Special Issue: Clinical Psychophysiology, Science, and the Soul
Clinical Psychophysiology, Science, and the Soul

Special Issue of the Biofeedback Newsmagazine
Donald Moss, PhD, and Ian Wickramasekera, PhD

The Association News and Events section includes reports from the AAPB President, Executive Director, and President-Elect, and information on the March 2002 AAPB annual meeting in Las Vegas.

Readers are reminded to view the Biofeedback Newsmagazine online at http://www.aapb.org

Proposals and Abstracts are invited for special issues on: Advances in Instrumentation for Spring 2002 (Editor Richard Sherman, PhD), Applied Psychophysiology and the Performing Arts for Fall 2002 (Editor Marcie Zinn, PhD), and on Mind/Body Pediatrics for Spring 2003. The editor also welcomes proposals for future special issues of the Biofeedback Newsmagazine.

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FROM THE EDITORS

The cover of this Special Issue of the Biofeedback Newsmagazine shows Abraham Maslow’s well-known hierarchy of human needs. Maslow initially founded humanistic psychology on a model of personal fulfillment and self-actualization. In his book Toward a Psychology of Being, he advocated a new psychology, “transpersonal, transhuman, centered in the cosmos rather than in human needs and interest, going beyond humanness, identity, self-actualization, and the like” (1968, p. iv). Maslow revised his hierarchy of needs to show that at the highest levels of personal development, the human being discovers ways to transcend the self.

Harold Koenig wrote recently in the Journal of the American Medical Association, that “A whole person is someone whose being has physical, emotional, and spiritual dimensions. Ignoring any of these aspects of humanity leaves the person incomplete and may even interfere with healing” (Koenig, 2000, 1709). Speaking more broadly about our times and the suffering of human beings, Thomas Moore wrote that “The great malady of the twentieth century, implicated in all our troubles and affecting us individually and socially, is ‘loss of soul’” (Moore, 1992, p. ix).

This Special Issue is dedicated to several overlapping themes. Their articles explore the impact of both inward spiritual experiences and outward religious activity on human physiology and health. They review the evidence that distant prayer can influence physiology, affect the healing process, and reduce morbidity. The authors also examine the current and possible future contributions of psychophysiological research to understanding spiritual phenomena.

Psychophysiology remains a discipline steeped in empirical investigation. As soon as we declare that an experience is important for human life, one of our colleagues will begin to apply electrodes and begin to assess whether physiology is modified in some measurable way by the experience. Such investigations do not measure soul, but they may serve to show that soulful experiences have consequences for physical health.

This Special Issue sends several messages to the reader:
1) Be mindful of the spiritual lives and spiritual needs of patients, students and yourselves.
2) Mobilize spiritual forces to optimize the effect of health care interventions or educational experiences.
3) Include the availability of spiritual or pastoral counselors in behavioral health and clinical psychophysiology programs.
4) Utilize the scientific approach of psychophysiology to assess the impact of spiritual processes on health, and to investigate some of the mechanisms that mediate this impact.
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ABOUT THE AUTHORS: PROFILES OF CONTRIBUTORS
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Abstract: Human beings are from birth both physical and metaphysical beings. In every breath they are anchored in accidents of anatomy and physiological process, yet actively yearn toward the farthest reaches of the imagination. Humans tend spontaneously toward a search for meaning, and show restlessness toward deeper spiritual dimensions. Injured, ill, and disabled individuals display a special need to make sense of their suffering, and to discover a deeper purpose beneath illness. Participation in inward spiritual activities and outward religious activities may enhance wellness and buffer individuals against illness. Spiritual texts, liturgies, and wisdom offer additional tools for the health practitioner, in reducing suffering, guiding the troubled, and bringing depth to the lives of the well. Finally, biological monitoring may illuminate the physiological mechanisms involved during spiritual experiences.

Introduction

“The great malady of the twentieth century, implicated in all our troubles and affecting us individually and socially, is ‘loss of soul’ (Thomas Moore, Care of the Soul, 1992, p. xi).

Why should a publication that is devoted to a scientifically based applied psychophysiology sponsor a Special Issue on spiritual matters to chaplains and churches, and stick to the measurable and tangible substance of biofeedback and psychophysiological methods? This article examines several perspectives, each of which argues for attention to spiritual perspectives in biofeedback practice and general health care.

• Biofeedback practice brings clinicians into the midst of sick, suffering, and dying individuals, who are led by their illness and disability to raise spiritual questions.
• Biofeedback interventions cultivate a mental attitude of “letting go,” and a physiological and emotional self-quieting, which create meditative conditions conducive to spiritual experiences.
• By training patients to modify brain states, neurofeedback induces states of consciousness conducive to spiritual awakening and personal transformation.
• Spiritual concepts, texts, liturgies, symbols, and music are powerful tools for transformation, and increase the effectiveness of conventional relaxation training and self-regulation oriented therapies.
• Spiritual traditions, East and West, offer guidance for living, wisdom for coping, and values that orient troubled individuals.
• Current empirical research suggests that prayer and involvement in religious activities may positively enhance health and wellness.
• Spiritual experiences appear to be mind-body phenomena, and the scientific tools of psychophysiology may clarify the mechanisms involved in the effects of spiritual experiences. In the following, the author will expand on these seven themes, and argue for greater attention to soul and spiritual experiences in health care and applied psychophysiology. The themes developed in this special issue of the Biofeedback Newsmagazine will also be addressed in the March 2002 AAPB annual meeting, in Las Vegas, Nevada. The theme of that meeting will be: The Circle of the Soul: The Psychophysiology of Body, Mind, and Spirit.

I. Illness and the Spirit

Biofeedback practice brings clinicians into the midst of sick, suffering, and dying individuals, who are led by their illness and disability to raise spiritual questions and seek spiritual meaning.

The work of biofeedback unfolds amidst pain and suffering. Human beings who face illness, pain, and death seek the meaning of their being. They ask themselves and their health care providers metaphysical questions such as the following:

“Why me God?”

“Did I commit some terrible sin to bring this illness on myself?”

“Is my illness part of a larger design?”

“Has the purpose of my living ended?”

“Can I discover a worth in simply being, when I can no longer achieve?”

These are universal and ultimate human questions. Karl Jaspers, the German existential psychiatrist and philosopher, called these critical situations in life, such as illness, suffering, crises, and death, “limit situations” (Jaspers, 1932). In such moments human beings wake up from the usual absorption with schedules, tasks, and the trivia of life, to once again view their lives as a whole and to ask questions about purpose. In such moments many formulate their struggles and their solutions in spiritual language. The English poet Milton (1608-1674), when he had lost his vision, wrote a poem expressing his struggle to find meaning in a life without his sight.

“When I consider how my light is spent, E’re half my days, in this dark world and wide,
And that one talent which is death to hide, Lodged with me useless …” (Milton, in Quiller-Couch, 1939, p. 352)
His timeless answer expresses the kind of "cognitive re-framing" that we seek to teach our disabled patients today.

"God doth not need
Either man's work or his own gifts, who best
Bear his mild yoke, they serve Him best ...
Thousands at his bidding speed
And post o've Land and Ocean without rest:
They also serve who only stand and waite."
(Milton, in Quiller-Couch, 1939, p. 353)

Rabbi Harold Kushner (1981) draws on Hebrew and Christian scriptures, especially the story of Job and his suffering, to address the meaning of suffering. His text reminds the reader that in all historical eras, human beings have struggled to understand why "bad things happen to good people." Kushner’s guiding principle seems to be that sick, injured and impaired individuals will benefit from hearing the classic spiritual formulations in biblical texts, while searching for their own answers and personal formulations of meaning.

2. Biofeedback, Stillness, and the Soul

Biofeedback interventions cultivate a mental attitude of "letting go," and teach a physiological and emotional self-quieting, which create the kinds of meditative conditions conducive to spiritual experiences.

Biofeedback emerged in the late 1960's from a convergence of the human potential movement and the hard science of the psycho-physiological laboratory. From the beginning biofeedback was identified as a holistic approach dedicated to a unitary understanding of mind, body, and spirit. Biofeedback therapists regularly utilize mind-body therapies, such as meditation, visualization, and imagery therapies, which are conducive to spiritual awareness.

The Hebrew psalmist counseled individuals to find their God in silence: “Be still and know that I am God” (Psalm 46:10).

Biofeedback teaches the skills necessary to bring about inner physiological, mental, and emotional quieting. In the stillness many individuals find emotional release and the presence of spirit.

