

well
BEING

The Business Case for Corporate Stress Assessment and Intervention

The smart thing to do and the right thing to do.



CIGNA Behavioral Health

Executive Summary

Stress may be a small word, but it has huge implications for corporate profitability. According to the US Bureau of Labor, stress costs US business over \$300 billion annually. In the 21st Century, business operates faster and with more complexity and uncertainty than ever before. The impact of stress on profitability, whether creative or negative, must be understood, measured, and managed in a realistic and thorough way if a company is to successfully navigate today's business environment.

This white paper is the first in a series that investigates what is known about the impact of stress on financial and human capital performance. Further, it establishes a framework for defining key business indicator areas where stress related cost exposures and performance vulnerabilities can be identified, measured and managed. Moving forward, future white papers will discuss the reliable measurement of stress effects on corporate profitability. They will also describe related opportunities to contribute to the growth of successful businesses that flow from an integrated approach.

You can navigate the paper by clicking on the links below. Each section stands on its own and may be printed individually.

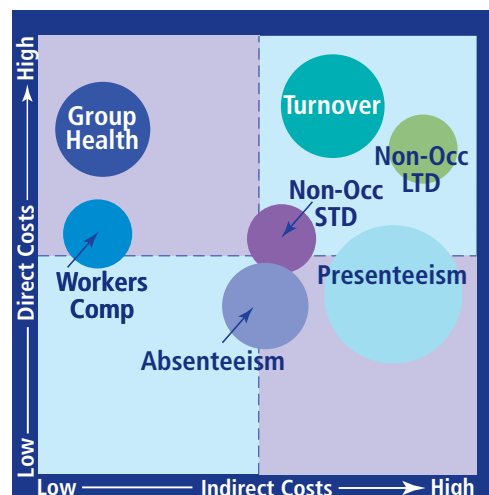
Stress and Human Performance: Learn how managers, executives and knowledge workers are the most susceptible to performance losses due to the interaction of stress and the very nature of their jobs.

The Case for Cost Exposures: Learn how stress affects Workers' Compensation, Long and Short Term Disability, and Health Care costs.

The Case for Performance

Vulnerabilities: Learn how stress impacts bottom line costs and human capital performance as reflected in Turnover, Absenteeism, and Presenteeism.

The figure at right contains an overall picture of the cost exposure and performance vulnerability indicator scales described in this paper. Click on any of the circles to directly access the specific data found on that topic. The circles are placed relative to their contribution to direct and indirect costs based on the research data covered in this paper.



Indicator Scales in Relation to the Magnitude of Their Direct and Indirect Costs

A Wake Up Call

Ask any executive what they know about stress and they can tell you. Ask them how stress is impacting their business and they will probably think about physical or mental health costs. Ask an executive team and they may all look at the HR executive and point to benefits management, EAP and wellness programs. All of these are important. However it's only part of the story.

Business benefits from a robust and thorough understanding of the relationship of human capital costs and the bottom line impact of stress.

Yes, our society's understanding of stress has evolved. It started as an engineering term, pounds per square inch, like the weight of a truck on a bridge. In the 1940s and 50s, the term was expanded to describe the influence of excessive demands and pressures on physical and mental health. It has become a popular idea because everyone experiences stress. For example, an internet search reveals over 17 million hits from various dis-

ciplines investigating stress in one arena or another. Drawing from a voluminous literature, this paper moves stress from the individual, clinical realm into the spotlight of the business profitability and workforce performance arena.

An Evolution of Meaning: Demands and Pressures in the Business Context

Business needs a strategic and integrated definition of stress. That is the purpose of this white paper – to describe the research in which stress has been shown to influence key business related areas and to determine the primary business specific categories that have significant financial and human capital performance costs.

This paper represents a comprehensive review of over 100 years of research reported in the scientific, business and public domains. Based on our reading of the literature, we have assigned six key categories for which the demands and pressures of business cycles and the professional and personal contexts of the workforce combine to have a major impact on business performance. **These areas are workers' compensation, short and long term non-occupational disability, healthcare costs, turnover, absenteeism, and presenteeism (burnout, physical health, mental health, life distractions, work distractions).** With the specific areas of impact clearly defined and authenticated we can then begin to define a cross

disciplinary framework for measuring and managing the effect of demands and pressures on a business and its workforce.

We hope this white paper is beneficial to everyone in business whose discipline is touched by one or more of these categories and who works across the traditional silos within small, mid sized or large organizations to bring real solutions to business problems, to deliver quality products and services, and to increase profits and workforce effectiveness.

About the author: Lyle H. Miller, PhD is Senior Scientist at Stress Directions, Inc, and is Director of the Biobehavioral Institute of Boston. He has published over 120 books and scientific articles in the field of stress. His formulation of the Biobehavioral Model of Stress™ unifying the biological, psychosocial, and behavioral aspects of stress stands as a landmark in our understanding of stress and its effects on the individual. He has consulted to numerous large and small organizations regarding the business impact of demands and pressures on business success and is co developer of The Business Model of Stress and Performance.™

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Introduction

Vigorous research on the effects of stress on human performance over the course of the 20th Century has produced a voluminous scientific literature. As a collectivity, the literature testifies to the profound and pervasive effects of stress on human performance. Stress may result in:

- ▶ Physiological changes including increased heartbeat, elevated blood pressure, labored breathing, and trembling.¹
- ▶ Emotional reactions (fear, anxiety, anger, depression, and frustration).²
- ▶ Lowered motivation.³
- ▶ Cognitive effects such as narrowed attention, inability to concentrate, impaired decision making.⁴
- ▶ Decreased search behavior.⁵
- ▶ Longer reaction time to peripheral cues and decreased vigilance.⁶
- ▶ Degraded problem solving.⁷
- ▶ Performance rigidity.⁸
- ▶ Changes in social behavior and loss of team perspective.⁹
- ▶ Decreased prosocial behaviors such as helping others.¹⁰
- ▶ Lowered immunity to disease.¹¹

Data also show that performance stress alone may increase errors on operational procedures threefold¹² and may more than double the time taken to complete manual tasks.¹³ Despite their obvious relevance to affecting cost exposures and performance vulnerabilities in all types of businesses, these powerful scientific findings have yet to be systematically applied in the business world for a number of reasons.

