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Give sorrow words; the grief that does not speak; whispers the o'er-fraught heart and bids it break."

William Shakespeare, Macbeth

At long last, the centuries old Cartesian mind-body split may finally be coming to a timely end. A growing number of researchers and clinicians on both sides of the Atlantic are investigating how the workings of the mind, most particularly our emotions, impact on our health. For those of us trained during an era when psychodynamic thought was more prevalent than it is today – at least in the U.S. - much of this research may bring responses like "I told you so". But in part because of the rise in the public interest in alternative medicine, our long-standing clinical insights are gaining empirical support. Just as this work is a satisfying validation for psychotherapists, so too does it provide a well-reasoned argument for continuing to promote the study of composition and the language arts in schools and in other settings as well.

Some of the most interesting work has come out of the research laboratories of James Pennebaker, his colleagues and collaborators who, since the 1980's, have been looking at the relationship between physical health and emotional disclosure through writing. Now covering over 800 subjects and 13 separate studies of healthy people, a meta-analysis confirms that emotional writing about traumatic or stressful events does produce significant health benefits.

The basic format of the experiments is that subjects are asked to write for twenty minutes on each of four consecutive days about a particular subject. Confidentiality is protected and the only rule is that once they begin, they must not stop writing and must have no concern with spelling, grammar, or sentence structure. The control subjects are asked to write about a superficial topic, like describing their plans for the day or describing the clothes they are wearing. The experimental subjects are asked to write about the most upsetting emotional experiences of their lives.

Even the investigators have been surprised over their findings. In study after study, subjects in the experimental group suffered from significantly fewer illnesses and showed improvement in immune system activity for months after the four-session test. College student's grades improved, employees were absent from work less, people who had been laid off work found new jobs more quickly and even maximum security prisoners visited the infirmary less after writing. Some research in New Zealand has even revealed that immune processes are changed within minutes of emotional disclosure.

Reviewing this startling data, hypotheses are being developed to explain such dramatic physiological and behavioral responses. It is well established that every emotion produces a different pattern of autonomic nervous system arousal. One idea is that stress, in activating the complex human stress response, produces many kinds of powerful neurochemicals including cortisol, an immune system suppressor. It is thought that the chronic inhibition of negative emotions produces increasing work for the autonomic nervous system and this increased load functions as a chronic stressor with the result that biological survival systems that should only be "on" under emergency conditions are reset to be "on" all the time. Relieving this chronic inhibition through emotionally expressive writing therefore, could take the pressure off of the autonomic nervous system and the body functions it controls. But the positive effects of writing do not appear to be entirely due to a reduction in inhibition. Nor are the positive health effects of writing overridden by having verbally disclosed to another person. So there may be something very particular and important about the writing function itself. Traumatic stress literature may shed some light on this function.

We now understand that traumatic events can fragment mental functioning so that people have difficulty processing, organizing, and integrating traumatic memories because the memories may lack a verbal component. This finding has gained some support by neuroimaging studies that demonstrate a decrease in activation of the brain's speech centers when a traumatic memory is evoked with a simultaneous increased activation of visual and other sensory centers. The lack of verbal encoding of an experience means that it cannot be thought about, cannot be shared, and cannot be placed into a coherent narrative form allowing us to make meaning out of it. Writing, involving visualspatial and behavioral mental schemas as well as language skills, memory and emotion, may allow us to process traumatic and emotionally charged information and memories in a way that no other human skill can. If this turns out to be the case, we may finally be on the track of understanding why evolution would select - for important biological survival reasons - those abilities so distinctly human - speech, writing, and their development into the arts. Those of us who love literature have always known how important novels, poetry, and plays are to our individual and cultural life. But now we may finally be arriving at how vital these activities are for species survival as well.

Until recently, the writing experiments have been carried out on healthy people. But an exciting study was just reported in the Journal of the American Medical Association. In it, the investigators demonstrated that after three consecutive days of a twenty-minute timed writing period, asthma patients showed clinically relevant improvement on spirometry testing during a four-month period and patients suffering from rheumatoid arthritis showed clinically relevant improvement in the same period.

Put together, this research may lead to a better understanding of why childhood traumatic events, particularly sexual abuse, are so highly correlated with current health problems and why recent traumas that are not discussed are linked with increased health problems. It also leads to the prescription of simple techniques that may improve health and reduce stress even in situations when more sophisticated

mental health techniques are unavailable or overwhelmed as after disasters and war or in regions where mental health services are simply lacking. Additionally, this research supports the continuing funding of literature and arts programs for the young and for the mature and gives rise to more interesting research questions about the potential health value of other activities like theatre-going, performing, and all forms of creative expression.

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