"Thou dost keep him in perfect peace, whose mind is stayed on thee, because he trusts in thee" (Isaiah 26:3-4)

Biofeedback and relaxation therapies teach a physiological and emotional letting-go and letting-be. Both Wolfgang Luthe and Herbert Benson advocated a passive volition or passive attitude of mind (Luthe, 1969, vol. I, p. 14; Benson, 1975). This same process of relinquishing personal control and detaching from effortful striving is a part of most meditative traditions, from Buddhism to Christianity. The Christian mystics, such as the German Rhinelander mystics Meister Eckhart and Johannes Tauler, saw this letting go as the first step toward an inner encounter with God (Moss, 1980).

Biofeedback also overlaps with traditional spiritual practices, with its emphasis on respiratory biofeedback, cultivating a deep and full diaphragmatic breathing. Traditional Chinese philosophy teaches that "mind and breathing are interdependent and regular respiration produces a serene mind" (Yue Yanggui, cited by Xiangcai, 2000, p. 7). Further, the same author, living during China’s Qing Dynasty, taught that "…the tranquility of the mind regulates the breathing naturally and, in turn, regulated breathing brings on concentration of the mind naturally" (Questions and Answers of Meisha, Yue Yanggui, cited by Xiangcai, 2000, p. 7).

3. Neurofeedback and Altered States of Consciousness

By training patients to modify brain states, neurofeedback induces states of consciousness conducive to spiritual awakening and personal transformation.

In 1969 Joe Kamiya published his classic text, Operant Control of the Alpha EEG Rhythm, as a chapter in Charles Tart’s book, Altered States of Consciousness. Kamiya’s research showed that with feedback a human subject could modify his or her cortical state at will, and by so doing modify the state of consciousness as well. Alpha rhythms in the cortex are accompanied by a creative, open awareness and a meditative, receptive attitude of mind. Kamiya’s work coincided with the 1960’s counter-cultural interest in pursuing higher states of consciousness through drugs. EEG appeared to offer a drug-free pathway toward higher states of mind, and a new industry quickly emerged, offering inexpensive and often shoddy alpha home training machines.

A recent hot topic in the popular media is the concept of “neuro-theology,” the approach that emphasizes that certain cortical or sub-cortical brain centers are the basis for spiritual experiences. A recent book, Why God Won’t Go Away, points to the “orientation association” area in the parietal lobe (Newberg, D’Aquili, & Rause, 2001). SPECT brain imaging studies show that this area becomes less active during meditation, when the meditator feels one with the universe. Hypothetically when this cortical area is inhibited, it facilitates mystical, oceanic feelings of harmony and unity with being.

"…we saw evidence of a neurological process that has evolved to allow us humans to transcend material existence and acknowledge and connect with a deeper, more spiritual part of ourselves perceived us as an absolute, universal reality that connects us to all that is" (Newberg, D’Aquili, & Rause, 2001, p. 9).

Many years ago Carl Jung observed that there was little hope for psychological treatment for alcoholism. He then added that most of the recovered alcoholics he had encountered had experienced some kind of a spiritual transformation process. Today neurofeedback guides patients to enter altered states of consciousness and to experience a deep process of existential and spiritual transformation. The widely adapted Peniston protocol combines temperature biofeedback-assisted relaxation training, alpha-theta brain wave training, breathing training, and the use of imagery, to assist addicts and alcoholics to visualize and experience themselves as powerfully changed (Peniston & Kukolsky, 1989). This protocol is also the basis for therapies for individuals with post-traumatic stress disorder, dissociative disorders, and a variety of other disorders.

4. Spiritual Words as Tools for Transformation

Fourth, spiritual concepts, texts, liturgies, symbols, and music are powerful tools for transformation, and may increase the effectiveness of conventional relaxation training and self-regulation oriented therapies in health care.

On a wintry Tuesday morning early last year, I conducted a chronic pain class on the use of imagery and visualization for
pain management. I was not enthusiastic about conducting this session, because one member of the pain group was a blusty and angry policeman with a spinal injury and severe head and back pain. He had expended enormous amounts of energy informing me, the other therapists in the program, and the patient group, how useless he had found each of the self-regulation strategies that we had taught him. He had already rejected progressive muscle relaxation, autogenic training, and diaphragmatic breathing. In his mind the cognitive reframing we taught the class was “snake oil,” and he didn’t know why he was wasting his time in the pain management program.

After an introduction to the role of imagery in pain reduction and pain management, I guided the group through an imagery exercise as follows: “You are in a beautiful, lush, green garden. The sun is shining on you and around you. You can feel its warmth on your face and all over your body. You feel the serenity of this place, its peacefulness and comfort. Now picture yourself becoming tinier and tinier. Imagine yourself scooped up very gently and carefully. You are resting in the hands of the Lord. His hands are so large and strong, and you are cradled securely and gently in his palms. He is gazing down upon you with love and acceptance. You feel a healing light from His face wash over your body. You feel relieved of all burdens. Your pain is lighter now, soothed by His presence. Allow yourself to remain quiet for several minutes now, and feel the comfort of His caring for you.”

As I looked around the group after the imagery exercise, I was surprised to find my skeptical patient in tears and smiling warmly at the group. He asked us why we hadn’t done this wonderful exercise right away, and told us it was the only worthwhile lesson in three weeks. He reported feeling less pain and a new sense of lightness in his body. He began to talk about how he had been feeling abandoned by God, and had been asking himself what he had done to bring such suffering on himself. The exercise relieved that sense of being spiritually cut off, and comforted him. This was also a turning point in his cooperation with other strategies, as he felt a new confidence that the pain management curriculum had something to offer him.

5. Spirituality and Life Wisdom

Spiritual traditions, East and West, offer guidance for living, wisdom for coping, and values that orient troubled individuals.

Patients turn to their health care professionals not only for physiological evaluation and technical interventions, but also for guidance for life. Yet psychophysiological science offers no great wisdom or life direction. Biofeedback practitioners have taken the concepts of self-regulation, relaxation, and holism, and extended them metaphorically to create a philosophy of living. That philosophy emphasizes self-direction, responsibility for one’s own health, and harmony with one’s body, nature, and fellow humans. It also encourages respect for the integral physical, emotional and spiritual needs of human beings. But there are many moments in clinical practice when a patient is seeking “true north,” ultimate directions and priorities in dealing with their personal challenges.

Each religious tradition accumulates a set of sacred texts, prayers, hymns, and spiritual disciplines that convey pathways and priorities for living. Traditional pastoral counseling in health settings provides an abundance of consolation and direction in health care settings. Chaplains are ideal individuals to teach self-regulation and wellness practices to patients, because of their credibility and holistic orientation. Many churches and synagogues now utilize “parish nurses,” to reach out to ailing members and to optimize the wellness of healthy persons. Parish nurses are also ideally suited to integrate body, mind, and spirit, and spirituality and medical lessons, in one holistic outreach (Solari-Twadell & McDermott, 1999; Clark & Olson, 2000).

The spiritual wisdom that informs chaplaincy work can also provide guidance to the health care professional dealing with a troubled medical patient. A number of spiritual authors have advocated a revival of spiritual disciplines as tools for coping with contemporary life problems and stress. Richard Foster, a Quaker, richly described traditional Christian disciplines as sources for contemporary wellness (Foster, 1978). He lists the following “spiritual disciplines” and explores their present day relevance:

<table>
<thead>
<tr>
<th>Meditation</th>
<th>Simplicity</th>
<th>Confession</th>
</tr>
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<tbody>
<tr>
<td>Prayer</td>
<td>Solitude</td>
<td>Worship</td>
</tr>
<tr>
<td>Fasting</td>
<td>Submission</td>
<td>Guidance</td>
</tr>
<tr>
<td>Study</td>
<td>Service</td>
<td>Celebration</td>
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Numerous authors have explored Western and Eastern religious traditions for life wisdom. For example, Henri Nouwen (1981) and Thomas Merton (1961) both explored the wisdom of the “desert fathers,” Christian hermits who lived lives of prayer in the Egyptian desert. These fifth and sixth century hermits contribute surprisingly contemporary perspectives to the modern search for a meaningful life. Similarly Jon Kabat-Zinn (1990) describes a way of life based on Buddhist mindfulness meditation, and Ken McLeod (2001) describes the “Buddhist path of attention,” as an orientation for contemporary life.

6. Soul, Spirit, and Health Care

Current empirical research suggests that prayer and involvement in religious activities may positively enhance the health and wellness.

