Managing T

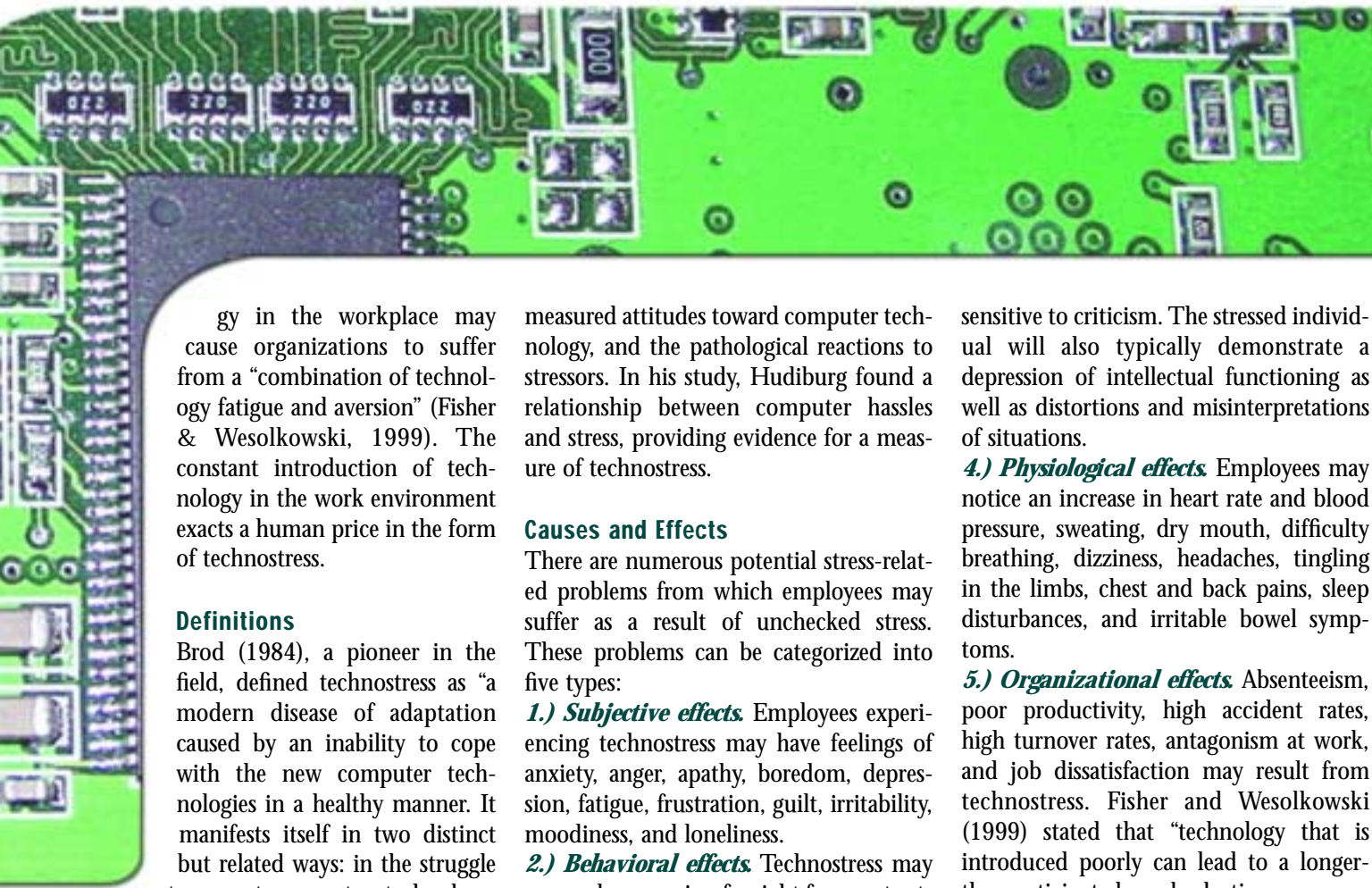**By Terry K. Sanderlin,** Ed.D., LPCC, DAPA

Abstract
The following article discusses employees' difficulties with stress within organizations that continually introduce new technology and computer software into the work environment. Symptoms of stress are reviewed, and employer and employee options to reduce stress are examined.