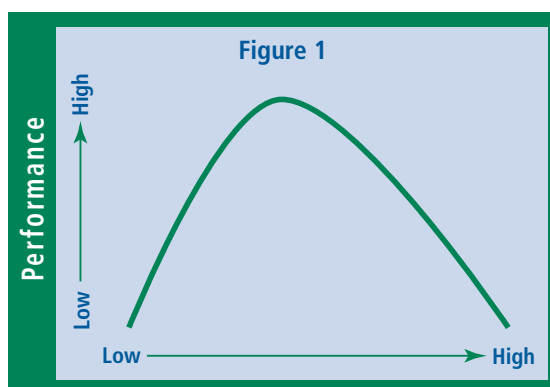
First of all, there is the problem of definition. Prior to Selye's¹⁴ coining of the term "stress" to describe the effects of demand and pressure he observed both in laboratory animals and in his patients, the phenomenon went under a battery of different names most of which are now subsumed under Selye's formulation. But, almost half a century post Selye, there is still confusion over just what the term means and the implications of those meanings.

Secondly, there is the issue of measurement. Until Miller and Smith¹⁵ developed the Personal Stress Navigator® (PSN) (formerly the Stress Audit) there were no comprehensive, psychometrically sound instruments available for real world stress assessment.

Thirdly, discussions of stress research and its implications for business appear in widely divergent sections of the scientific, business, and popular literature. This paper represents an attempt to organize these widely scattered bits of information into a coherent business case for meaningful stress assessment and appropriate intervention at the business level.

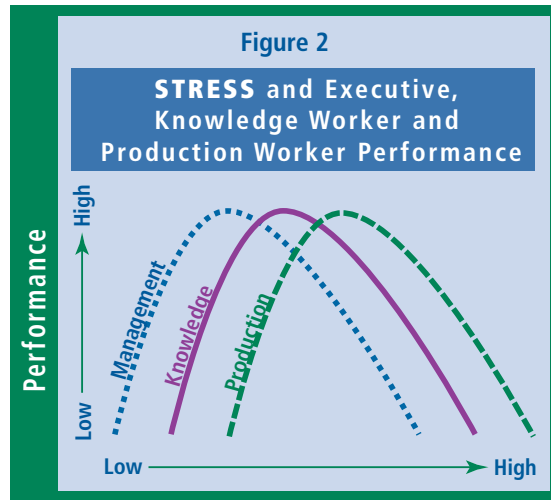
Education of the business community to the need for better control of stress in the workplace is yet another element impeding the systematic application of scientific stress data in the business setting. With the lurching transition from a smokestack economy to one based on information and knowledge, however, forward thinking companies are focusing less on traditional capital assets and more on the human capital assets comprising their productive capacity. As a consequence, the stress/performance issues cited above come under increasing scrutiny as cost-cutting and performance enhancement opportunities as companies strive to hone the elusive competitive edge even finer.

The relationship of stress to individual performance is not a simple one as seen in Figure 1 at right. In 1908, Yerkes and Dodson¹⁶ demonstrated performance to be an “inverted U” function of stress. In that study, levels of stress were shown to produce low level performance and higher levels of stress stimulated higher levels of performance – but only up to a point (the stress/performance threshold) where performance began to degrade progressively and the behavior of their animals became increasingly agitated, scattered, and fragmented.



Further complicating the issue, more recent research shows the stress threshold for performance degradation to be highly dependent upon the cognitive complexity of the task involved. Jobs, which involve very little thought, have a much higher stress/performance threshold (S/P threshold) than do jobs requiring more thought, cognitive organization, decision making, or presentation of information.¹⁷

These data translate almost directly into differential S/P thresholds for broadly grouped job categories. Workers with less intellectually challenging jobs can be expected to have higher S/P thresholds than those with jobs involving greater degrees of intellectual complexity. Figure 2, at right, illustrates the expected variability of the stress/performance threshold as a function of the cognitive demands of different jobs.



Production workers (P) would have a **higher S/P threshold**.

Knowledge workers (K) would have an **intermediate S/P threshold**.

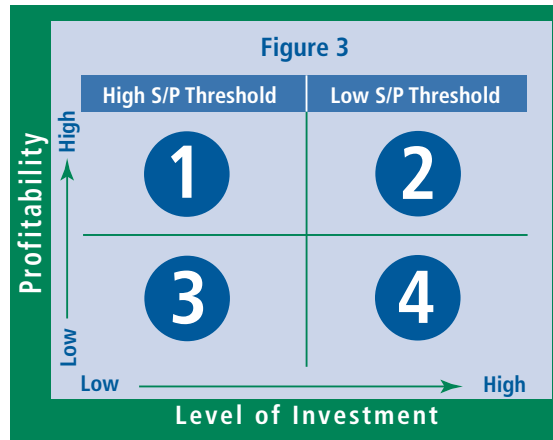
The **lowest S/P threshold** of all would be found in the **Management (M)** where cognitive complexity and the implications for corporate viability are at their highest.

Those workers having a **lesser impact** on a company's performance and profitability would have the **highest S/P threshold** and those having the **greatest impact** would have the **lowest**.

Companies invest in employees (salary, benefits, training, etc.) **in the hopes of making a profit on that investment**. It would follow, then, that the **most profitable employees should be those in whom there is the greatest investment**. If the high investments are in knowledge workers and in managers, supervisors, and executives, then it would also follow that these investments and the profits that accrue from them **are at the greatest risk in terms of stress effects on performance**. **An already complex picture becomes even more so when we add the idea of return on investment as shown in Figure 3, below**. Employees in group 3, low investment/low profitability could be raised to group 1 low investment/high profitability by raising stress levels in some cases or lowering stress levels in other cases depending upon where they are on the stress/performance curve. To elevate employees in group 4 to group 2, however, stress levels should remain low. **One might speculate as to elevating which group, 3 or 4, might result in the highest return on investment**.