Larson and Larson (1994) assembled a compendium summarizing current empirical research on the impact of religious involvement and practices on health care:

“If you heard that research had demonstrated a factor which could lower your blood pressure, help you recover from surgery, provide a greater sense of well-being, add years to your life and help protect your children from drug abuse, alcohol abuse or suicide, would you be interested in discovering what it might be?” (Larson & Larson, 1994, pp. 1, 63-84)

Their point is that a growing body of research shows correlations between active church attendance (or involvement in church related activities) and positive health. Both inward spiritual experiences and outward religious practices appear to have health value.

Levin and Vondriska (1987) cite over two-dozen studies showing that regular attendance at church or synagogue has documented health-promoting effects. Koenig, Hays, Larson, George, Cohen, McCullough, Meador, & Blazer (1999) report that individuals with high “intrinsic religiousness” show more rapid remission of depression, and that religious involvement predicts successful coping with physical ill-
7. The Psychophysiology of the Soul

Spiritual experiences are mind-body phenomena, and invite one to apply the scientific tools of psychophysiology.

Philosophers today no longer think about soul as some insubstantial entity, which added together with a physical body, makes up a complete human being. Such Cartesian dualistic notions have fallen by the wayside. Our everyday language use of soul often refers to something deep and essential about the person. When I say that a person in my life “touched me in my soul,” I mean that this person reached or affected me in some very special and lasting way, having to do with who I am.

Gaston Bachelard (1960/1969), the French phenomenologist, describes soul as rooted in the individual and collective histories of the person. Soul is neither abstract nor ethereal; rather, soul reverberates in memory with the resonance of childhood and personal roots. Soul has a sensory richness, that is auditory first with sounds and voices, visual with snapshot memories and images of primordial places of one’s life, and finally olfactory, with the rich fragrance of childhood. My spiritual roots resonate with the childhood echoes of Gregorian chant, glimpses of colorful priestly vestments, and the fragrance of incense.

Another’s roots are called up with the sensory richness of the Seder celebration at Passover, the taste of bitter herbs, the vision of family around the table, and the memory of the oldest son opening the door for the wandering prophet Elijah.

If spirit and soul have flesh, then they provide a useful focus for psychophysiological research. Biological monitoring cannot explain the transcendent meaning of a spiritual experience. Measuring a change in the brain or physiology tells us nothing about the validity of the spiritual perception mediated by the neurophysiology. But it may measure what effects a spiritual practice has on physiology, and clarify the mechanism of any health effects from that spiritual practice.

Some physiological functions, especially respiration, appear to be closer to the human experience of spirit. The word spirit derives from the Latin spiritus, whose root meaning is breath. The Greek pneuma or breath is also the soul. In Genesis Yahweh breathed life into the man and “thus man became a living being” (Genesis 2:7). For the Hindu, the individual soul is atman, from the Sanskrit for breath.

In one illustrative psychophysiological investigation, Paul Lehrer and colleagues reported on research on Zen monks and nuns in Japan. Previous research found low serum lipid rates and low rates of cardiovascular disease in Buddhist monastic communities. Zen monks spend hours a day in meditation with very slow breathing. Rinzai monks place special emphasis on “tanden breathing.” They breathe slowly, focus each breath, and focus meditatively on an area below navel.

During meditation, the monk’s respiration rates slowed to range associated with “low frequency” heart rate variability (.05-.15 Hz).

Higher frequency (.15-.4 Hz) heart rate variability decreased. One Rinzai master breathed at a much slower rate of one breath per minute. He showed an increase in very low frequency (< .05 Hz) cardiac waves. The authors interpreted this study as supporting the theory that slow breathing “resonates” with cardiac function and produces low frequency cardiac oscillation with benefits for cardiac health (Lehrer, Sasaki, & Saito, 1999).

Closing: A Caution for Practice

The take home message from this article is not simply that health professionals should order their patients to “go to church and ask for God to heal them.” Many of my patients have experienced a lifetime’s worth of that kind of abusive advice, with the implication that perhaps their problems are due to their lack of faith or spiritual failures.

Optimal spirituality in health care does not consist of an evangelical Christian surgeon telling a Buddhist patient to follow Jesus Christ for a better outcome. No health care provider has a right to push a personal religious preference on a patient, without knowledge of the patient’s religious continued on Page 27
Ethical Issues When Spirituality or Religion and Health Care Meet

Sebastian “Seb” Striefel, PhD, Logan, Utah

Abstract: The role of spirituality and of religion in biofeedback and other applied psychophysiological interventions are largely unknown and un-researched. Yet it is clear, that a client’s beliefs and values, including those of a spiritual or religious nature, can enhance treatment outcomes. Practitioners need to become aware of their own spiritual and religious beliefs, values, and biases. They also need to become aware of their client’s spiritual values and beliefs so that such factors can be incorporated into the treatment process as appropriate.

Introduction

I could find no published studies or articles on the ethical application of spirituality and/or religion in the practice of biofeedback or applied psychophysiology. Yet, the vast majority of clients seeking help form psychologists or from behavior therapists, and thus by extension from biofeedback practitioners, profess to have religious beliefs and practices (Robb, 2001). A Gallup poll (Gallup Foundation, 1996) found that 94% of those surveyed believe in a universal spirit or God, and 87% rated religion as very important (58%) or fairly important (29%), and about 90% reported praying at least occasionally. Biofeedback practitioners are concerned with helping clients reduce needless suffering and with enjoying life more fully. For most clients, spirituality and religion may well be an important part of the process.

From an ethical perspective, the primary reasons for incorporating spiritual and religious beliefs and values into assessment and treatment practices are: a) to better meet the needs of clients (Mattson, 1994) and b) to avoid injuring clients. Practitioners and clients may well find it useful to try to understand what the message or purpose served by a client’s presenting problem is or might be, including those of a spiritual or religious nature.

It is increasingly being recognized that spiritual and religious beliefs and values serve a major role in life and in an individual’s search for meaning, e.g., when in grief or mourning (Corey, Corey, & Callanan, 1998). Social work educators have decided that their professional ethics require them and their students to understand the spiritual dimensions of social work (Miller, 2001). In fact, they consider it malpractice for clinicians to avoid spirituality if a client indicates a need in that area (Miller, 2001). Simultaneously, the membership in Division 36 (Psychologists Interested in Religious Issues) of the American Psychological Association is increasing and The Association of Spiritual, Ethical, and Religious Values in Counseling (a division of the American Counseling Association) currently publishes a journal (Counseling and Values) which focuses on spiritual, ethical, and religious values as they relate to the professional-client relationship (Corey et al., 1998). All of these factors attest to the increasing importance of spirituality and religion in professional practice.

Definitions

There are many definitions of spirituality. They all generally agree that spirituality is larger than religion (Corey et al., 1998). Spirituality refers to a sensitivity to existential, moral, ethical, and humanitarian issues and to a recognition of the existence of, and desire for a relationship with a transcendent dimension or God (Corey et al, 1998). Religion seems to be a social and organized means by which some persons express their spirituality (Grimm, 1994).

Evidence is increasing that a greater awareness of religion, spirituality, and the associated values and beliefs can help practitioners in conducting more accurate assessments and in providing more effective treatment (Yarhouse & VanOrman, 1999). Spirituality and religion can be both a strength and source of healing in times of distress or illness by helping person’s find a purpose in life (Corey et al., 1998). I know that when my own father died, after sixty years of marriage, my mother found a purpose for continuing to live because of her strong religious beliefs. Her purpose for living was strengthened by a conversation with a priest who reassured her that God had a purpose for her to be here on earth, even if she did not yet recognize it during her time of severe grief and mourning. Practitioners have an ethical responsibility to not let their own spiritual or religious beliefs, values, or biases result in harm to clients (Younggren, 1993). For example, praying for a client in his or her presence, if the client is not religious, could readily be interpreted to be an attempt to impose one’s own values and beliefs onto the client. Incorporating imagery strategies for modifying physiology, which include God, with clients who are religious, would not.

A major ethical concern is that practitioners not impose their own spiritual or religious values and beliefs on their clients. This means that practitioners must be aware of their own spiritual and religious values, beliefs, and biases, and that they must think about how these beliefs, values, and biases might affect their work with specific clients. Each practitioner must strive to understand the spiritual and religious values and beliefs of each client and work within the client’s belief and value system. In addition, practitioners must simultaneously be...
aware of their own values and beliefs, and ensure that they do not impose them on their clients. This is not an easy task. It helps to remember that dealing with individual differences in spiritual and religious beliefs and values is very similar to dealing with any other individual difference or cultural difference. The key seems to be for the practitioner to focus on and be sensitive to the needs of the client (Corey et al., 1998). This can be accomplished, at least in part, by listening carefully to what the client tells one and letting the client talk about areas that he or she needs or wants to explore.

