (1999) reported that high scores on HIV-specific expectancies were associated with a greater likelihood of symptom development. Negative HIV-specific expectancies were significant predictors of the onset of prognostically relevant symptoms of AIDS among previously asymptomatic HIV seropositive gay men. In this study, negative expectations are associated not only with a more rapid progression toward death among those diagnosed with AIDS, but also with a more rapid onset of symptoms in those who had previously been asymptomatic.

These findings have been reported by other laboratories and thus appear to reflect an intricate and bidirectional relationship between emotion and disease (e.g., Friedland, Renwick, & McColl, 1996; Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000; Weitz, 1989).

DEVELOPMENT OF THEORIES OF THE INTERFACE BETWEEN EMOTION AND DISEASE

The interface between emotion and disease processes has yielded a robust and evolving research literature. In the wake of the emerging body of information have come several viable theories of how emotion and disease interface. Fetterman, Kemeny, Shapiro, and Fahey (1994) were some of the first researchers to postulate viable theories linking positive and negative emotions with disease. They postulate that physiological changes affecting immunological capacity, and vice versa, were induced with positive and negative mood. Taylor and colleagues (2000) suggested that optimistic beliefs concerning the future, even unrealistic ones, may help protect one's health and are associated with a slowing of the illness process. Positive illusions seem to have a protective psychological effect that can be crucial in one's reaction to extremely threatening or negative events. Intervention in the form of encouraging positive emotion may be useful in slowing down the progression of disease. Taylor and colleagues (2000) posited that there are several probable routes by which emotional states affect disease. The practice of habits that improve health (such as exercise) or make health worse (such

as smoking or excessive alcohol consumption) can have direct and critical impact. In addition, appropriate use of healthcare services as well as the inclusion of social support and encouragement may have a positive effect. The authors indicate that, at present, there is no empirical support for these probable routes. They conclude, however, that, while the exact biopsychosocial pathways through which the protective effects of positive emotion take place are not yet known, there is evidence that they do, in fact, exist. In another attempt at developing a comprehensive theory of (especially positive) emotion, Taylor (1983) postulated that cognitive adaptation, including a positive attitude, may directly modulate the disease process.

Research linking positive emotion to long-term outcome is becoming increasingly common in the literature. Stone, Cox, Valdimarsdottir, Jandorf, and Neale (1987) reported that secretory IgA antibody is directly tied to daily mood. Further, there is evidence that positive emotional states result in long-term positive physiological changes.

Research by Cohen and Herbert (1996) indicates that negative emotional states are directly linked to physiological changes prognostic for illness and to the development of several chronic diseases. Specifically, in an earlier work, Herbert and Cohen (1993) reported that depression and anxiety are indisputably linked to the immune system.

Barefoot and colleagues (2000) reported that depressive symptoms were directly correlated with the development of coronary disease. Specifically, depression was closely tied to the existence of increased risks of coronary artery disease. Although the study was correlational, the findings focus specifically on negative emotion in the development of serious heart disease. However, no clear evidence has been reported, at least until recently, of the long-term effects of negative emotion and cardiovascular disease. Recent research by Morrill, Richardson, Keith, and Puente (in press) reported that the best predictor of morbidity 10 years after coronary artery bypass surgery is presurgical anxiety. Thus, the original theory of Friedman and colleagues with the development of theories associated with Type A behavior have slowly evolved to address a more specific relationship between emotion and disease. The theory proposed by contemporary workers in the field, such as Shelley, provide room for both negative (as in the case of the original research on cardiovascular disorders) and positive (as in the more recent research on HIV/AIDS) emotion and the interplay of both in the development and progression of disease.

Alternative methods for changing immunity may also affect emotional status and, subsequently, disease expression. Molassiotis and Maneesakorn (2004) reported that quality of life and psychological status in individuals living with AIDS could be altered by the regular practice of meditation. The authors examined the interrelationship between anxiety, depression, coping,

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CONCLUSION

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TOOL KIT FOR CHANGE

Perspective of the Healthcare Profe

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and quality of life. Emotion-focused meditation was found to be related to higher quality of life, though not a decrease of AIDS symptoms.

