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Stress Reduction Comes to Poland

At a recent meeting of the International Center for People and Earth Renewal in Warsaw, attendees were told that "their biggest problem was stress ... You all need to relax, to breathe better," said the speaker who instructs about 100 people a week in "united relaxation therapy." According to The International Herald Tribune, a variety of "holistic healing centers, massage therapy studios, gyms, natural food stores, 'breathing clinics,' and other stressreduction and wellness facilities have been springing up in Poland." Some feel that these approaches are simply an extension of traditional folk medicine in Poland and other Eastern European countries. Others believe they reduce the stress of Poles who have broken with the Roman Catholic church, but still crave some spirituality and inner faith in their daily lives. Almost all agree that this is another example of growing "nowy wiek" or new age American influences.

American movies can be seen in almost every Warsaw theater, and although CNN is shown for only a few minutes a day on Polish television, fan clubs have sprung up for certain broadcasters. Part of what is going on is a reaction to the drabness of Communism, which together with the Catholic

church, have been the only two major factors in the lives of most Poles, leaving few choices for diversions outside their respective doctrines. Now that such opportunities are emerging, people want to take advantage of them, and "the new age guides," as they are called here, see their inspirational mission as particularly essential in a country where many are worried about the turbulent transition to capitalism.

The alcoholism rate in Poland is one of the highest in the world, and depression is rampant. The average monthly wage is one hundred dollars, and the few consumer goods available are out of reach, because of inflation rates of 200 percent over the past year. Approximately one out of three Poles have relatives living in the United States. Although most reside in Chicago or the Northeast, California seems to be the golden state of their dreams. While recognizing that life isn't perfect there, because of "crime and poverty and earthquakes...it still seems like a sunny place of enlightenment where people are happy." For many, however, going to holistic, healing massage therapy centers, or taking breathing instructions at a "harmonizing gym" may be the closest they will ever get to the California lifestyle. One 30-year-old, who had recently given birth to her third child in three years, frequents a restful gym with green decor, to lose weight and get some peace of mind. While stretching to the rhythms of airy flute music, she explained, "Since I have been coming here I have fewer worries." International Herald Tribune, 2-22-91

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For further information on the original source of abstracts and other reprints available on similar subjects, please send a self-addressed stamped envelope to: Reprint Division, American Institute of Stress, 124 Park Avenue, Yonkers, NY 10703.

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The Newsletter of THE AMERICAN INSTITUTE OF

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Urban Mud Baths, Spas. And Stress Reduction

As noted previously, spas are becoming increasingly popular for their stress-reduction benefits in addition to helping clients lose weight and developing healthier lifestyles. In recent years, most large spas have added, or now feature, formal stressreduction programs as part of their services. However, few can afford the time or expense that is required for a stay at most of the premier resorts. As a consequence, "city spas" are springing up in metropolitan areas from Manhattan to Los Angeles. Patrons can pop in for a body scrub, mud bath, or shiatshu massage and get a quick fix for a reasonable sum. At one New York retreat, new age music fills the air, and rock crystals are situated throughout to promote a sense of serenity and relaxation. Patrons can choose between an intriguing menu of seaweed facials and various body treatments for around \$65.00. For the same price, a Los Angeles facility offers baths in marble stone pools, followed up with a rubdown that provides "a velvety mixture of oil and honey, and topped off with a facial pack of freshly grated cucumber."

Most facilities cater to women professionals who are particularly interested in skin care. At one midtown Manhattan day spa, female Type A's can get lathered down in a "thick, green paste made from Mediterranean seaweed, baked, cooled, cleansed, and then zip back to the office in little more than a half hour." Men tend to prefer such treatments as a head to toe application of mud from the Dead Sea or deep muscle vibration massage. Many corporations are also now getting into the act,

by giving employees day spa gift certificates for their own use, or to treat a client, rather than taking them out to lunch at some chic restaurant. One proprietor stated that his clientele had increased 350 percent over the past year, and he now services as many as 80 stressed-out workers a day. The major attraction appears to be the deep physical and emotional relaxation that can apparently be achieved in such a short period of time. As one female executive who has become a steady visitor volunteered, "all the stress just falls away."