No treatment approach is value free. Those of us working as practitioners are influenced by our own values and beliefs when selecting treatment goals, the interventions we propose to use, and even the topics we explore (Younggren, 1993).

Practitioners must be aware that counter-transference can become an issue. For example, if a practitioner is hostile toward religion or spirituality because of a strict religious upbringing, he or she may have difficulty working with a client who is very religious. Likewise, a practitioner who is highly religious may have counter-transference difficulties with a client who is very critical of religion and spirituality. A practitioner needs to know when the disparity between spiritual and religious beliefs and values is so great that it interferes with effective treatment so that an appropriate referral can be made.

Intake Process

Several authors have suggested that the intake process should regularly include spiritual and religious dimensions (Yarhouse & VanOrman, 1999). Questions such as the following seem appropriate:

- What role, if any, does, or has spirituality or religion played in your life?
- How might your spiritual and/or religious beliefs and values be related to your thinking, behavior, feelings, or physiology?
- Do you think that your spiritual or religious beliefs and values contribute to the symptoms or problems that brought you in for treatment? If so, how?
- Do you have any spiritual or religious beliefs or values that might be helpful in overcoming your problems?

Competence

As practitioners we should be aware of whether spirituality or religion is a significant force for a particular client and how that force might be used in treatment. As such, practitioners must be competent in certain aspects of spirituality and religion if they are to use spiritual or religious information in the assessment or treatment process. A Summit on Spirituality (1995) generated a list of competencies that counselors should have. They seem relevant to biofeedback and other applied psychophysiological practitioners. The list was generally related to counselors being able to explain and describe relationships, beliefs and values related to spirituality and religion, including the counselor’s own beliefs and values and what contributed to the development of these beliefs and values on the part of the counselor. The bottom line is that practitioners acquire sufficient information about different spiritual and religious beliefs and values so that the information can be used to help clients meet their own needs, without an imposition of the practitioners own beliefs and values.

Practitioners might also find it helpful to be aware of instruments, with varying degrees of validity and reliability, that can be used to assess various dimensions of a client’s spiritual and religious beliefs and values (Yarhouse & VanOrman, 1999). See Hall, Tisdale, and Brokaw (1994) for a discussion of several such instruments. How might, or how do your and your client’s spiritual and/or religious beliefs and values impact what you do as a biofeedback practitioner? How might more knowledge and skills in the areas of spirituality and religion be used to enhance treatment outcomes?

Boundary Issues

It is important for practitioners to know when their own knowledge and skills in reference to spirituality and/or religion are inadequate for meeting a client’s needs in these areas. Awareness can help: a) identify when consultation or supervision is needed; b) identify when additional training is needed; c) avoid injury to the client; d) ensure that the client is referred to a professional competent in the needed skills, as appropriate; and e) ensure that no ethical complaint or lawsuit is filed against the practitioner. It is important to know the limits of your competence in reference to all areas, including spirituality and religion, and to know what your state laws consider to be within the accepted scope of practice for members of your discipline.

Informed Consent

Writing a self-disclosure statement that includes your an overview of your spiritual and religious beliefs and values can help you clarify what you believe and value. This is also a good place to consider how your values and beliefs will be communicated to clients during the informed consent process. What, if anything, should you say to clients about spirituality and religion during the informed consent process? Informed consent should help clients understand the potential goals for treatment, collaborate in selecting interventions (including or not including those with a religious or spiritual flavor), and provide an opportunity for the client to give or withhold consent for a particular intervention (Yarhouse & VanOrman, 1999).

Some clients are concerned about whether a non-religious or non-spiritual practitioner will respect their religious and spiritual beliefs and values, will ignore them, or even label them as pathological (Yarhouse & VanOrman, 1999). Knowing your own spiritual and religious beliefs and values can be especially helpful with certain clients. If you have very strong spiritual or religious beliefs and values can you work with a client who doesn’t? Is it in the client’s best interest for you to refer him or her to a practitioner who is not spiritual or religious? Have you established a network of resources to which you can refer? Does it include practitioners who have a spiritual and/or specific religious orientation, individuals who are not spiritual or religious, members of the clergy for different religions? If not, develop such a resource list by meeting with different individuals and exploring how you might work together to better meet the needs of those you both serve. If you are not religious or spirituality inclined should you treat those who are? Robb (2001) reported that even therapists who are not themselves religious or spiritually oriented can be effective in treating clients who are highly religious or spiri-
tual if they have enough knowledge about the client’s religion, the relevant scriptures and beliefs of that religion, and knowledge of how the individual client applies his or her beliefs and values. Robb (2001) makes a strong case for how Rational Emotive Behavior Therapy can be facilitated by addressing and using a client’s spiritual and religious beliefs and values to facilitate positive treatment outcomes. He even argues that there are times when it is appropriate to challenge a client’s supernatural beliefs. These include: when it is not the supernatural belief itself that is the problem, but the way in which the client interprets the belief; when the supernatural belief system does not include beliefs that will mitigate disturbance associated beliefs (e.g., when there is no inclusion of a belief for forgiveness); or when the client’s supernatural belief system places him or her in a catch twenty two situation (e.g., the client’s religious beliefs do not allow for divorce, but the client is being severely injured on a regular basis by his or her spouse). If one is going to challenge a client’s spiritual or religious beliefs it must be done with the clients full and meaningful informed consent, e.g., what repercussions might the client experience from members of his or her family or religious community if he or she deviates from the accepted belief or value system?

Are you prepared to advise clients on how you will address their spiritual and religious concerns and whether and what spiritual and religious resources you are prepared to use in treatment? Are you aware of the risks of addressing or not addressing a client’s spiritual or religious concerns, if he or she has some? All clients, including those who are spiritual or religious, might well benefit if a practitioner can assure them that their beliefs and values will be respected during the assessment and treatment process. If such assurances cannot be realistically offered, it is probably in the best interests of the client for him or her to be referred to someone who can. Clients often leave treatment if there is too much disparity between their own spiritual and religious beliefs and values and those of the practitioner. It is not clear whether this is also true if the treatment is mostly direct biofeedback service.

All biofeedback practitioners are expected to be concerned about the welfare of their clients. As such, one task is determining in the ongoing assessment process what the unique aspects are that affect each specific client’s welfare. Spiritual and religious beliefs and values can influence what a particular client finds stressful, e.g., a highly religious client may find that having sex outside of marriage, which is forbidden by that client’s religion, is stressful, or a client may be attracted sexually to members of the same sex and yet know that such activity is against his or her religious beliefs. A biofeedback practitioner must be careful so that he or she does not offer interventions that fail to respect the client’s spiritual and religious beliefs or values, at least not without full informed consent. This means becoming familiar with a client’s specific values and beliefs and supporting the client’s right to have them, even if changing them would reduce his or her stress. How could you help a client reduce his or her stress related to being in a very physically abusive marriage, if the client’s religious values preclude divorce as an option?

Practitioners need to ask about the relationship between the client’s presenting problem and his or her spiritual and religious beliefs and values to understand where the client is coming from, and thus, for making decisions that will protect the client’s welfare, e.g., when to refer the client elsewhere, what interventions to propose, etc. The practitioner can gain much by attending workshops and classes on spirituality and religion, reading, and talking one-on-one with religious leaders from various denominations.

References


FEATURE ARTICLE

A Cross-Cultural Approach to Spirituality and Health Care

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Abstract: The word “spiritual” describes those aspects of human behavior and experience that reflect a transcendent intelligence or process that inspires devotion and directs behavior. Modern Western biomedicine, nursing, social work, counseling, and psychological therapy address themselves to a person’s physical, mental, emotional, and social problems but rarely to spiritual concerns. However, spirituality is an integral part of the healing models of the indigenous healers who handle the health care needs of some 70 per cent of the current world population. This article provides examples of the role of spirituality in non-Western practices. It concludes that allopathic practitioners and conventional therapists need to integrate a concern for the spiritual aspects of life into their practice, and collaborate with indigenous healers in those areas of the world where Western practitioners are virtually absent or are regarded with suspicion.

The word “spiritual” can be used to describe those aspects of human behavior and experience that reflect an alleged transcendent intelligence or process that inspires devotion and directs behavior. The spiritual dimension of living is evident among human beings whenever there is an awareness of a broader life meaning that goes beyond the immediacy of everyday expediency and material concerns.

