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## Counting The Costs Of Stress

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*For the New York Times and other news organizations, it's easier to guess.*

The New York Times reported on Sept 5, 2004 that "Workplace stress costs the nation more than \$300 billion each year in health care, missed work and the stress-reduction industry that has grown up to soothe workers and keep production high." The same figure was quoted by Forbes Magazine, NPR, and MSNBC, among others. But where did that number come from and exactly what is in the price tag? Does the stress-reduction industry include vacation spas and message parlors or foot baths for high-heel-wearing executives?

Unfortunately, in citing this figure, The New York Times and others either failed to investigate the original source of the information or failed to use basic statistical principles that would have shown that there is little basis for this figure.

The \$300 billion price tag comes from the [American Institute of Stress](#) (AIS), which reports that the cost includes: "accidents, absenteeism, employee turnover, diminished productivity, direct medical, legal, and insurance costs, workers' compensation awards as well as tort and FELA [Federal Employers' Liability Act] judgments."

According to Dr. Paul Rosch of the AIS, the statistics are based on a 1979 book titled "Stress and the Manager" by Karl Albrecht. Even though "Stress and the Manager" warns that "**any attempt to estimate a dollar cost of chronic stress in a business organization or in American business in general, would of course involve gross guesswork and speculation,**" Albrecht "brazenly" (his word) speculates: he *guesses* an absenteeism rate due to stress, *guesses* a turnover rate due to stress, *guesses* an "overstaffing" cost for reduced productivity due to stress, and estimates a cost per absentee day per worker. Then he concludes that the approximate cost to U.S. businesses totals \$150 billion per year.

Perhaps AIS adjusted these "guesses" for inflation.

There is no doubt that stress has tremendous costs, both financial and personal. However, the problem with estimating these costs starts with determining what stress *is*. According to the National Institute for Occupational Safety and Health (NIOSH), "job stress can be defined as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker." The question is whether we can conclude that fatigue, violence, depression, anxiety, and other ailments requiring psychotherapeutic drugs owe their appearance to job stress.

For many this would be a leap of faith, yet these traits are considered to be caused by stress (or a part of stress) in studies such as "[What Stress Costs](#)," by Ravi Tangri. Here, the author reports that 19 percent of absenteeism, 40 percent of job turnover, 10 percent of medical costs of prescription drug plans, and 60 percent of workers' compensation awards are due to stress. Yet the turnover figure includes causes such as violence and disagreements with colleagues or management; the workers' compensation figure includes compensation for accidents due to fatigue; and the medical costs include drugs for depression. These problems may be more accurately described as "stress-related costs" rather than costs "due to stress."

These reports fail to recognize the difference between *causality* and *correlation*. Is stress the cause of the 300 billion dollar financial dent on the nation's economy or is it simply *associated* with other factors that are the true culprits? Suppose a study finds that highly-stressed individuals have higher medical costs. This is a *correlation* between higher medical costs and stress. Showing a correlation is a far cry from showing that stress actually *causes* higher medical costs. One could equally conclude that higher medical costs cause stress. Perhaps there are common factors to both, such as a genetic disposition towards heart disease and towards being stressed. Perhaps a lack of exercise causes both heart disease and stress. The problem is that causal factors are extremely difficult to isolate.

Unfortunately, even the estimate that stress-*related* costs amount to \$300 billion is not justified, as the AIS did not bother to apply their percentages (such as 19 percent of absenteeism) to actual costs per worker (\$645 per year in 2003, according to CCH, Inc.) times the number of workers in the United States, to obtain the cost of absenteeism *related* to stress. In fact, the costs associated with stress may be much higher (or much lower) than \$300 billion.

This point is underscored by Newsweek, which devotes considerable space to the consequences of emotional stress in its cover feature "[The New Sciences of Mind and Body](#)" (Sept. 27). There is evidence that stress is correlated with heart disease (among many medical problems) and that reduced or managed stress can boost one's immune system and help control diabetes. According to Newsweek, experts claim that 60-90 percent of doctor visits are stress-related. If so, the medical costs are indeed enormous — and they are not accounted for in any of the media estimates of the overall cost of stress.

On the credit side, what about the financial benefits of stress? Americans work more hours per week than they did ten years ago (a total of 47 hrs per week, on average according to a government report cited by AIS). This may contribute to the increased productivity that economists are in a buzz about. Stress (loosely defined) can promote productivity, reinforce commitment to work (or to making money), and spur the economy. Do the benefits to American industry and the nation as a whole offset some of these costs that were attributed to stress in that \$300 billion?

As it should be clear by now, guessing the cost of stress is a lot less stressful than trying to work out the actual numbers. Tackling the problem of stress in the workplace is a challenge, but it's a challenge that should begin by trying to determine the actual cost.

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