Time, 7-22-91

"Whenever you are sincerely pleased you are nourished."
Ralph Waldo Emerson

Stress of Possible AIDS Worth Five Million Dollars

A 1989 court verdict stated that Rock Hudson had engaged in "outrageous conduct" by concealing that he had been diagnosed as having AIDS from Mark Christian, his lover for two years. Although Christian, age 38, had consistently tested negative for the AIDS virus, he was awarded \$5 million because of the stress of his fear of contacting AIDS. That ruling was appealed by Hudson's estate, but has been recently upheld. As the court noted in its ruling, "in the case at bench, we deal with the ultimate of personal horror — the fear of a slow, agonizing certain death."

New York Times, 7-29-91

Psychological Stress and Death After a Heart Attack

Four hundred sixty-one men who had been hospitalized for a heart attack underwent psychological stress assessment two days prior to discharge and were followed over the next five years. One group received stress counseling, and stress levels were evaluated at monthly intervals by telephone interviews. Professional assistance was provided when high levels were reported. A control group received only routine medical care following discharge.

Over this five-year period, deaths from heart attacks in the control group was almost three times greater in those with high stress scores and the incidence of recurrent heart attacks was approximately one and a half times greater than that found in low scorers. However, the highly stressed patients who were in the follow-up program of stress monitoring and intervention showed no significant long-term increase in either cardiac deaths or recurrent heart attacks.

The American Journal of Cardiology, 67:121, 1991

Martin Luther

[&]quot;The human heart is like a ship on a stormy sea driven about by winds blowing from all four corners of heaven."

A New Emotional Stress Test?

The important role of stress in heart attacks and sudden death is generally acknowledged, but often difficult to prove. Conventional treadmill stress tests to identify coronary prone individuals are based upon electrocardiographic responses to progressive increases in physical activity. It has also been shown that emotional stress, both in laboratory-induced situations and daily life, can produce similar electrocardiographic changes. These may or may not be associated with chest distress.

A more sensitive measure of cardiac function can be obtained by measuring the force of contraction of the ventricle or pumping chamber of the heart. This is usually expressed in terms of left ventricular ejection fraction. In patients with healthy hearts, the ejection fraction values rise following exercise or physical exertion. Patients with severe coronary heart disease have low ejection fractions, and when they exercise these values fail to rise and may even fall. Bypass surgery is usually not recommended in such circumstances because this finding suggests that the heart muscle has been permanently damaged.

A variety of different stressful circumstances can affect the heart, but recent evidence suggests that anger and its expression may be most important in predicting future coronary events. Recently, investigators measured left ventricular or LV ejection fractions in coronary artery disease patients while they were asked to describe in detail a recent event that had made them angry. A fall in the ejection fraction of 7 percent or greater was considered evidence of significant coronary heart disease. The study group consisted of 18 men with single vessel coronary occlusion, and nine with a less than 5 percent chance of having coronary problems based on age, sex, lack of symptoms, and normal treadmill stress tests. The researchers found that in the patients with coronary artery disease, exercise produced an average increase of 2 percent in left ventricular ejection fraction, but anger caused a 4 percent drop. In the healthy subjects, ejection fraction increased a mean of 12 percent during exercise but anger had no effect. In seven of the eight coronary artery disease patients, the ejection fraction fall in response to anger was 7 percent or more, although only four showed a similar fall during physical exercise. None of the adverse responses to anger were accompanied by any electric cardiographic changes or chest distress although both occurred in nine of the patients during exercise.

This study confirms both the extreme sensitivity of these ejection fraction measurements as well as the potential importance of stress and anger in coronary heart disease. These effects are probably mediated by stress-related catacholamine secretion. However, whether this is a direct action on heart muscle or is mediated via changes in coronary blood flow is not clear.

Internal Medicine World Report, 9-15/30-91

"Emotion is not something shameful, subordinate, secondrate; it is a supremely valid phase of humanity at its noblest and most mature."