The California State Psychological Association Task Force on Spirituality and Psychotherapy adopted its own definition of “spirituality,” i.e., “It has been said that spirituality is the ‘courage to look within and trust.’ What is seen and what is trusted appears to be a deep sense of belonging, of wholeness, of connectedness, and of the openness to the infinite.” When 1,400 California clinical psychologists were asked by mail whether or not they felt that spirituality was relevant in their personal lives and their clinical work, 406 responded. Although the majority answered positively, fewer affirmed the personal relevance of spirituality than of the population in general. Behavioral psychologists were the least likely to affirm the relevance of spirituality in psychological therapy while Jungian analysts were the most likely. Those therapists who felt that spirituality was relevant to their personal lives were the most likely to use it in their clinical practice (Shafranske, 1984).

Some psychologists of religion have proposed the term “primary religious experience” as a non-ideological term to refer to profound spiritual experiences that contrast with trivial, shallow, undisciplined encounters. Nevertheless, “spiritual” is not necessarily a synonym for “religious” because a religion is an institutionalized body of beliefs, practices, and rituals regarding spiritual concerns and issues. Nevertheless, people who have internalized these beliefs and practices, and who claim to have direct experiences with what they consider “sacred,” are generally “spiritual” (Krippner & Welch, 1992, pp. 5, 122). In addition, many people are “spiritual” without being “religious” in the sense of participating in organized religion. It follows that one can be “religious” without being “spiritual” — many members of religious institutions perform the necessary rituals and accept its creed (at least superficially), but their ethics, morals, and opportunities for day-by-day practice of their religion do not match their professed beliefs.

Modern Western biomedicine, nursing, social work, counseling, and psychological therapy address themselves to a person’s physical, mental, emotional, and social problems but rarely to one’s spiritual concerns. Nor are most practitioners aware of cultural and ethnic differences in spiritual perspectives. Many health care professionals are embarrassed and speechless when a patient or client asks them, “But doctor, what does it all mean?” The closer people in need of professional help move toward a consideration of such spiritual issues as the fear of death, the feeling of loneliness, and the lack of meaning in their lives, the less likely it is that they can find professional workers who can be of assistance.

Types of Spiritual Practitioners

Michael Winkelman (1992) studied the records of religious and magical practices in 47 different societies. The documentary evidence from these societies revealed that the religious and magical practitioners interacted with those human experiences that could be thought of as “spiritual.” They claimed to have access to spiritual entities (e.g., deities, ghosts, spirits) as they directed the society’s spiritual activities (e.g., sacred rituals and ceremonies). These practitioners were felt to employ special powers (e.g., casting spells, bestowing blessings, exorcising demons) that allowed them to influence the course of human affairs or natural phenomena in ways not possible by other members of their social group.

Winkelman found remarkable similarities among these groups, especially regarding the manner in which the nature and role of spiritual practitioners changed as their society became more complex. For example, shamans were found only in groups with no formal social classes. No shamans were observed in agricultural societies; rather, their presence was typical of hunting and gathering tribes and fishing societies. The Creek, Crow, and Kiman were among the
Native American societies that awarded considerable power and prestige to the shamans in their midst. Shamanism is a term used to describe a variety of techniques that socially sanctioned practitioners use to regulate their attention, obtaining information not ordinarily available, which is used to help and to heal members of the community.

Once the society became sedentary and began to practice agriculture, social stratification took place. In addition to the division of labor, political and economic divisions occurred. Priests or priestesses emerged, taking charge of the group’s religious rituals. The shaman’s power and status were reduced. According to Winkelman, the term “shaman/healer” (or shamanic healer) is a more accurate description of this practitioner because healing became his or her major function. The role of the shamanic healer became specialized and formalized; official initiation ceremonies and training procedures became more common. Political development beyond the level of the local community was observed in almost all the societies in which priests were present. The Jivaros in South America and the Ibo tribe in western Africa are among the groups in which priests were assigned a healing function. Priests also served healing functions in Japanese Buddhist and Kurd Dervish groups. In the contemporary world there are healing ministries of Christian clergymen, clergywomen, and priests, as well as religious shrines where healings purportedly occur.

Political integration became even more complex with the appearance of judicial, military, and legislative institutions. As the competition between (and within) these groups took place, the malevolent practitioner (sorcerer or witch) appeared. Originally it was shamans who cast hexes and spells on tribal enemies; these functions were taken over by the sorcerer and, for a price, were often directed against members of one’s own social group. Potions and charms became the province of witches and their associates. The shamanic healer’s scope of activity was now reduced not only by priests but by sorcerers and/or witches as well. There were sorcerers among the Aztecs and witches among the Navahos.

Further political complexities and continued dependence on agriculture became associated with the development of another practitioner, the spiritist, diviner, or medium, such as those found among the Eurasian Kazaks. At one time the shaman’s repertoire had included talking with spirits; later, mediums began to specialize in this feat, “incorporating” the spirits and allowing them to speak and act through their voice and body. At this point, the shaman’s role had been dispersed to the extent that the only functions remaining were such specialized healing capacities as the performing of healing songs and dances, dispensing herbal medicines, bone-setting and surgery, and the diagnosing of disease. Altered states of consciousness were rarely present, although they once had played an important role in the work of shamans and shamanic healers. Winkelman referred to these practitioners as “healers” (or shamanistic healers). Shamanistic healers no longer carried out most of the shamanic functions but reflected the shamans’ intent because they held the healing of one’s spirit in high regard.

Both shamanic and shamanistic healers emphasized spiritual aspects of the healing process. Furthermore, shamanic healers still maintained a commitment to their community that was a central element of shamanism, and often engaged in practices to alter their consciousness and enter the world of spirits. Shamanistic healers, on the other hand, were more involved in individual work than community work. Further, altered states of consciousness and journeying to the spirit world were not an essential element of their healing work as was true of shamans.

One might say that shamanic healers are one step removed from shamanism and that shamanistic healers are two steps removed from these roots. Winkelman’s classification system was found to be remarkably accurate when cross-societal comparisons were made. Shamans were found in societies with no formal classes. With only two exceptions, shamans never were found in tribal groups displaying an administrative political organization beyond the local level. No shamans were found in sedentary societies where the nomadic way of life was absent. Of course, Winkelman’s classification system breaks down when applied to the contemporary scene. Modern-day witches are rarely malevolent practitioners; indeed, they seem to resemble shamanic or shamanistic healers and have little in common with contemporary sorcerers, some of whom espouse an allegiance to satanic or demonic practices.

**Worldviews and Models**

Underlying the procedures of each of these practitioners was an explicit or implicit model of healing that arranged, structured, and systematized the practitioner’s beliefs and assumptions. For example, the allopathic biomedical model holds that physicians confer the “sick role” on certain people who are then treated in an attempt to restore their health. Care by physicians and nurses, diagnosis, medication, surgery, hospitalization, and visits to the physician’s office all occur on the basis of this model.

An obvious benefit of the “sick role” is that patients are relieved from the stress involved in carrying out their regular activities and meeting their ordinary obligations. On the other hand, taking the “sick role” too seriously often deprives patients of the opportunity to engage in self-healing and play a significant role in their recovery.

There are models of healing that differ considerably from the allopathic biomedical model. Allopaths assume that a large dose of medicine is generally stronger than a small dose. Homeopaths believe that a highly diluted solution of medicine is more powerful than an undiluted solution. Allopaths assume that the patient must be physically present for treatment. Practitioners of radionics and radiesthesia believe in "subtle energies" and operate from a different worldview, treating many of their clients at a distance. The allopathic biomedical model is discontinuous; people are either ill and need treatment, or they are well and do not need to be treated. The Chinese medical model is continuous; people exist on a spectrum of wellness, and require treatment to keep from becoming seriously ill.

In general, allopathic physicians cannot be considered shamanistic healers because they do not deal with their patients’ spiritual needs. There are exceptions; I have met a number of allopathic practitioners who are aware of the spiritual dimensions of their patients’ lives, and who engage in spiritual
counseling, discussing the meaning and value of life with their patients. Some talk about the possibility of life after death; others pray with their patients before sending them for radiation treatment or to the operating room. On the other hand, spirituality is an essential part of the shamanic healing model and permeates each of its dimensions; spirituality is also an integral part of the healing models of native priests and mediums. Often referred to as “indigenous healers,” “native healers,” or “traditional healers,” these practitioners handle the health care needs of some 70 per cent of the current world population (Mahler, 1977).

**The Spiritual Component of Healing Models**

For several decades, social and behavioral scientists have been collecting data that reflect the wide variety of humankind’s healing systems. Sicknesses and injuries are universal experiences, but each society implicitly or explicitly classifies them as to cause and cure. In addition, each individual has a belief system, or personal myth, that provides an explanation of how he or she can maintain health and overcome illness.

