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Behavior: The Endocrine-Immune Interface and Health Outcomes

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I was an endocrinologist whose research interest was in neuroendocrine regulation for many years before changing my research focus to psychoneuroimmunology. One of the motivating reasons for this change in my research effort was my interest in the psychophysiology of the events preceding the onset of disease. Of particular interest to me was the origin of the symptoms and signs unassociated with any clinical diagnosis that over half the patients present to their healthcare consultant. I refer to that time between the onset of a disease process and its diagnosis as ‘the gap’ (fig. 1).

Much of the work performed by me and my colleagues over the past 12 years has been involved with understanding the processes that are occurring in that gap. Our group has been investigating stress as it affects the neuroendocrine-immune system. We use the term stress as a life event, intrusive thought, or hassle that is interpreted by the individual as distress. This introduces, then, a series of physiologic events which we have been able to study in our clinical research center and in field studies.

Although research has not yet disclosed many of the mechanisms involved in stress-related organ dysfunction, its effects on the faces of chronically stressed individuals is quite evident. This is particularly true with those who hold the position of the American presidency. In figure 2, I have incorporated images from an editorial by Joel Dimsdale [1] in *Psychosomatic Medicine* in which he published masks done of Abraham Lincoln when he entered the presidency, and 4 years later just before his assassination. One can see the changes in his skin with the marked furrowing reflecting decreased skin elasticity. His life was replete with difficulties including struggles on the battlefield and deeply distressing personal problems with his child and wife.