Joshua Loth Liebman

Stress and Bowel Cancer

Stress has been implicated as an important factor in certain malignancies, particularly those involving the female reproductive organs. It is also believed to play a role in various gastrointestinal disorders such as peptic ulcer and ulcerative colitis. A recent Australian report now suggests that stress may also be a risk factor for cancer of the colon. This conclusion was based after interviewing 715 patients with bowel cancer and a carefully matched healthy control group. Researchers found that in the five years prior to the onset of the malignancy, cancer patients had experienced significantly more major emotional upsets such as "those following illness or death of a family member, extreme family problems, or serious problems at work." Those who complained of job stress had almost twice the likelihood of developing colon or rectal cancer compared to others without job-related difficulties. In the United States, colorectal cancers are the third most common malignancy, and are responsible for more than 60,000 deaths a year.

One authority was not surprised at the report, in view of the strong emotional link known to exist between stress and ulcerative colitis. Ulcerative colitis by itself is associated with a higher incidence of colon and rectal cancer. While stress-related dietary aberrations might be a factor, depression of immune system resistance to malignancy quite likely plays a more important role in the stress-bowel cancer connection.

Medical Tribune, 2-21-91

"If a man harbors any sort of fear, it percolates through all his thinking, damaging his personality, makes him landlord to a ghost." Lloyd Douglas

Stress and Precocious Puberty

The onset of puberty appears to depend on a variety of genetic, health and nutritional factors, and can be manifested in a variety of ways. Pubarche and adrenarche refer to the appearance of pubic and axillary hair, the larche to breast development. and menarche to menstruation. In 1840, the average age of onset of menstruation in England was 17, compared to 15 in 1900, and 13 in 1960. This downward shift is believed to be due to the progressive improvement in health and nutrition over this period of time. Semitic girls and others living in temperate or tropical climates usually experience puberty earlier than those of Scandinavian extraction, and there is a general tendency for menarche to occur at the same age it appeared in their mothers. In addition to these genetic, nutritional and environmental influences, it has recently been suggested that childhood stress may also play an important role in precipitating early puberty.

A New Zealand study of over 500 girls revealed that of the 81 who had experienced the onset of menses before the age of 12, half had grown up in homes where the father had been absent for many years, usually because of divorce. However, in the 82 where puberty did not occur until 14 or older. less than one out of four had absent fathers. Earlier menstruation also was associated with greater family stress, and the longer the father had been absent after the girl reached the age of seven. A U.S. report on boys and girls between the ages of 10 and 14 similarly found "a strong correlation between the level of conflict in the families and the measures of puberty, especially for girls." Further support comes from a Canadian survey of over 1000 girls, which revealed that menstruation occurred much earlier in those who "had gone through childhood in homes where their parents were fighting and finally divorced," compared to those "with little conflict and no divorce." When young monkeys are separated from their parents in laboratory experiments, they exhibit manifestations of severe stress, and also menstruate at an earlier age than controls who are allowed to stay with their family. The hormonal alterations responsible for the onset of puberty could certainly be facilitated by stress.

It has been suggested that the stress-early puberty link is "part of a reproductive strategy that was useful in evolution, but is no longer so... When a child learns that the world is insecure and risky, the biological response is to get into reproduction sooner. Because the danger is that if you don't, you won't produce at all." Children who grow up in an extremely stressful environment, thus may be "primed to boost the chances of having their genes survive into the next generation." Unfortunately, earlier development implies earlier sex and mother-

hood, with or without marriage. In the latter instance, this is associated with a tendency "to have made the worst marital choices." Social scientists are concerned about the increasingly high numbers of very young mothers who become pregnant because of the above, as well as other factors such as a "lack of jobs, which leaves many poor teenagers with little sense that their futures hold any promise." This is a particular problem in minority, inner-city settings, where family stress and marital disruption are particularly rampant.