There is little question that controlling the cost exposures and performance vulnerabilities due to stress has become increasingly important to businesses that strive to retain, hopefully improve, their competitive edge in today's global economy. The complexities involved make accurate, corporate wide assessments of stress levels imperative if interventions are to be effective with anything approaching

quantifiable results. Employers wishing to “do the right thing” by their employees and improve performance, want bottom line effects of organizational stress control which are not as readily identifiable as they could be. Employers who want to “do the smart thing” because it increases profitability want demonstrable results in meaningful financial report terms.



Notes

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The Case for

Stress Related Cost Exposure Categories

The Stress Related Cost Exposure Categories described in this section fall into several categories:

- **Workers Compensation**
- **Short Term Disability**
- **Long Term Disability**
- **Group Health**
- **Return on Investment (ROI)**

It is a scientific truism that what gets measured gets changed. Clearly defined problems are problems on their way to being solved – and measurement is the requisite ingredient in defining problems. Although stress has been long recognized in many quarters as contributing to ledger items such as Workers Compensation, Short Term Disability, Long-Term Disability, and Group Health costs, the degree of that contribution has resisted definitive measurement. Discussions of stress-related costs in general terms, however, are to be found throughout the literature.

Workers Compensation, Pandora's Paradox, and the Pareto Principle

In 1906, an Italian economist, Vilfredo Pareto, observed that twenty percent of Italians owned eighty percent of the country's wealth. This 80/20 ratio proved to apply to a variety of situations and has been adopted by a number of fields as Pareto's Principle, the 80-20 Rule, or the "Vital Few and Trivial Many Rule." Call it whatever you like, Pareto's 80/20 mix illustrates the point that the relationship between input and output is seldom balanced. The Principle/Rule comes into play whenever there is a question of return on effort, expense, or time,¹ and the analytic has been shown to describe the input/output characteristics of many disparate environments and systems:

- ▶ 80% of a manager's interruptions come from the same 20% of employees.
- ▶ 80% of a problem can be solved by identifying the correct 20% of the issues.
- ▶ 80% of advertising results come from 20% of the campaign.
- ▶ 80% of an equipment budget comes from 20% of the items.
- ▶ 80% of benefit comes from the first 20% of effort.

- ▶ 80% of the outfits worn by an individual come from 20% of the clothes in their closets and drawers.
- ▶ 80% of the traffic in a town travels over 20% of its roads.

Pareto's Principle is particularly evident in an analysis of Workers Compensation (WC) claims, particularly in the case of low back pain. In 1986, a major WC insurer (11% of the market), Liberty Mutual, reported that 25% of its low back pain cases used up 95% of the dollars expended on low back pain. Of the 11.1 billion dollars in WC claims paid out for low back pain that year, the targeted 25%'s share of WC Insurance claims came to the staggering sum of \$10,545,000,000 in 1986 dollars.²

Trends in the WC insurance industry since 1986 suggest that the "Vital Few" of the Liberty Mutual report now claim a higher, and even more costly, percentage of a declining number of WC claims³ (Jones, 1996):

1. WC premiums had fallen substantially (39%) from 1994 to 1999 due to competition among underwriters and a declining number of claims.⁴ This decline in actual number of claims is quite probably a consequence of the excellent educational and rehabilitation programs mounted by companies like Liberty Mutual.
2. Losses from WC had fallen nationwide from 87.8% of premiums written in 1991 to 55.6% of premiums in 1997 due primarily to a decrease in the number of claims.⁵
3. From 1997 to 2000, all these trends have reversed due to rising health care costs as well as increased litigation.⁶
4. Profitability in the insurance industry is gauged by the "Combined Ratio" (very important concept in the insurance business). It is computed as the sum of the losses and the expenses incurred in running the insurance business divided by the premiums written. A combined ratio of 100 means that the premiums have just covered the losses plus the expenses. A combined ratio above 100 means that the insurance company is losing money, and a ratio below 100 means that they are making money on the insurance operations.

5. Projections for the year 2000 indicated that the combined ratio nationally was at 121, up from 97 in 1995 for private carriers. State funds have seen their combined ratio increase from 122 in 1995 to 150 in 1999.⁷
6. In California, the projected combined ratio for 2000 was 144. In that state, the average cost per claim has gone up 50% since 1995.⁸
7. In general, the trends are negative for the insurance companies.

Back pain has been the number one industrial health and WC cost problem in the U.S. and is on the rise.⁹ Despite its prevalence, costs, and the resultant medical attention it has received, back pain – chronic back pain in particular – has remained a diagnostic puzzle for traditional medicine. In the majority of cases there is no detectable medical cause for the pain. Since accurate diagnosis is the key to successful treatment and return to work, it seems reasonable that WC insurers would be interested in sharpening the existing diagnostic process.

The standard diagnostic approach to the treatment of back pain is to look for spinal pathology, typically involving intervertebral discs. Given back pain and demonstrable disc pathology, the course of treatment is, usually, disc removal and fusion of the vertebra above and below the disc. In cases where spinal pathology is not in evidence, standard treatment is to treat it as a sprain or strain with rest, heat, and physical therapy. The two approaches manage the bulk of back pain cases quite easily. For that recalcitrant 25% that costs 95% of the WC dollar, neither of these approaches seems to work. Back pain recalcitrant to treatment becomes chronic and the employee may well become permanently disabled. Obviously, other unidentified variables are at work in these problem cases.

There are compelling data suggesting that psychosocial variables may be key undiagnosed and untreated elements in back pain. An award winning study conducted by Eugene Carragee, M.D. of Standard University¹⁰ found that 25% of study participants had significant spine pathology without pain, that participants with spine pathology were no more likely to experience pain than those without spine pathology, and that psychometric test data were better predictors of back pain than spine pathology. The conclusion was that back pain is a psycho physiological phenomenon involving psychosocial components that typically go undetected and untreated.