Introduction

Advances in technology have brought about increasingly complicated ways of doing business in the workplace, more so than at any other time in human history. The rapid advances and changes in new technology have caused businesses, industries, and the government to introduce employees to updated technology and software programs several times each year in an attempt to stay technologically current. The rapid introduction of technolo-

Technostress

in the Organizational Environment: *Symptoms and Solutions*

gy in the workplace may cause organizations to suffer from a "combination of technology fatigue and aversion" (Fisher & Wesolkowski, 1999). The constant introduction of technology in the work environment exacts a human price in the form of technostress.

Definitions

Brod (1984), a pioneer in the field, defined technostress as "a modern disease of adaptation caused by an inability to cope with the new computer technologies in a healthy manner. It manifests itself in two distinct but related ways: in the struggle to accept computer technology, and in the more specialized form of over-identification with computer technology." Lararus (1966) defined stress as "the whole area of problems that includes the stimuli producing stress reactions, the reactions themselves, and the various intervening processes." Hudiburg (1989) stated that Lararus' (1966) definition of stress "allows for stress reactions to be considered as similar to anxiety reactions or even attitudes." As a result, Hudiburg (1989) operationally defined technostress as the assessment of potential stressors, measured attitudes toward computer technology, and the pathological reactions to stressors. In his study, Hudiburg found a relationship between computer hassles and stress, providing evidence for a measure of technostress.

Causes and Effects

There are numerous potential stress-related problems from which employees may suffer as a result of unchecked stress. These problems can be categorized into five types:

1.) Subjective effects. Employees experiencing technostress may have feelings of anxiety, anger, apathy, boredom, depression, fatigue, frustration, guilt, irritability, moodiness, and loneliness.

2.) Behavioral effects. Technostress may cause a loss or gain of weight from not eating enough or overeating, excessive alcohol intake, drug taking, smoking, excitability, restlessness, impaired speech (stuttering), and aggression. Employees may also become passive, avoiding stressful situations and isolating themselves from others, or may become immobilized and unable to take action.

3.) Cognitive effects. Employees may have difficulty in making job-related or personal decisions and may find it difficult to concentrate. They may forget deadlines and meetings, and may be more sensitive to criticism. The stressed individual will also typically demonstrate a depression of intellectual functioning as well as distortions and misinterpretations of situations.

4.) Physiological effects. Employees may notice an increase in heart rate and blood pressure, sweating, dry mouth, difficulty breathing, dizziness, headaches, tingling in the limbs, chest and back pains, sleep disturbances, and irritable bowel symptoms.

5.) Organizational effects. Absenteeism, poor productivity, high accident rates, high turnover rates, antagonism at work, and job dissatisfaction may result from technostress. Fisher and Wesolkowski (1999) stated that "technology that is introduced poorly can lead to a longer-than-anticipated payback time or even loss of investment due to non-use or ineffective use." The private research group EAP Advantages stated that 2 out of 10 individuals diagnosed with clinical depression experienced stress prior to depression. They further indicated that depression costs businesses $31.3 billion per year due to decreased productivity and lost work days, and $12.4 billion in direct costs for medication and physician treatment, based on data from the year 2000. EAP Advantages further stated that psychological difficulties account for 61% of

work absences yearly, 65% to 85% of employee terminations, and up to 90% of industrial accidents. EAP Advantages also indicated that the American Institute of Stress (2000) calculated that one million workers are absent each day in the United States due to stress-related complaints. In support of EAP Advantages, Albert Drukteinis (2003) stated that stress-related illnesses cost American corporations $8,000 per person, per year. According to Drukteinis (2003) $43 billion per year is lost due to absenteeism, lost productivity, cost of treatment, and loss of earnings from accidents and suicide.

It is of interest to note that according to Charlesworth and Nathan (1984), up to 75% of all visits to physicians are the result of stress-related disorders. They concluded that hypertension, coronary heart disease, headaches, asthma, gastrointestinal disorders, and many skin disorders are all related to stress. Cobb and Rose (1973) found a relationship between high workloads and elevated blood pressure among air-traffic controllers. House (1984) found that workload, utilization of skills, and role conflict were significantly associated with hypertension. Kasl and Cobb (1970) studied the relationship between job loss and elevated blood pressure. Their analysis of 150 married men over a 2-year period found men who lost their jobs or anticipated the loss of their jobs had elevated blood pressure until stabilization of employment occurred. Those individuals with no fear of potential job loss or actual job loss maintained stable blood pressure. Bloom (1985) and Creed (1985) stated that life-stress events can lead to both physical and mental illness.