These personal myths include the spiritual dimension if the social context is supportive. For example, Mexican-American curanderos and curanderas often attribute an illness to an agent whose existence must be taken on faith because it can not be detected with medical instruments. The *mal ojo* or “evil eye” has no place in allopathic biomedicine but curanderismo’s spiritual practitioners claim it is caused by a person staring intently at someone else, usually with envy or desire. Treatment may include forming three crosses on the victim’s body with an egg while the practitioner recites the Apostle’s Creed. An Apache disease, *nitsch*, results from the neglect of nature entities. If an Apache does not properly salute an owl, he or she may suffer from heart palpitations, anxiety, sweating, and shaking. Shamanic prayers and songs are needed to treat this illness which, it is believed, can lead to suicide if it is not carefully managed.

The psychiatrist and psychologist Jerome Frank conjectured that the first healing model was built around the prehistoric belief that the etiology of illness was either supernatural (e.g., possession by a malevolent spirit) or magical (e.g., the result of a sorcerer’s curse). Treatment consisted of appropriate rituals that supposedly undid or neutralized the cause. These rituals typically required the active participation not only of the sufferer but also family and community members. Spirits were felt to facilitate the healing process (Frank & Frank, 1991).

Some perceived causes and cures were seen to operate from the world of nature, utilizing herbs, exercises, and fasts. When shamanic healers and shamanistic healers coexisted within the same tribal group, the former usually directed spiritual healing procedures while the latter took charge of naturalistic remedies. For example, curanderos and curanderas believe that only certain people have the ability, gift, or don to work intensively on the spiritual level. They also believe that this distinction is one of degree rather than kind. The shaman or medium can receive spirit communications but, in their absence, a curandero, curandera, or other practitioner can treat spiritual problems, such as the *mal ojo* or various hexes.

These diversities are important because they allow the differentiation between “disease” and “illness.” I conceptualize “disease” as a mechanical difficulty of the body resulting from injury, infection, or inadequate diet or sanitation. “Illness” is a broader term incorporating social constructs that imply dysfunctional behaviors, mood disorders, or inappropriate thoughts and feelings. These behaviors, moods, thoughts, and feelings can accompany an injury, infection, or imbalance — or can exist without them. Thus one can speak of a “diseased brain” rather than an “ill brain,” but of “mental illness” rather than of “mental disease.”

**Clarifying Spiritual Issues**

In this essay, I have described a typology of spiritual healers, proposed a model suitable for cross-cultural comparison of healing systems, delivered a critique of the DSM-IV’s attempts to bridge cultures and ethnicities, examined Twelve Step programs as an example of a spiritual self-help program, and provided examples of rapprochement between systems from a postmodern perspective. My investigation of various healing models has convinced me that it would be foolish to abandon what is of value in allopathic biomedicine and Western-oriented counseling and psychological therapy. There is abundant evidence that these procedures can be practical and powerful, especially as carried out by competent, caring practitioners. However, I have also observed an emergence of support for the position that Western medicine and therapy has neglected the spiritual aspects of healing to their peril. Allopathic practitioners and conventional therapists need to integrate a concern for the spiritual aspects of life into their practice, and collaborate with indigenous healers in those areas of the world where Western practitioners are virtually absent or are regarded with suspicion.

Charlene Westgate (1996) summarized pertinent literature on “spiritual wellness,” and identified four dimensions in the integration of spiritual perspectives into medical practice:

1. meaning and purpose in life,
2. intrinsic values,
3. transcendent beliefs and experiences,
4. community relationships.

Westgate located 16 empirical studies, 9 of which yielded statistically significant results demonstrating lower levels of depression in individuals who manifested one or more of these four dimensions. Of special interest to students of cultures, religions, and ethnicities was the fourth dimension. Westgate noted that “the spiritually well person also lives in the community — praying, chanting, worshiping, or meditating with others. This community not only provides a sense of shared values and identity but also offers mutual support and an avenue for community outreach” (p. 33). In commenting on young members of African American churches in the United States, Aimee Howd (1999) observed, “There’s something about a faith community that seems to make a difference in their lives and that seems to be the church” (p. 18).

It is apparent that psychological therapists and counselors need to be aware of the spiritual backgrounds of their clients in multicultural societies, such as the United States. There is ample evidence that, in general, individuals with internalized spiritual and religious values score higher on measures of mental health than those who consider...
themselves non-religious, those who only give lip service to religious values, or those whose religious commitment takes the form of adherence to fanatical cults or uncompromising belief systems. A great deal of this value appears to emanate from the social support and community activities generated by fellow believers and participants. Other research data indicate that religiously-oriented people have higher scores on tests of mental health than do non-religi-ously oriented individuals (Wulff, 1991, pp. 504-505, 635).

H.G. Koenig (1999) surveyed the literature, concluding that the thoughts and actions of religious orienta-
tion seem to enhance health. Individuals who attend religious services at least once a week live longer than those who go less often, even after such factors as alcohol con-
sumption and social support are parceled out. As they grow older, those who worship weekly are more likely to live on their own and be free of disabilities. High blood pres-
sure and heart attacks are less common, hospitalization is less frequent, and when religiously-oriented people are hospitalized they return home more quickly.

These data refute scoffers (e.g., Ellis & Yeager, 1989) who claim that religious beliefs, spiritual practices, and transcendent experiences endanger one’s mental health. But more to the point is R.P. Sloan and B.T. Powell (1999), who claim that such variables as age, gender, education, ethnicity, and socioeconomic status have not been given adequate consideration in most of the studies. In addition, the living situations of the groups studied prevent them from engaging in such lifestyle behaviors as smoking, alcohol consumption, and psychosocial stress, making it difficult to draw conclusions regarding causation. Sloan and Powell conclude, “it is premature to pro-
mote faith and religion as adjunctive med-
ical treatments. However, between the extremes of rejecting the idea that religion and faith can bring comfort to some people coping with illness and endorsing the view that physicians should actively promote reli-
gious activities among patients lies a vast uncharted territory in which guidelines for appropriate behavior are needed urgently.”

Given that this territory is “uncharted,” what position should psychological thera-
pists and counselors take in regard to spiri-
tual issues with their clients? It is my opin-
ion that mental health practitioners need to have well thought-through opinions of their own, and to inform clients of those opin-
ions if the therapeutic situation requires it. Therapists need to collaborate with clients in consid-
ering alternative actions on spiritual issues, and help them to realize the likely consequences of their actions. The final decision, however, is the responsibility of the client. The expertise of the therapist needs to shape the course of therapy, and this includes helping clients formulate a set of values, morals, and ethics that will guide them through life. Such critical life issues as abortion, birth control, sexual practices, competitive business activities, and partici-
pation in military service are some on which therapists and clients might disagree, or which might cause the therapist to bring in a member of the clergy as a co-counselor. In any event, it is the client’s growth toward autonomy and mature functioning that is the goal of therapy, not the conversion of the client to the therapist’s worldview or religious orientation.

Frank Barron (1963) has concluded that religion, at its best, “is not a dogma, not a set of forever-prescribed particularities, not static abstraction at all, but a formative process with faith as its foundation and vision as its goal — faith in the intelligibili-
ty and order of the universe, leading through necessary difficulties of interpreta-
tion and changing meanings to moments of spiritual integration which are themselves transient” (p. 169). African American churches, representing some 20 million members, exemplify this treatment of the “whole person”; most congregations are active in providing community services ranging from child care to substance abuse prevention (Howd, 1999).

In the meantime, Thomas Szasz (1990) wryly comments that humankind is plagued by the fear of diversity, a fear that expresses itself in an insistence on monotheism, monogamy, and monomedicine. No one culture or ethnic group has a right to impose its concepts of disease, illness, etiology, or treatment upon another culture or ethnic group. The only possible exception would be if a scientifically validated discovery is made in one society that could be beneficial in another society. Even so, that discovery should be displayed, explained, but not imposed.

In the early 20th century, the mental hos-
pitals in the southern part of the United States were filled with pellagra victims. They suffered from diarrhea, skin inflam-
ations, and — as the disease progressed — psychotic episodes. Eventually it was dis-
covered that the disease resulted from poor nutrition and that vitamin C was an effective treatment. Thousands of patients who had shown severe emotional disturbances were given vitamin C and improved to the degree that they could be released. Western cultures are justified in sharing these kinds of data with other cultures and encouraging them to take appropriate action.