Although psychosocial stress has been estimated to be responsible for 33% of WC costs with chronic back pain the major cost category¹¹, reliable research documenting the relationship has been sparse. Two recent studies, however, offer compelling confirmation of a direct connection between stress and back pain. A longitudinal study conducted at the University College of London involved interviewing a 1958 birth cohort of over 5700 subjects at age 23 and ten years later at age 33 regarding a variety of physical and mental complaints and ailments.¹² The researchers found that subjects who reported stress at age 23 were 2.5 times more likely to report back pain at age 33 than subjects who did not report stress at age 23.

Another study conducted at Ohio State University demonstrated that stress could change the way people use their back muscles. The electrical activity of subjects' back muscles (EMG) was monitored while they lifted 40-pound boxes repeatedly under high stress and low stress conditions. Under low stress conditions, subjects reported no back pain and the pattern of EMG activity indicated no spinal strain; under high stress conditions, however, subjects did complain of back pain and exhibited an aberrant EMG pattern consistent with spinal strain.¹³

Clinical observation and laboratory research data notwithstanding, systematic stress reduction has yet to become a consistent element in the treatment of back pain. Following Pareto's Principle, it would seem that sharpening the diagnostic focus, particularly in the area of stress, on that cost consuming 25% of the Liberty Mutual report would be a productive and cost saving enterprise. Indeed, with the decrease occasioned by educational and rehabilitation programs being offset by ever escalating medical costs, it would seem the only avenue for cost savings would be an increase in systematic stress diagnostic and reduction programs to return the traditional treatment resistant chronic back pain cases to work.

There have been, however, a number of impediments to including a systematic stress diagnostic and reduction component in traditional WC rehabilitation and prevention programs. The human tendency to cling to the costs of ignorance rather than face the responsibilities of knowledge known as "Pandora's Paradox" is, perhaps, a major part of the explanation. In this case, it may be that traditional medical approaches having little tolerance for the ambiguities inherent in the very concept of stress contributes to the paradox.

According to the 1999 Medstat report,¹⁴ Workers Compensation costs some \$310/worker/year. When one calculates that 33% of that figure is attributable to stress,¹⁵ the ledger entry cost of stress is something like \$102/worker/year.

Short Term Disability

According to the Medstat survey reported above, occupational disability (short and long term combined) insurance costs employers an average of \$513/worker/year. But the insurance costs are minimal compared to the costs associated with the worker's time off work. What constitutes a short-term disability varies from 90 days to 26 weeks depending upon the policy. Having to recruit, train, and insert a replacement worker into the workforce can be a costly process amounting to something between 25% and 250% of the annual salary involved.

Some of the most frequent causes of short-term disability are clearly stress related while others are clearly not. The top five causes of short-term disability reported by the UnumProvident company of Chattanooga, TN (The list comes from UnumProvident's extensive claims database, the largest private database of disability information in the U.S.) are:

- ▶ Pregnancy (Normal) – 20%
- ▶ Pregnancy (Complications) – 9%
- ▶ Injuries (Excluding Back) – 9%
- ▶ Back – 8%
- ▶ Digestive/Intestinal – 8%¹⁶

While a percentage of complications may be stress related, pregnancy is typically not included in discussions of stress-related conditions. The remaining three causes, however, can be, and often are, heavily influenced by stress. Unfortunately, there are no data at present regarding the degree to which they are influenced in short-term disability.

As an indication of the numbers involved in short-term disability, Unum Provident, alone, receives more than 400,000 new disability income protection claims a year, 75 percent of which involve short-term disability.

The Company pays out approximately \$3.6 billion in disability benefits annually with approximately 35% (\$1.26 billion) devoted to short-term disability claims.¹⁷ In terms of coverage, the average size group STD case is about 104 covered employees. The ballpark incidence of group STD claims is about 60 claims per 1000 employees per year. So, it would be expected that most STD policies would have at least one claim per year.

Long Term Disability

Some of the most frequent causes of long term disability are clearly stress related while others are less clearly so. The top five causes of long-term disability reported by the UnumProvident Company of Chattanooga, TN (The list comes from UnumProvident's extensive claims database, the largest private database of disability information in the U.S.¹⁸) are:

- ▶ Cancer – 13%
- ▶ Complications from Pregnancy – 12%
- ▶ Back – 11%
- ▶ Cardiovascular – 9%
- ▶ Depression – 5%

There have been indications that a link exists between stress and cancer. The links between stress, disabling back conditions, cardiovascular symptomatology, and depression have been shown to be quite strong.

As an indication of the numbers involved in long-term disability, UnumProvident, alone, receives more than 400,000 new disability income protection claims a year, 25 percent of which involve long-term disability. The Company pays out approximately \$3.6 billion in disability benefits annually with approximately 65% (\$2.34 billion) devoted to long-term disability claims.¹⁹ In terms of coverage, the average size LTD case is 168 covered employees. The incidence of LTD claims is about 3 to 4 claims per 1000 covered employees per year. So, the average LTD policy may actually go a year or more without a claim. What percentage of the \$2.34 billion paid out annually by UnumProvident is stress related remains to be determined, but there are indications it is significant.