The New York Times, 7-30-91

"Some people seem as if they can never have been children, and others seem as if they could never be anything else." George Dennison Prentice

Changing Concepts of Type A Behavior

According to one epidemiologist, "We'd all agree that Type A means anything to anyone and that's a big problem with the construct ... We used to think it was being a workaholic, then we thought it was anger or hostility, or time urgency; it's too heterogeneous to be researchable. So we're trying to distill those components that are coronary prone." The Holmes-Rahe Life Change Event stress rating scale assigns values for both positive and negative events, like marriage and divorce or getting promoted and being fired. Similarly, one of the Type components being studied is simply "emotional arousal," regardless of whether it is positive or negative. Ratings are given not only for an increased tendency towards anger, but just for getting excited or "hopped up" about anything.

Almost 1,000 men who had survived a recent heart attack were interviewed. Attempts were made to rate their arousability, using cues like a "tense, hostile face, fast jerky movements, and emphatic responses to questions like, "If there are five to ten waiting in a restaurant, will you wait?" When a follow-up study was done over the next ten years, researchers found that those who scored high on the jumpy, jittery scale were at greater risk for a second heart attack. This was particularly true for younger individuals with high cholesterols and an initial attack that was relatively minor. Psychological factors were not as important in older men, especially those who had originally sustained significant damage. It is believed that emotional excitement is associated with recurrent bursts of adrenalin release and other "fight or flight" responses that elevate cholesterol and could contribute to atherosclerosis. Heartbeat, Spring, 1991

"Two things are bad for the heart—running up stairs and running down people."

Bernard M. Baruch

Childhood Stress Reaching Epidemic Proportions

Public health officials, educators, and a variety of concerned groups are grappling with the escalating problems of stress in children. There has been a steady increase in competitive behaviors that breed aggressiveness and hostility, starting with preschoolers who now have homework and even examinations to see how they compare with their schoolmates. Television has become an increasingly disturbing influence, as more children are watching programs filled with crime, violent behavior, rape, and murder. Disruptive family relationships, child abuse, growing single parent families and poverty have reached epidemic proportions. Currently, 38 percent of children in the United States have no health insurance, 40 percent are born to single mothers, and almost 50 percent under the age of six live at, or below poverty levels. As noted in a previous Newsletter one psychologist believes that "Childhood may be extinct."

Walter Cronkite, PBS Television "Are Children at Risk?" 11-1-91

"Children have never been very good at listening to their elders, but they have never failed to imitate them."

James Baldwin

Fitness Prevents Stress IIIs

Many of the adverse health consequences of stress can be minimized by maintaining physical fitness. A recent report claims that "as life stress soars, health problems multiply, but only among those in poor aerobic condition." Most research attempting to relate fitness and health has tended to rely on self-report responses, which are often inaccurate. This study also utilized aerobic testing and periodic physician evaluation, thus providing a more objective approach.

Over one hundred men and women were evaluated for stress levels and physical and mental well being, and their medical records were carefully reviewed. The researchers found that increased stress was associated with more doctor visits only for those who scored low with respect to physical fitness. Individuals in the upper half of aerobic testing scores showed little evidence of increased doctor visits, regardless of stress levels.

It has been suggested that exercise may improve immune system defenses, thus helping ward off disease. However, some studies of joggers suggest just the opposite with respect to short-term effects on immune system and susceptibility to colds. Being fit also appears to provide emotional and psychological, as well as physiological bene-

fits. That may come from the possible tendency of regular exercise and physical fitness to increase a sense of control, which is a powerful stress buffer. Or, as the senior author noted, "If nothing else, exercise is a good distraction. It can get your mind off life stresses."

The Journal of Personality and Social Psychology, April, 1991; USA Today, 4-21-91

"The only way to keep your health is to eat what you don't want, drink what you don't like, and do what you'd rather not."

Mark Twain

Are Infections Due to Germs or Stress?

A variety of infections stem from pathogenic microorganisms that are present in the body in a suppressed or dormant state. Clinical disease occurs only when the body's natural immune defenses are weakened, due to stress or the aging process. In one report, death rates from tuberculosis in young widowed males were found to be 12.7 times higher than in married controls. In another study of employees at a tuberculosis sanitarium, stressful life events regularly preceded the development of clinically detectable tuberculosis.