Dogmatic religious positions often block interfaces between allopathic treatment and that of traditional healers. In the Lincoln Community Health Center program ori-
ginated by Pedro Luiz, formal rather than informal cooperation with the spiritists was blocked. A major factor was the opposition of the Roman Catholic Church, which claimed that spiritism was the work of the devil (Torrey, 1986, p. 168). Denny Thong’s “family ward” in Bali was elimin-
ed by medical bureaucrats who felt that the incorporation of traditional healers was an affront to Indonesia’s attempt to burnish its image as a modern state. Szasz’ identifica-
tion of the hegemony of “monotheism” and “monomedicine” rings true, even in an era of postmodernity.

The ways in which spirituality manifests itself will differ from culture to culture. At its best, spiritual experience can be an impe-
tus for growth, development, and the expression of a person’s or a group’s full capacity for love and service. In one survey, the individuals who reported having had deep “mystical” experiences scored higher than any other group on a standard test of psychological well-being (Greeley, 1975). At its worst, however, spiritual experience can lead to rigid, self-righteous attitudes and the persecution of those whose beliefs and behaviors deviate from a particular dogma or creed. The doctrines of some Western and non-Western religious groups oppose allopathic biomedical care; several cases continued on Page 18
FEATURE ARTICLE

Anomalous Phenomena, Spiritual Beliefs, “Medical Miracles,” and the High Risk Model of Threat Perception

Ian Wickramasekera, PhD, San Francisco

An aged man is but a paltry thing,
A tattered coat upon a stick unless
Soul clap its hand and sing, and louder sing
For every tatter in its mortal dress
(W.B. Yeats)

Abstract: This article reviews a body of empirical research done in the last 30 years pertaining to parapsychology, psychophysiology, somatization phenomena and spirituality guided by the High Risk Model of Threat Perception (HRMTP). This work has implication for the psychophysiology of anomalous phenomena, spiritual beliefs, and health care costs.

The High Risk Model of Threat Perception and Anomalous Phenomena

As we individually age, and as the United States population ages, while mind and body begin to fall asunder, it seems increasingly important to salvage some meaning from the story of our lives. It seems particularly important to find some order at least in those rare but exceptional human experiences that appear to transcend the laws of nature. Exceptional human experiences like empathy, love, the placebo effect, miraculous healing, precognition, telepathy, and even claims of reincarnation suggest that at least our consciousness may transcend time and space. Since 1980 in Virginia, and in the last 6 years in California with my associate, Stanley Krippner, a distinguished parapsychologist, I have been quietly pursing a program of empirical and now clinical research on anomalous or parapsychological phenomena guided by my High Risk Model of Threat Perception (HRMTP). Access to the exceptional people we have been privileged to study could never have occurred without Dr. Krippner. The HRMTP (Wickramasekera, 1979, 1988, 1994, 1998) seeks to go as far as natural science explanations can take us in understanding anomalous phenomena. This HRMTP was first presented at the Association For Applied Psychophysiology and Biofeedback in 1979 to explain stress related disorders, but it also has implications for the study of anomalous phenomena. The model specifies with operational behavioral, verbal report, and physiological definitions the conditions under which psi phenomena will be subjectively reported and observed with the greatest frequency and intensity. For example, two predisposing conditions specified by the HRMTP to predict anomalous phenomena are high trait hypnotic ability and high lability of the autonomic nervous system (ANS). High trait hypnotic ability is associated empirically with the ability to rapidly reduce surgical pain and block memory and alter mood. The ANS is that part of our biology that sustains the basic functions of life (respiration, digestion, heart beat, etc).

It also appears that in people high on trait hypnotic ability cognition and emotion have strong impact on their autonomic nervous system (ANS) if they are aware of it or not. Hence, during stress, there can be incongruence between their verbal report and their ANS measures. This forked tongue can produce chronic dysregulation of their ANS. These people may feel calm but their ANS reports panic. Carl Rogers called this incongruence, and it appears that we can now measure it and predict it. In 1986 at an international conference on parapsychology and human nature in Washington, D.C., I presented data showing that people who are high on trait hypnotic ability are much more likely to verbally report precognitive, telepathic and other psi experiences (Wickramasekera, 1979, 1986).

Trait hypnotic ability is stable across time (t = .71, over 25 years) and a normally distributed exceptional human ability that appears to be also cross culturally stable and partly genetic in studies of monozygotic versus dizygotic twins (Hilgard, 1965; Morgan et al., 1970; Perry et al., 1992; Piccione et al., 1989). High trait hypnotic ability measured with the Harvard Group Scale occurs in 10% - 15% of the general population and is normally distributed in large samples from Denmark, Germany, Spain, Italy, United States, Canada, Australia (Perry et al., 1992) are now even in Korea (Del Rosario, 2001). It appears that mean trait hypnotic ability is not different in men and women. Hypnotic ability is known today to be relatively stable (Perry, 1977), but I spent 15 years in the first part of my career looking for reliable methods to increase trait hypnotic ability (Wickramasekera, 1977). I hypothesized that prolonged sensory deprivation or sensory restriction would increase hypnotic ability because “enlightenment” had first come to the founders of the world’s great religion under conditions of sensory restriction. For example, Christ and Mohammed were first enlightened in the sensory restriction of a desert while the Buddha and Moses found enlightenment in the sensory restriction of prolonged meditation or the aridity of a mountain top. It is now a replicated finding that sensory restriction can temporarily increase hypnotic ability (Barabasz, 1982; Sanders & Rehyer, 1969; Wickramasekera, 1969, 1970) and so can biofeedback (Wickramasekera, 1977, 1999).
In 1986 at an international conference in London, England on Psi and Clinical Practice, I proposed the hypothesis that “unassimilated” subjective psi verbal reports (anomalous experiences) are measurable risk factors for the presentation of chronic threat related somatic and psychological symptoms resistant to standard medical and psychiatric therapy. I also proposed that these psi driven somatic symptoms may be driving up health care costs in select patients who are mainly unidentified high trait hypnotics (Wickramasekera, 1986b). I hypothesized that many chronic psychophysiological disorders (e.g., migraine headaches, primary insomnia, irritable bowel syndrome, TMJ, chronic pain) resistant to standard medical and surgical therapy and even to biofeedback, cognitive behavior therapy and hypnosis management will be resolved if we provide these high trait hypnotic patients with an invitation to talk about, reframe, digest, assimilate and excrete these distressing anomalous perceptions and memories. Perceptions and memories that previously they had been afraid to verbalize because they thought they would be regarded as crazy or possessed. Our data to date (Wickramasekera, 1979, 1986, 1989) encourages us to invite all patients to discuss any of these experiences they may have had, but we are particularly confident that people who test in the high (9-12) range of the Harvard Group Scale or above the 75% on the absorption scale are very likely to have had psi experiences. When I offer this invitation to talk about psi in an initial clinical interview to these high hypnotic ability scoring patients, many are often flabbergasted because they have, to date, never discussed these very private perceptions or experiences with even their closest family or friends. They imagine that I am reading their mind. I then point out that they have had, are having or are likely to have again in the future. These people are encouraged to reframe these anomalous experiences as “wake up calls” or invitations to spiritual growth or enlightenment.

**Psychophysiological Research on Channelers**

The other arm of this empirical research agenda is the use of the same HRMTP to study people who claim to “channel” or to verbally or behaviorally express the opinions or skills of dead artists, philosophers or warriors. For example, recently we psychophysio logically studied 2 of these people in Brazil and 8 such people in the United States before, during, and after they “channeled” or “mediated”. One of the Brazilians claimed to “channel” several great artists like Da Vinci, Cezanne and Van Gogh. The other Brazilian was a high priest in the Candomble or “voodoo” religious group. One of our general findings with psychometric and behavioral tests is that these “channelers” report that they feel as if the information they provide during channeling or meditation flows out of them effortlessly, intrusively, or “involuntarily”. Some even claim amnesia for the information they provide while channeling. This perception of “involuntariness” is interesting from the viewpoint of over 200 years of clinical and empirical hypnosis research. Because there is consensus among all empirically based hypnosis researchers, regardless of their theory of hypnosis, that the perception of “involuntariness” is the “acid test” of true hypnotic ability as opposed to mere voluntary compliance with suggestions. The perception of “involuntariness” is defined to be episodic changes in motor behaviors, emotions, memories, sensations, and moods that occur effortlessly or by themselves.