The claim data discussed above does, at some point, get translated into premiums, but the \$2.34 billion dollars paid out in claims is only the tip of the iceberg. The total costs of long-term disability must include the turnover costs of replacing workers out on long-term disability. Once workers pass 26 months on disability, it becomes extremely difficult to return them to work. Most long-term disability cases are lost to the workforce. The 100,000 cases/year of long-term disability cases reported by UnumProvident cost their employers somewhere between 25% and 250% of their salary. As mentioned under Turnover (see the Stress Related Performance Vulnerabilities section), Xerox Corporation reports a cost of \$1-1.5 Million to replace a senior executive.²⁰



Group Health

Health care costs have been spiraling out of control for the last decade until in 2001 they totaled \$1.4 trillion or 14.6% of the Gross Domestic Product, an 8.7% increase over the 2000. Private health insurance premium growth accelerated in 2001 for the fourth consecutive year, with benefits growing more slowly than premiums in the last three. Premiums rose 10.5 percent in 2001 to reach \$496.1 billion, while benefits grew 10.1 percent.²¹

Data indicate that 22% of group health insurance costs are stress related.²² By extrapolation, one could reasonably estimate the contribution of stress to national health care costs to be somewhere in the neighborhood of \$308 billion dollars annually. Using that same 22% figure, stress accounts for \$109.142 billion out of the \$496.1 billion cost of private health insurance premiums in 2001. The 1999 Medstat benchmarking study mentioned above showed group health costs to run \$4,666/employee/year. Given the acceleration of costs in the two years since, that figure would now be about \$5,365/employee/year.

Small wonder, then, that employers are placing a great deal of attention on the reduction of group health costs. A 2002 study by the consulting firm of Deloitte and Touche²³ indicates that cost concerns have abruptly displaced attraction and retention concerns of employers. Concern over health care costs in particular is rising among employers and dominated the survey for the third consecutive year, with 84 percent of employee benefit specialists identifying it as their top priority for 2002. "Concerns about attraction and retention seem to be taking somewhat of a back seat to concerns about benefit costs in general, and health care costs in particular," said Richard Kleinert, CEBS, and a Principal with the Human Capital Advisory Services practice of Deloitte & Touche. "This is magnified through the industry's consolidation and consequent lack of choice that employers continue to face in the areas of health services."

Return on Investment (ROI)

Given the magnitude of the stress related cost exposures and performance vulnerabilities described above, the ROI of effective stress control programs should be considerable. Most stress control efforts are investments with long-term pay-back periods. Hence the cost benefit and ROI analyses should be viewed over a period of years rather than weeks or months. Manuso²⁴ reported a 5 to 1 ROI in a limited sample of employees. He later reports (1982) sparkling ROIs ranging from \$200 to \$800 for every \$1 invested depending upon the type of stress control program, the setting, and the variables examined.²⁵ Most of the ROI studies in the literature have significant, conceptual, methodological, or procedural

flaws and the sparkling ROI figures can be questioned on scientific grounds. Whatever the flaws, however, it is evident that there is a significant ROI for stress control efforts and that they make good business sense.

Notes

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The Case for

Stress Related Performance Vulnerability Categories

This section describes Stress Related Performance Vulnerabilities in some detail:

- **Turnover**
- **Absenteeism**
- **Presenteeism**
 - **Burnout**
 - **Physical Health**
 - **Mental Health**
 - **Life Distractions**
 - **Workplace Distractions**

There is a strong case in the literature that all of the above business issues listed under Performance Vulnerabilities have a negative influence on job performance. The following are data from an extensive literature review of clinical and management sources highlighting performance costs for these key business issues impacted by stress.

Turnover

Employee turnover has received considerable attention in the literature regarding costs and the elements contributing to turnover. According to a 1999 benchmarking study conducted by a consortium led by the MEDSTAT Group of Ann Arbor, MI, turnover costs, on average, \$3,693/worker/year.¹ Other estimates of the costs of turnover have ranged from 25% to over 250% of the employee's salary. The lower estimates generally only look at the direct costs of turnover, such as the time for recruitment, selection, and formal training for the new hire. However, these visible costs have been found to comprise only 10-15% of the total costs of turnover. At the top end, Xerox has reported that it cost them \$1-1.5 Million to replace a senior executive.²

The elements contributing to employee turnover have been extensively studied by a number of researchers.³ Hom and Kinicki⁴ show the basic elements underlying employee turnover to be

- ▶ Inter-role conflict at work
- ▶ Work-family conflict
- ▶ Job interference with community and personal endeavors

- ▶ Job stress
- ▶ Better job elsewhere
- ▶ Personal costs of job

Job impact on personal and work time

Forty percent of turnover is due to stress.⁵ The 2000 Integra Realty Resources study showed that 19% of respondents had quit a job in the past because of stress. 10-12% of employees are looking for a new position at any given time.⁶ Despite more companies using both monetary tactics and non-monetary tactics (casual dress, flexible work hours, etc.) to retain employees, half of the companies surveyed by Manchester Inc. said that their turnover increased in 2000, and one-third said that their retention methods were failing.⁷

The total costs of turnover can be broken down into termination costs (when an employee is fired), vacancy costs, hiring costs, training costs, and economic costs.

Termination costs include:

- ▶ cost of terminating the employee and separation pay
- ▶ cost of exit interviewer's time
- ▶ administrative, accounting and legal costs

Vacancy costs include

- ▶ overtime
- ▶ temporary workers

Hiring costs

- ▶ cost of screening applicants
- ▶ cost of interviews
- ▶ testing costs
- ▶ administrative, accounting and legal costs
- ▶ travel and moving expenses
- ▶ cost of medical exams

Training costs include:

- ▶ formal training costs
- ▶ other staff's time for on-the-job training
- ▶ salary during formal and informal training
- ▶ training of temporary/replacement staff
- ▶ cost of team integrating new member

Economic costs include:

- ▶ lost production during transition
- ▶ lost sales during transition
- ▶ lost intellectual capital
- ▶ lost or damaged relationships with customers
- ▶ cost of (re-)building relationships with customers and co-workers
- ▶ impacts on other employees (absenteeism, productivity, sick leave, etc.)
- ▶ impacts on suppliers
- ▶ cost of inefficiencies due to learning curve for new employee (12-13 months for employees to reach full efficiency)
- ▶ cost of inefficiencies due to departing employee⁸

In the 1980's, Rutgers University Graduate School of Management found that total turnover costs averaged 120-200% of the salary of the position affected.⁹ This figure was updated¹⁰ to 150% of compensation (salary plus benefits) for most employees, and 200-250% of total compensation (salary plus benefits) for managers and sales professionals.¹¹