According to Drukteinis (2003), workplace violence has increased significantly in the past 15 years. Homicide in the workplace has accounted for 17% of all occupational fatalities. "The diagnosis of post-traumatic stress disorder has emerged as validation of harm suffered, and is probably one of the most popular diagnosis [sic] in litigation today," said Drukteinis (2003). Jankowsi (2001) stated that there is a relationship between exposure to abuse or traumatic events and poor physical health. Exposure to abuse or traumatic events has been linked to an increased risk of cancer, heart disease, lung disease, and gastrointestinal and musculoskeletal disorders.

Massey and Stedman (1995) conducted a survey of information-technology professionals concerning feelings about stress in their work environments. The researchers stated that 86% of surveyed technology workers indicated that their jobs were more stressful now than they were 5 years ago. They attributed the added stress to being understaffed and having additional responsibilities. The authors went on to say that employee stress was related to a "feeling of high responsibility and loss of control." They further stated that it is generally the most "conscientious workers who are inclined to develop job stress." They concluded that the nature of information technology "demands a high degree of meticulousness and attracts the type of individuals who are already prone to stress." It was also noted by Massey and Stedman (1995) that organizational politics, dwindling resources, hiring freezes, and a desire to be on the "cutting edge of technology places an undue burden on the availability of resources to implement and manage new technology."

Brod (1984) stated that anxiety is the primary symptom of individuals who are "reluctant or fearful" of the introduction of computer technology. He further stated that "technoanxiety" most commonly afflicts those who feel pressured by their employers, peers, or the general culture to accept and use computers. Individuals experiencing technoanxiety express a variety of symptoms, which include: "irritability, headaches, nightmares, resistance to learning about the computer, or outright rejection of the technology." Brod (1984) labels those individuals who over-identify with computer technology as "techno-centered," who tend to have a "high degree of factual thinking, poor access to feelings, an insistence on efficiency and speed, a lack of empathy for others, and a low tolerance for the ambiguities of human behavior and communication." This form of technostress can manifest itself in aberrant behavior and may restrict one's ability to think creatively or intuitively (Brod, 1984).

Shepard (1971) indicates that organizational employees can suffer from three aspects of work alienation resulting from the introduction of new technology: 1.) fear of a loss of control over the work environment, 2.) the implication that employees have been reduced to machine attendants, and 3.) fear that the technology will get the credit for a job well done.

Solutions

Moreland (1993) stated that organizations can combat employees' technostress by providing diverse learning and training opportunities to accommodate their personality types, as assessed by the Myers-Briggs Type Indicator. However, a successful change to computerization appears to reside in developing and implementing an effective transition plan. A transition plan should include specific training on the technology to be used and sufficient time for employees to learn the new technology and software before it is implemented

in the organization. Ewert (1984) argued that failing to provide employees with appropriate technological training will result in work-related stress, increased anxiety, an increased error rate, frustration, and employee alienation.

Employers should also consider providing their technology staff with time-management training. Daily planning should be routine for employees at the beginning of each day. This will help employees organize their activities in the most effective manner possible. Time restructuring will allow employees to create larger blocks of time during the day by eliminating unnecessary activities. Employees should not take on more assignments than they can reasonably complete by organizational deadlines. Employees should identify their most productive times of the day and schedule activities around those time periods. Employers should encourage their employees to engage in regular leisure-time activities and develop a regiment of physical exercise. This can be accomplished through a company-based wellness program, which can also enhance employee morale and fitness. Employees are generally in a better mood and think faster during and after exercise periods. McCann (1981) indicated that wellness programs "promote feelings of self-efficacy and control, which are as important to the maintenance of mental health as they are to physical well-being."