The beta hemolytic streptococcus, responsible for "strep throat," is frequently found in pharyngeal cultures of school children without any evidence of illness. In a classical study, sixteen families having at least two children were followed for a year, with mothers keeping detailed diaries of stressful life events and illness within the family. Throat cultures and blood streptococcal titers were obtained at routine intervals in all children, and those who became ill were examined by physicians. The researchers found that as stress levels increased from low to medium to high, there was a similar gradual increase in the number of positive cultures, streptococcal titers and clinical infections.

The Epstein-Barr virus (EBV), which is associated with infectious mononucleosis and chronic fatigue syndrome provides another example. EBV titers and infectious mono cases showed a high correlation with the stress of having a strong motivation for a military career but poor academic standing in cadets. Stress is often an important precipitating factor in recurrent attacks of herpes. Studies in such patients demonstrate a strong correlation between diminished immune system function and a variety of stress assessment measurements prior to reappearance of the infection. A very recent study in which volunteers were "infected" with various cold-causing viruses and also sub-(continued on page 6)

Are Infections Due to Germs or Stress?

(continued from page 5)

jected to varying degrees of stress, concluded that 'psychological stress was associated in a doseresponse relationship with an increased risk of acute infectious respiratory illness."

There is apparently nothing new about any of this. A 1763 article discussing the plague, noted that "those whose minds are depressed by fear are most frequently attacked when epidemic or contagious disorders . . . in epidemic diseases, the fearful are the first affected. Advances, Spring, 1991

NEJM 8-29-91

"Microbes is a vigitable, an' ivry man is like a conservatory full iv millyons iv these potted plants.'

Finley Peter Dunne

Job Stress Increases Rate of Injuries

Reported job-related illness increased by 136,000 in 1989 over the previous year, according to the Labor Department. A significant percentage of this was due to some 32,000 new cases of repetitive motion injuries, such as carpal tunnel syndrome. Over the past decade, job stress claims have jumped from 5-14% of all workers' compensation cases. According to a USA Today article, "job stress illness now costs industry one hundred billion to three hundred billion dollars a year." Stress-related job pressures have been implicated in all sorts of health problems, ranging from hypertension and heart attacks to headaches and herpes. In addition, there may be marked effects on mood and behavior which are expensive for employers. As one researcher noted, "workers under stress are more prone to drink too much, eat too much, and exercise too little. They are self destructive."

Job stress also increases workers' likelihood of suffering from "the sick building syndrome." A survey of over 4,000 workers in 18 typical Eastern U.S. office buildings found no air quality problems to explain reports of "sick building syndrome." However, those who rated their jobs as stressful had twice as many symptoms as others. Women and government workers were more likely to develop symptoms than men, and clerical workers and secretaries were the most susceptible. Workers who used a computer at least seven hours a day had five or more symptoms compared to only two for non-computer users. Interestingly enough, workers who drank coffee seemed to have fewer symptoms according to a Danish study. It was suggested that this might be because coffee drinkers tend to take more frequent breaks. This allows them more time to relax, and break up the monotony of steady VDT activities. In addition to the repetitive motion problems referred to above, backache, neckache, headache and a variety of visual complaints are also seen with prolonged use of computers. Some employers are trying to address these problems by paying more attention to ergonomic concerns as noted previously:



More on Stress and Diabetes

More than 300 years ago, Thomas Willis wrote that depression and stress appeared to be the cause of certain cases of diabetes. The role of stress in diabetes has received additional support since then but remains a source of considerable controversy. When interest in psychosomatic medicine began to peak around 50 years ago, some researchers even suggested that there might be a "diabetic personality," characterized by apathy, hypochondriasis, depression, passivity, and oral dependency. However, there is little evidence to support this or the presence of any preexisting behavioral characteristics which promote susceptibility. It is clear from both human and animal studies, that the central nervous system can have important effects on carbohydrate metabolism, and various stressrelated hormones have powerful influences on blood sugar levels.