The Performance/Economic Impact of Turnover

Sibson & Company, an operating unit of Nextera Enterprises Inc., showed that employee turnover replacement costs have reduced earnings and stock prices by an average of 38% in specialty retail, call center services, high tech and fast food – four traditionally high turnover industries. Seymour Burchman, a principal of Sibson, points out that companies with high turnover rates in other industries

can also experience significant reductions in earnings and stock prices. For example, Sibson showed that, for a retail stock brokerage firm, profitability would increase by 2% for every 1% reduction in turnover.¹²

Primix Solutions Inc. conducted research that showed that more than 44% of the North American companies surveyed have lost customers and significant revenue opportunities because of employee turnover and lost expertise.¹³

Turnover	Productivity per Worker
Less than 3%	\$200,000
3%-5%	\$153,000
6%-10%	\$150,000
11%-15%	\$130,000
16%-20%	\$125,000
More than 20%	\$120,000

The Third Annual Industry Week Census of Manufacturers analyzed data from over 1,750 American manufacturing plants. It showed that, as turnover went up, the productivity per worker went down significantly. Workers

at plants with a turnover of less than 3% had almost 170% of the productivity of those at plants with a turnover of more than 20%.¹⁴

Unifi Network, a division of PricewaterhouseCoopers, and Roper Starch Worldwide Inc., studied the impact of employee turnover on customer satisfaction in six industries: personal computing, banking, retail, telecommunications, investment management, and casualty insurance. They found that more than 80% of respondents perceived employee retention to be an issue in these industries, and that more than 60% of respondents were less than satisfied with the service that they received from companies in one or more of these six industries.¹⁵

Absenteeism

A long-standing concern of employers, absenteeism was first mentioned in the literature in 1826. While there has been considerable research on absenteeism since that time, much of it is irrelevant to discussions of stress on employees' absence from work. Although they were not peer reviewed, a set of surveys conducted by CCH, Inc.¹⁶ a consulting company located in Ridgewood, IL. is relevant. These CCH surveys were conducted over a 12 year period. The most recent survey (2002), conducted in conjunction with Harris Interactive, polled 333 Human Resource executives in U.S. companies and organizations of all sizes across major industry segments in 43 states and the District of Columbia. In total, the sample involved an estimated total of 2 million employees. CCH reasons for unscheduled absence in 2002 as determined by their data:

- ▶ Personal Illness – 33%
- ▶ Family Issues – 24%



- ▶ Personal Needs – 21%
- ▶ Stress – 12%
- ▶ Entitlement Mentality – 10%

The average cost/worker/year associated with absenteeism in the CCH studies varied from a low of \$572 in 1997 to a high of \$789 in 2002:

- | | |
|----------------|----------------|
| ▶ 1995 - \$662 | ▶ 1999 - \$602 |
| ▶ 1996 - \$603 | ▶ 2000 - \$610 |
| ▶ 1997 - \$572 | ▶ 2001 - \$755 |
| ▶ 1998 - \$757 | ▶ 2002 - \$789 |

The persistent, and costly, issue of absenteeism costs small companies, on average, \$60,000/year and larger companies something in the neighborhood of \$3,600,000/year. The Medstat survey reported above under Turnover reported a somewhat higher estimate of unscheduled absence yearly cost of \$810/employee for 1999.¹⁷

Presenteeism

A term originally coined in 1965,¹⁸ presenteeism (workers present but functioning below expectations) has come under increasing scrutiny as a detriment to worker performance and productivity. Costly as absenteeism is in terms of workforce performance, presenteeism, appears to be even more costly. In fact, absenteeism may be little more than the tip of the iceberg when it comes to hours lost due to all causes. Like all icebergs, this one too has a broad and deep base, capable of doing great damage to the unwary employer. If one looks hard enough beneath the tip of stress-related absenteeism and turnover, one finds stress-related presenteeism, which means the iceberg is much bigger, deeper, and more dangerous than most employers even imagine. So far, many employers have not looked deep enough to understand the seriousness of the presenteeism problem and its adverse impact on employee performance, organizational productivity, and bottom line profitability. The incalculable, all but invisible costs of presenteeism (e.g., lost sales due to lack of follow-up, being late to market, failure to recognize early trends in a changing economy, and lost creativity) may be even greater than the more direct costs of lost productivity.

One databased estimate places the costs of presenteeism at 32 times the costs of absenteeism.¹⁹ Another, more definitive study sponsored by the Employers



Health Coalition of Tampa, Florida,²⁰ on their website, http://www.ehaccess.org/survey_data.asp, reports somewhat lower presenteeism/absenteeism ratios. Based on their 1999 analysis of 17 diseases, researchers found that lost productivity due to presenteeism was, on average, 7.5 times greater than productivity lost to absenteeism. For some conditions – notably allergies, arthritis, heart disease, hypertension, migraines, and neck/back/spine pain – the ratios ran as high as 15/1, 20/1, and, in extreme cases, 30/1. The figure of 30/1 lends credence to Marcus' 32/1 which at first blush seems astronomically high.

Extrapolating from the CCH numbers cited above for absenteeism and using Marcus' ratio of 32/1, presenteeism would cost small companies about \$1,920,000/year and the cost to larger companies would be about \$115,200,000/year – big numbers and hard to believe. But even using the lower average ratio reported in the Tampa study, the costs come to \$450,000/year for small companies and \$27,000,000/year for larger companies. Unlike absenteeism (either a worker is on the job or not), presenteeism is much more difficult to measure and remains, like the dangerous underwater portion of the iceberg, invisible to the employer. Hence, employers tend to view the magnitude of the numbers like those reported with a fair degree of skepticism. They do so at their peril. A review of the literature on presenteeism indicates that however large estimated presenteeism cost numbers may seem, they are generated by a rational chain of logical inference and can be viewed with a fair degree of confidence.