CONCLUSION

Despite increasing interest in the relationship of emotion and disease over the last 100 years, the focus on research and clinical practice has evolved essentially only over the last 25 years. That focus has been almost exclusively on the concept that emotion is often secondary to a disease process and that negative emotion hastens the development or evolution of the disease process. As a result, a plethora of research focused on emotion as a negative mediator of disease. However, there is increasing evidence that emotion has a primary effect on the development of disease. More recent research has explored the idea that positive emotion can have a protective impact on disease. Further, there is additional evidence that emotion does not exist in a void from cognition. Indeed, the opposite appears to occur. Specifically, cognitive (or least perceptual) processes interact with emotional ones to produce mediating effects on disease.

Methodological issues remain to be resolved. Emotion is difficult to record, especially if it is self-reported. Further, emotion is broadly and often idiosyncratically defined, both by the researchers as well as the subjects involved in studies. The interface between paper-and-pencil measures, such as questionnaires of emotion, and more direct physiological measures, such as corticosteroid levels and/or psychophysiological recordings, may increase the likelihood of a closer connection between emotion and disease and the reliability of measurement of both.

Increasing evidence shows that emotion and disease are intractably related. In fact, the possibility exists that a Cartesian dualism may not be the most robust approach to understanding how emotion and disease are related. An alternative approach would be to consider that disease and emotion are merely different faces of the same coin. In doing so, the dualistic interpretation of mind and body may be replaced with a continuum with emotion at one end and disease at the other. That alternative interpretation would, however, not resolve the problem of timing or evolution of the two—that is, which one comes first. It could very well be that, when all is said and done, such questions are irrelevant because the two may, as previously suggested, be two sides of the same coin.

TOOL KIT FOR CHANGE

Perspective of the Healthcare Professional

1. The interplay between emotion and disease is subtle but will have a powerful impact on the development and expression of disease.

2. Negative emotion will increase the likelihood of a disease being expressed or make the symptoms more intense.
3. Positive emotion will have a protective impact and may assist in the amelioration of symptoms.
4. Positive emotions can be either explicit or implicit and may take some time to have an eventual impact on the disease process.
5. The perception of the patient may be more powerful than the reality of the situation.

Perspective of the Patient

1. Embrace the idea that the mind and the body are unified, especially when it comes to the disease process.
2. Accept the possibility that emotions, whether negative and/or positive, can impact disease.
3. Understand that negative emotions can both cause a decrease in overall health and increase the possibility of the disease process appearing or worsening.
4. Appreciate that positive emotions may have a critical impact on disease.
5. Positive emotions are what make you happy and content, not what others believe should make you happy and content.

The Larger Perspective

1. Public healthcare policy has to understand the continuum between mind and body, especially with regard to disease.
2. Emotional issues need to be given parity with physical issues, especially in light of the continuum indicated in point 1.
3. Health and healthcare will improve substantially, especially for those in difficult circumstances (e.g., poverty) when this continuum is acknowledged and bridged.

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likelihood of a disease being expressed or impact and may assist in the amelioration of or implicit and may take some time to process. more powerful than the reality of the the body are unified, especially when it other negative and/or positive, can impact both cause a decrease in overall health process appearing or worsening. have a critical impact on disease. copy and content, not what others believe and the continuum between mind and with physical issues, especially in light antially, especially for those in difficult ntinum is acknowledged and bridged.

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Chapter Four

MULTIMODAL IMAGERY AND HEALTHCARE

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PICTURE IS WORTH A THOUSAND WORDS

Imagery is a term used to describe a mental process that underlies the holistic, synthetic nature of human experience. As a mental thought process, imagery involves everything we see, hear, taste, smell, touch, and feel. It affects almost all physiologic control systems, including heart rate, blood pressure, metabolic rate, hormone secretion, sexual function, cortisol levels, and responsiveness (Rockefeller, 2007; Rosenthal, 2007). This chapter addresses imagery as a tool for professionals and patients in accessing the mind-body connection. Not all people use visual imagery and because of this, imagery modes, we address guided imagery.

GUIDED IMAGERY

Imagery has an ancient lineage for humanity across many cultures. The benefits of healing through imagery have been documented in Chinese, Japanese, European, Native American, and other cultures (Achterberg, Dossey, & Kessler, 2004). Indeed, according to Micozzi (2004),