Employees should also avoid blaming themselves for techno-failure. Techno-failure is defined by this author as the inability of the technology novice to make new computer gadgets function in an effective and timesaving manner. This is due to the inexperience of the operator using new technology and software. Techno-failure is usually a temporary problem, and will pass with training and experience. Employers may provide a senior staff member to serve as a mentor to assist new technology workers. Employers may also provide stress-reduction workshops for information-technology workers, as well as access to an employee-assistance program to assist workers suffering from extreme stress-related symptoms.

Psychotherapy can assist technology workers experiencing technostress to think differently about technology. Massey and Stedman (1995) indicated that "the way we think, our cognitive behavior, dictates the way we see ourselves, the world and our relationship to both. Our core beliefs about ourselves influence our ability to make things happen and how we react to what is happening." A similar concept was presented by Albert Ellis (1990), who has indicated that the consequences of an event are determined by what individuals believe about themselves rather than being the result of the event itself.

Massey and Stedman (1995) also indicate that if an individual has a pessimistic view of new technology, he or she will experience more stress than the individual who thinks optimistically about technology. Pessimists tend to carry their thoughts to catastrophic conclusions, not believing that perceived negative events will end. People who are optimists see events as being of specific duration (not endless).

The psychotherapist working with the pessimistic technology worker can help him or her shift negative self-talk and thoughts to more positive self-talk and thoughts.

I have used the following combination of brief interventions to help clients quickly reduce their stress levels. These techniques include the following: **1.) A stress-monitoring scale**, whereby the psychotherapist should instruct clients to monitor their own levels of stress on a scale from 0 (no stress) to 10 (most possible stress). **2.) Thought-stopping** can assist clients to distract themselves from intrusive negative self-talk, thereby reducing feelings of stress. Salkovskis and Kirk (1992) indicate that thought-stopping provides a strategy for dismissing distressing thoughts and reducing the length of their duration. Clients are instructed to close their eyes and visualize a stop sign in the distance. They are then instructed to slowly count from one to five, and with each number mentally move the stop sign closer to themselves. Clients are then asked if they still have intrusive thoughts. If the answer is "yes," the process should be repeated. If no intrusive thoughts are experienced, then proceed to the next step. **3.) Deep breathing** can be very effective. The client is instructed to count to five slow-

ly while taking one long deep breath. The client is then instructed to exhale to the count of a slow five. The client is then instructed to repeat this process five times. Deep breathing can assist the client in reducing his or her physiological reactivity to the activating stress event. **4.) Visualization**. The client is then instructed to search his or her memory for a peaceful event from the past and focus on this event for 30 seconds. The client is to then monitor his or her stress level. If no reduction has yet occurred, repeat steps one through four until the stress level has been reduced. **5.) Positive self-talk**. The client is instructed to practice positive self-talk to overcome a problem situation. Negative self-talk is likely to increase a person's stress level and will prolong the duration of the stress event. Once the intrusive negative self-talk has been stopped through thought-stopping techniques, the client should practice using positive self-statements to regulate and guide his or her reactions when stress does occur. The client is instructed to practice this process outside of therapy sessions, as it tends to be more effective if practice occurs in a natural setting (Cotton, 1990). The practice will assist the client in proficiency.

Conclusion

Employees may view technology as either a beneficial tool or as a threat to their job security. Technostress can reduce employee productivity and create dissonance in the work environment, costing employers time and money. Given the trend toward an increasingly faster-paced and more stressful work environment, it seems reasonable to develop effective training and wellness programs to decrease employees' stress levels and to

enhance their sense of technological mastery and personal value. Employers who fail to plan the introduction of technology, and who fail to provide adequate training and transition time for employees, will ultimately cause job dissatisfaction, dissonance, stress, and anger. Human resource departments, employee-assistance counselors, and psychotherapists can be integral players in the process of managing employee technostress.

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Dr. Terry K. Sanderlin, a Diplomate of the American Psychotherapy Association, completed a bachelor's degree in Psychology and Sociology at the University of New Mexico. There he also completed a master's degree in Counseling and a doctorate in Education. His dissertation topic was a comparison of the effectiveness of anger-management techniques with violent criminal offenders. Dr. Sanderlin has been in private practice as a psychotherapist since 1988 in Albuquerque, New Mexico. He has worked extensively with criminal-offender populations, as well as the general population, providing anger-management interventions and general psychotherapy. Dr. Sanderlin has also provided training in the area of anger and stress management to organizations as a conference presenter.

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