In some reports, it was observed that the onset of diabetes often followed a period of severe life stress, and that episodes of poor diabetic control showed a similar correlation. In other studies of children with Type 1 diabetes, those who scored high in Type A behavior ratings had greater blood sugar elevations in response to stress than others. There have also been a variety of claims about the beneficial effects of various stress-reduction approaches in improving diabetic control and reducing requirement for medication, but these are not consistent. Relaxation training appears to be much more beneficial in patients with Type 2 diabetes especially with respect to the practice of progressive muscular relaxation. Similarly, taking tranquilizers to blunt the blood sugar elevation effects of stress have shown no effect in Type 1 or insulin dependent diabetes, but some possible benefits in

Type 2 diabetes.

It would appear from all of the above that stress can have variable effects in diabetes. Conflicting reports in the literature may be due to the fact that different types of stressors have been utilized in certain studies and also that a careful distinction was not made in distinguishing between Type 1 and Type 2 diabetic patients. The consensus at present is that stress plays a much more important role in blood sugar regulation in Type 2 diabetes, and that stress reduction training can be beneficial in many of these patients with respect to improved control by resultant changes in physiology as well as by behavioral effects which promote adherence to healthier dietary and other lifestyle influences.

Practical Diabetology, 9-10-91

"Strength is born in the deep silence of long-suffering hearts; not amid joy."

Felicia Hermans

Stress Reduction Effects Of Aquariums

Caring for and tending to living things appears to confer important stress-reduction benefits. In prior articles, we have reported on how the introduction of pets and aquariums has improved the quality of life for elderly nursing home residents. For many others, creating special aquariums and watching its occupants is also becoming more popular as a way of relieving stress. Elaborate 100 and 200 gallon aquariums are springing up in homes and offices. Some fish fanciers spend hundreds and thousands of dollars setting up tanks with an array of colorful fish, unusual plants, and a variety of decorations. For many, it provides a way of expressing their artistic ability as they carefully select attractive sand or gravel bottoms dotted with exotic coral and rocks designed to complement the fish and foliage.

Others find that aquariums provide "a sanctuary from the stress of the workplace." That is why they are increasingly being found in the waiting rooms of doctors and dentists, in an effort to help patients to relax. Progressive advances in equipment have made it easier to maintain aquariums with a minimum of effort. In the proper environment, it is not unusual for some fish to live for several years. Sales of tropical fish, fish food, plants, tanks, pumps, and other equipment are now estimated to exceed over a billion dollars a year.

Gannett News Service, 9-1-91

Oscar Wilde

Alpha Waves and Stress Reduction in Japan

Japanese corporations are increasingly utilizing "alpha wave training," to improve employee creativity and productivity, relationships with fellow workers and customers and also to promote relaxation. There are a variety of different brain waves, which range in voltage from 1 to 60 hertz. Alpha waves fluctuate from 8 to 14 hertz, and are seen when individuals are in a relaxed state. Accomplished Zen monks and yogis produce an abundance of alpha waves when they are in deep meditation. Those between 9 and 12 hertz have been termed "mid alpha waves," and according to one investigator represent "the optimal state to make full use of potential 'brain power' because of their association with relaxed concentration."

Many corporations use alpha wave training to teach employees "how to work on the subliminal part of their minds, which affects their actual conduct more than the conscious part." The employee education manager of Olivetti indicated that almost 90 percent of those who had completed such training sessions subsequently reported a favorable effect on their work and health. Some even claimed a cure of stomach ulcer problems believed to be stress related. He contends that "alpha waves are, so to speak, a key to the door that opens to the vast unknown world of the subconscious." Seiko Instrumetns found that the number of patents granted for technological achievements was 30 percent higher among those who had taken alpha wave courses than non-participants.

A former Matsushita engineer who has developed a simple alpha biofeedback training device points out that his program allows individuals to "quickly experience the benefits of long-term meditation." The heightened interest in his approach is attested to by the notation that the number of participants in his Tokyo seminars increased from 50 in 1984, to 1,200 in 1989, and has risen further since then. His novel device and training program will be demonstrated at the forthcoming 4th International Montreux Congress on Stress in February 1992.

The Japan Times, 12-13-89

Maurice Valency

[&]quot;To do nothing at all is the most difficult thing in the world, the most difficult and the most intellectual."