The relationship of employee health, particularly physical, is the primary, sometimes sole, focus of the bulk of the literature on presenteeism. Not surprising in that the bulk of the substantive research has been conducted by those with a vested interest in occupational medicine. The Tampa study, for instance, made much of conditions with low direct medical costs – allergies, depression, migraines, and back and spine problems – which turned out to be major sources of costly at-work productivity declines. Although all of these conditions are either caused or exacerbated by stress the sole focus was on possible medical interventions. Allergies are a case in point – allergies, highly related to stress levels,²¹ affect as much as 30 percent of the adult population. The Tampa study cites data compiled by The MedStat Group that indicate employees suffering from allergies average 2.8 hours of unproductive at-work time in any eight hour span. Proposed solutions included making sure the work environment is allergen-free, helping employees find appropriate medical care, and providing self-help medical information. Stress was not mentioned.

As we have seen, discussions of presenteeism and its costs tend to center around the physical and mental health of the workforce, but other considerations such



as burnout, life distractions, and distractions in the workplace, are also major players in the phenomenon of presenteeism.

Burnout (the exhaustion of physical and mental resources in the pursuit of unattainable goals) Burnout has long been recognized as a major detriment to job performance.²² It is particularly problematic for those in human service occupations such as nursing, medicine,²³ customer service, and law enforcement as well as those in repetitive, boring, low paid jobs.²⁴ But it also strikes at the highest levels of organizations. While burnout at any level is costly, executive burnout is a particularly expensive proposition.²⁵ One estimate puts the replacement cost of a burned out executive at \$50,000 to \$100,000.²⁶ The costs of not replacing a burned out executive in terms of poor decision making, loss of interest and lack of effort, and organizational asynchronies may be incalculable, but they are obviously very large.²⁷ The loss of interest in the job, fatigue, boredom, loss of zeal, loss of creativity, sense of frustration, and pessimism due to burnout not only result in underperformance but also in a loss of quality. Burnout is one of those “invisible elephants” that, disguised as tardiness, absenteeism, health care costs, and, above all in presenteeism, create havoc without being properly identified. Cost data for Burnout, because of its invisibility, consist solely of rather sketchy estimates.

Physical Health Unlike burnout, presenteeism due to physical health problems lends itself more easily to measurement and quantification of costs. And they are staggering. A rather elegant study conducted by a consortium of employers and the Institute for Health and Productivity Management²⁸ provides some insights into the costs of presenteeism due just to musculoskeletal problems. The consortium consisted of the Federal Reserve Bank of Dallas/Fortworth, Bell Helicopter, American Airlines, Raytheon, Institute for Health and Productivity Management, and Pharmacia Corporation. A survey of consortium member companies themselves identified the top disability conditions across member companies. The percentages of total disabilities represented by various categories (interestingly, all but one, maternity, are stress related) are shown in the table below.

Because they were the most common disability across the participant companies, musculoskeletal problems were targeted for study in approximately 300 employees of the Federal Reserve Bank of Dallas/Fortworth. A baseline direct cost for musculoskeletal ailments in the target group was established at \$132,252 for the year 2000. This figure amounted to a little over 1% of annual payroll for the target group. The medical claims



involved in this total were for joint problems, disc problems, neck pain, back problems, and rheumatism (not back). Data on lost time, short-term disability, absence, and presenteeism (assessed by the Work Limitations Questionnaire) were collected. The direct costs/employee of musculoskeletal problems alone was \$423.86; the more indirect cost of presenteeism/employee/year for musculoskeletal problems alone was \$2,063. And that's just for musculoskeletal problems. When one adds in

Disability Conditions Identified

Disability Condition	Percentage of Total Disabilities
Musculoskeletal	36%
Cardiovascular	16%
Cancer	12%
Mental Health	8%
Gastrointestinal	8%
Maternity	8%
Other	12%

the presenteeism costs for other stress related ailments and complaints (not yet available), the numbers get very big, very quickly.

A report recently released by AdvancePCS of Irving, TX²⁹ puts the cost of lost work time from common health conditions at \$250 billion annually in the U.S. Researchers say the report offers the first national estimate

of hours that U.S. workers lose when they are at work but unable to perform at their peak due to health conditions. The top five conditions alone – headache/pain, cold/flu, fatigue/depression, digestive problems and arthritis – cost employers more than \$180 billion annually. Presenteeism is responsible for more than two-thirds of health-related lost labor costs, according to AdvancePCS. Bank One found that when pollen levels are high, employees with allergies who are untreated average 7 percent less productivity, compared with their non-suffering co-workers. Analysts agree that presenteeism is more of an issue as health care costs continue to rise. The AdvancePCS report is based on data collected over a 10-month period and more than 25,000 interviews. An overview of the results:

1. Most people experience one or more common, episodic or chronic-episodic health conditions, such as headache, other pain, fatigue, or the common cold, in any two-week period. More than 70 percent of men and 80 percent of women reported at least one episodic or chronic-episodic health condition in the two-week period before the interview.

2. The majority of people with episodic or chronic-episodic health conditions go to work – they do not stay home. More than 38 percent of women and 28 percent of men reported being at work one or more days during the previous two weeks and not feeling well. Only 7.2 percent of women and 5.3 percent of men actually missed a day of work in the previous two weeks for a health reason.
3. The majority of the lost productive time from these health conditions is invisible to employers, because it occurs “on the job.” Among those with the episodic or chronic-episodic health conditions, almost three-fourths of their missed time occurs on the job, not from time they miss from work.
4. On average, a U.S. worker loses 115 productive work hours every year due to a physical health condition (this includes chronic, as well as episodic and chronic-episodic physical conditions). Furthermore, for any one condition, 70 percent to 80 percent of the lost time is concentrated in 20 percent to 35 percent of employees. The annual cost to employers for all health conditions (i.e., including chronic in addition to episodic and chronic-episodic) is \$250 billion or more. The total presenteeism cost to employers for physical illness and conditions is in the range of \$2,000/worker/year.