[&]quot;The moment man cast off his age-long belief in magic, Science bestowed upon him the blessings of the Electric Current."

Book Reviews • Meetings and Items of Interest

Emotions and Adaptation, Richard Lazarus, Oxford University Press, New York, 1991, 557 pp., \$49.95.

This is an outstanding contribution from one of the foremost authorities on the psychology of emotions, and their role in cognitive appraisal and coping with stress. It underscores the distinctions between "negative" emotions such as guilt, shame, depression, anxiety, fear, jealousy, envy or disgust, as well as "positive" feelings of pride, love, happiness and satisfaction. The author deals deftly with the complex task of attempting to define, classify and measure emotions as a prelude to discussing their effects on emotional and physical well being. This includes and explains the paradoxical adverse effects of seemingly positive person-environment reactions in certain types of individuals with low self esteem. Over the past 25 years the author has contributed greatly to the shift in psychology from its emphasis on behaviorism to cognitive approaches, and this volume is a worthy successor to his prior landmark contribution, Stress, Appraisal, and Coping. It is extremely well referenced and is highly recommended for anyone interested in the origins of personality, and the role of emotions in the appraisal of stress, variations in coping mechanisms, and motivational and cognitive adaptive strategies.

Meetings and Items of Interest

Jan. 4. Basic and Clinical Neurosciences, Columbia College of Physicians and Surgeons, New York, NY, (212) 305-3682.

Jan. 15-19, Annual Practicing Physician's Approach to the Pain Patient, Dannemiller Memorial Educational Foundation, Palm Springs, CA (800) 328-2308.

Jan. 16-18, Pain Medicine, American Academy of Pain Medicine, Scottsdale, AZ, (708) 966-9510, x2231.

Jan. 17-18, Imagery and Visualization Techniques and Applications AAPD, Houston, TX (303) 422-8436.

Jan. 24-26, Interventional Pain Management: An Advanced Techniques Workshop, Dannemiller Memorial Educational Foundation, Tampa, FL, (800) 328-2308.

Feb. 2-5, Clinical Problems in Gastroenterology IX. Stowe, University of Vermont. Stowe, VT (802) 656-2292.

Feb. 17-20, 11th Annual Role of Exercise and Nutrition in Preventive Medicine, ISC Division of Wellness, Breckenridge, CO, (813)

Feb. 24-28, 3rd Annual Physician Heal Thyself, San Diego, CA, (619) 534-3940.

Feb. 27-Mar. 1, Seminars on Chronic Fatigue and Anxiety Disease, Park City, UT, (801) 292-2925.

March 2-5, 11th Annual Role of Exercise and Nutrition in Preventive Medicine, ISC Division of Wellness, Breckenridge, CO, (813)

March 7-14, Minding the Body, Mending the Mind Conference: 3rd Annual Meeting, Vail, CO, (800) 525-5810.

March 9-12, 11th Annual Role of Exercise and Nutrition in Preventive Medicine, ISC Division of Wellness, Orlando, FL, (813) 686-8934. March 13-14, Behavioral Pediatrics: Clinical Problems in Primary Care, Boston University, Cambridge, MA, (617) 638-4605.

March 13-15, The Psychiatric Interview, University of Chicago, Chicago, IL, (312) 792-1056.

March 19-24, Annual Meeting, Association for Applied Psychophysi-

ology and Biofeedback, Colorado Springs, CO (303) 422-8436.

March 22-27, Physician in Transition, Menninger Management Institute, Topeka, KS, (913) 273-7500, x5686.

March 25-28, Annual Meeting, Society of Behavioral Medicine, New York, NY, (301) 251-2790.

March 31-April 4, 50th Anniversary Meeting, American Psychosomatic Society, New York, NY, (703) 556-9222.

June 14-19, First World Congress for Electricity and Magnetism in Biology & Medicine, Orlando, FL.

Aug. 17-21, Hans Selye Symposia on Neuroimmunology and Stress Advances in Psychoneuroimmunology, Satellite Meeting of the 8th International Congress, Budapest, Hungary. In North America (204) 788-6320, In Europe 36-1-185-2255.

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