Mental Health The links between mental health and what was later to be called “stress” were first established by Adolph Meyer in 1906³⁰ and since elaborated to the extent it has become a truism that if stress is not the direct cause of a psychological problem, it will surely exacerbate it. Much of the work relating mental health to worker performance has focused on depression, and with good cause. It is all too obvious that the mental and physical slowing, loss of interest, sleep disturbances, pessimism about the future, and loss of joy in living that are the hallmarks of depression³¹ will result in not just presenteeism, but also absenteeism, short term disability, long term disability, and increased utilization of health benefits.

Depressive disorders are common and costly. Estimates of lifetime incidence rates range from 4.9% to 17.1%.³² The estimated cost of depression is \$43 billion annually; \$17 billion of which represents lost work days.³³ These huge estimates do not include the cost of presenteeism, which the American College of Occupational and Environmental

Medicine Task Force on Productivity and Health believes to be the largest single cost of depression.³⁴

One study³⁵ followed 46,000 employees from six large health care purchasers for up to three years after they completed an initial health risk appraisal (HRA). Employees at high risk for depression (those reporting on the HRA that they were “almost always” depressed), and those at high risk for stress (those reporting that they were “almost always” troubled by stress and did not handle stress well) were 70% and 46%, respectively, more costly than those not at high risk in those categories. These differences for depression and stress were the greatest among all the risk factors studied, which included tobacco use, poor nutritional habits, high blood glucose, etc. In another study,³⁶ Druss and associates surveyed more than 6000 employees in three corporations and found that the probability of taking sick days was 2.17 to 1 for respondents with chronic depressive illness, and 7.20 to 1 for reporting decreased effectiveness at work.

Not as well documented in terms of their presenteeism consequences, the other two stress emotions, anger and anxiety, are also recognized as significant contributors to the phenomenon. The disorders due to anxiety include panic disorder, obsessive-compulsive disorder, post-traumatic stress disorder, generalized anxiety disorder, and phobias (social phobia, agoraphobia, and specific phobia). Approximately 19.1 million American adults ages 18 to 54, or about 13.3% of adults in this age group suffer from an anxiety disorder.³⁷ People struggling with anxiety disorders tend to narrow their focus of attention, become risk averse, have difficulty concentrating, tend to withdraw, develop obsessive-compulsive behaviors, and become unnecessarily controlling of their environment.³⁸ The consequences in terms of presenteeism and poor performance have yet to be quantified in terms of their bottom line dollar value, but it is obvious they are considerable.

Anger has received attention primarily from the standpoint of the interpersonal problems it creates, particularly with customers, and the workplace violence it generates. Obviously, anger creates presenteeism issues not only for the angry employee but for the targets of the anger as well. It is rather easy to see anger as a necessary precursor to violence in the workplace. The distractions created among other workers by the violent or bullying behaviors of an angry coworker serve as a multiplier in the presenteeism effects of individual employee anger in the work-



place.³⁹ Both the 2000 Integra Realty Resources study and a survey released by The Marlin Company in 2000 reported that 42% of office workers work in environments where yelling and verbal abuse occur frequently.⁴⁰

One study found that 27.2% of workers had been 'mistreated' in the preceding year.⁴¹ Twenty three percent of the respondents to the 2000 Integra Realty study said that they had been driven to tears due to workplace stress, and 14% worked where machinery or equipment had been damaged because of workplace rage. Although only 2% of respondents admitted to hitting a co-worker because of stress, 29% said that they yelled at co-workers because of workplace stress. This study also showed that people who worked in cubicles were more stressed than people who had offices.

The University of North Carolina's Kenan-Flagler Business School conducted a study that showed that 12% of 775 study respondents had already quit their jobs to avoid nasty people in the workplace, and that another 45% were thinking of doing so. It also showed that more than half of all workers lost time because they worried about rude people in the office.⁴²

Kerry J. Sulkowicz, MD, has identified helplessness as the cause of stress, and of blow ups and desk rage.⁴³ Marlin Company said that men aged 25-45 were the most prone to have visible desk rage at work, although more women complained of on-the-job stress. Marlin's president, Frank Kenna, III, said, "Women are definitely having desk rage. They just do it more subtly."⁴⁴ In 1999, as much as 30% of crisis calls to EAPs resulted in trauma response. Violence and threats of violence induced by stress have contributed to the rising incidence of trauma in the workplace.⁴⁵

In the United States an average of 20 workers are murdered each week, making homicide the second highest cause of workplace deaths and the leading cause for women. Eighteen thousand other non-fatal violent crimes occur each week while the victim is working (approximately a million a year), and these are only the reported incidents.⁴⁶

Life Distractions It is readily apparent to even the most casual observer of the typical American workplace that workers are distracted by demands and pressures originating outside the workplace, but the role of Life Distractions in the phenomenon of presenteeism is a gross omission in the presenteeism literature. The types and kinds of distractions from out-

side the workplace would seem to be the same kinds of demands and pressures that contribute to absenteeism (i.e. personal needs and concerns, family needs and concerns, and entitlement mentality). Current events, both major and minor, can also distract a workforce and generate presenteeism. Examples of minor events might be sports outcomes, a television program, the doings of a major celebrity, local or national politics, etc. The Challenger tragedy and the events of September 11, 2000 are examples of major current events that can bring work to a standstill as the workforce is captured by the moment. Important as it is, with the exception of this paper, there is no mention of the impact of Life Distractions on presenteeism in the literature. Hence, there is no discussion of the contribution it may make to overall performance vulnerability or of its bottom line dollar cost.

Workplace Distractions There are many distractions in any workplace that detract from performance, quality, and overall productivity. Threatened downsizing, rumors of mergers or acquisition, office politics, violence in the workplace, sexual harassment, interdepartmental competitions, and the like can create distractions within the workplace that seriously impact performance and quality of work. However, much as with life distractions, there is no mention of such distractions in the literature save for their inclusion in this paper. The performance vulnerabilities created by Workplace Distractions and the associated cost, while difficult to document, must be enormous.⁴⁷

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