In the domain of religion and art, the same perception of “effortlessness” or “involuntariness” has been reported for over 3,000 years, and it has been called a state of “grace” or “inspiration” (Wickramasekera, 1988). The claim is that “God” is working through me or that my “muse” is speaking or writing through my mouth or holding my pen or my brush. For example, the bible is claimed to have been written in such and “inspired” state. More recently, peak achievement or optimal functioning groups have rediscovered the same “wheel” but are using the labels “the flow” or “the zone” to describe this perceived “involuntary” state (Cooper, 1998; Csikzentmihalyi, 1990). The philosopher Santanaya once said those who don’t know history are doomed to repeat it. The same “involuntariness” if associated with fear is termed “intrusive images” in Post Traumatic Stress Disorder or possession by the devil in a religious context.

From our very preliminary study of these “channelers,” we have found that in addition to their propensity to report this perception of “involuntariness” during channeling these people are also high on psychometric tests of (1) trait hypnotic ability, (2) trait absorption ability and (3) dissociation ability. They appear to have very (4) labile autonomic nervous systems (e.g., high EDR and high heart rate reactivity) and are also high on (5) repression. Repression or “self-deception” is measured with the Marlowe Crowne Scale. We have also found that these channelers are very (6) low on negative affect measured by verbal psychometric tests (Krippner, Wickramasekera & Winstead, 1998; Wickramasekera, 1998). These six psychometric and physiological findings in channelers are all risk factors for psychophysiological dysregulation according to the HRMTP (Wickramasekera, 1979, 1998). Hence, psychophysiological incongruence or forked tongue is hypothesized to be a risk factor for disease and even death in the general public.

Some of these channelers appear to practice during mediation a form of “kundalini yoga” (Greyson, 2000) that we found to be associated with significant sympathetic activation. Sympathetic activation also occurs during sexual arousal and particularly at orgasm (Masters & Johnson, 1966). This form of sympathetic activation during meditation is very different from transcendental meditation (Wallace, 1970; Wallace & Benson, 1972) or Benson’s relaxation response (Wickramasekera II et al., 1999). I am currently studying in some of these channelers, the long term physical and mental health consequences of the practice of this type of “kundalini yoga” meditation. We are also doing analyses to learn if their spiritual beliefs are correlated with better health outcomes as some studies have found (Koenig, 1998).
The HRMTP and Medical Miracles

We have used the HRMTP to study another group of people (N=83) who are objectively documented “medical miracles” or spontaneous remitters (Hirshberg & Barach, 1995) and many of them claim that prayer or spiritual exercises were importantly associated with their miraculous recoveries from life threatening disease (Levin, Wickramasekera, & Hirshberg, 1998). In this group, we found that internal religiosity was positively correlated with high trait absorption and negatively correlated with external religiosity. Hence, in this sample, the more intrinsically religious a person was the higher would that person’s score be on the trait absorption test.

Intrinsic religiousness is associated with tolerance, openness and an internal as opposed to an institutionalized religiosity (Allport & Ross, 1967; Donahue, 1985) and external religiosity with racism and prejudice. Since we originally found this interesting correlation between trait absorption and internal religiosity in a small and very unusual group of people who appeared to be “medical miracles,” we did not know if it would replicate in the general population and in a larger sample. One of my PhD students has recently found that in a larger community sample of (N = 261) normal people high trait absorption ability is also positively related to internal religiosity and negatively correlated with external religiosity (Prohaska, 2001).

The replication of this relationship between internal religiosity and high absorption ability in a normal community sample is very important because both high and low, but not moderate absorption ability (a non-linear relationship) have been associated during stress with exceptional psychophysiological outcomes like chronic pain, insomnia, anticipatory nausea and vomiting, immune changes and somatiform symptoms, etc. (Challis & Stam, 1992; Gick et al., 1997, Gergerson et al., 1996; Kermit et al., 2000; McGrady et al., 1999; Perlstrom et al, 1998; Roche & McConkey, 1990; Shea et al., 1993).

Absorption ability appears to be a stable normally distributed human trait that is modestly but reliably correlated with trait hypnotic ability, and has major health con-

sequences during stress (Wickramasekera et al, 1996) and also for recovery from stress, if absorption is recruited by positive religious beliefs.

Conclusion

Hence, this network of empirical findings to date, on the prediction of who will report frequent psi experiences, the personality features and ANS physiology of “channelers,” a variety of negative and positive psychophysiological changes that have health consequences, and now the study of the internally religious and of “spontaneous remitters” (medical miracles or self-healers) are consistent with predictions from the High Risk Model of Threat Perception and the central role of trait hypnotic and absorption ability in that (HRMTP) model.

References:


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A Cross-Cultural Approach to Spirituality and Health Care

have been documented where patients, including children, have died because of this harsh dictum. Some two dozen religions have been implicated in religion-motivated medical neglect, and about 140 instances of U.S. fatalities have been documented in which treatment by religious rituals was implemented instead of medical care (Asser & Swan, 1998).

Over the years, I have observed and studied native healing practitioners on six continents. I have observed how the models of health and healing adhered to by these indigenous healers pay special attention to spirituality and spiritual issues. Spirituality implies awareness of broader life meanings that transcend the immediacy of everyday life. If allopathic biomedicine, counseling, and conventional psychological therapy could participate in this awareness, health care in North America would more closely reflect the wholeness and integrity of individuals as well as the meaningfulness of interactions with their families and their societies.

**References**


Abstract: While the scientific study of spirituality has grown considerably in recent years, there exist several broad areas of ambiguity in the emerging empirical literature which challenge the meaning and veracity of such research. This paper provides an overview of some of the more salient philosophical and methodological problems involved in investigating spirituality within a conventional scientific framework. The paper concludes with four general recommendations to help facilitate the development of a legitimate science of spirituality.

The Scientific Study of Spirituality: Philosophical and Methodological Considerations

Scientific and professional interest in spirituality has increased considerably in recent years. This is evidenced in three ways. First, there has been an appreciable amount of empirical research completed exploring the relation of spirituality to multiple aspects of human functioning (e.g., Koenig [1999] cites the existence of over 1,100 studies involving religion and spirituality). Second, there has been a rise in formal efforts to integrate spirituality into conventional professional practice as reflected in the publication of a notable number of professional texts (e.g., Miller, 1999; Richards & Bergin, 1997; Shafranske, 1996) and in the emergence of educational programs, especially within medicine (e.g., Levin, Larson, & Puchalski, 1997). Third, the most current substantive revisions to accepted diagnostic nomenclature have included their expansion to incorporate problems associated with spirituality (e.g., DSM-IV Religious or Spiritual Problems, APA, 1994; Lukoff, Lu, & Turner, 1998).

Indeed, given these developments, it appears that spirituality is an aspect of human functioning that has been assimilated into the scientific and professional “establishments”, something of which is truly impressive when one considers its marginalized standing in the history of science (e.g., MacDonald, 2000).

Notwithstanding the interest and the appearance of a coherent movement towards the inclusion of spirituality in science and practice, critical inspection of the literature reveals several areas of murkiness raising questions regarding the fundamental veracity of spirituality research. For example, though meta-analyses and critical literature reviews have suggested that spirituality may be related to health and well-being (George, Larson, Koenig, & McCullough, 2000; Seybold & Hill, 2001), there is some acknowledgment that such analyses apply to the research on religion specifically and not spirituality per se. (e.g., George et al., 2000). Further, even when we just focus on religiousness, divergent patterns of association to health have been found as a function of “soft” (e.g., psychometric test) versus “hard” (e.g., behavioral observation) measurement methodologies (e.g., Gartner, 1996). Finally, and most problematically, there seems to be little consensual agreement as to the definition/conceptualization of spirituality itself (e.g., there are well over 100 independently derived measures of spirituality and related constructs; see MacDonald, LeClair, Holland, Alter, & Friedman, 1995; MacDonald, Kuentzel, & Friedman, 1999), and there is a paucity of cumulative lines of research employing comparable scientifically validated instruments (e.g., MacDonald, Friedman, & Kuentzel, 1999).

So what factors and obstacles are responsible for the ambiguities in the scientific investigation of spirituality? How is science to think of spirituality? Does spirituality have a legitimate place within science? The purpose of this paper is to overview some of the endemic challenges to the scientific investigation of spirituality.

Philosophical Challenges to the Scientific Study of Spirituality

Scientific Naturalism and the Transcendent. Historically, spirituality and science have been viewed as incompatible due to foundational differences in metaphysical assumptions about the nature, source, and meaning of knowledge—science subscribes to the assumption of naturalism (i.e., the belief that all extant phenomena can be explained by natural objects, processes, and mechanisms) and advances sensory empiricism and social consensus as the means through which to generate and/or validate knowledge.

Conversely, spirituality (or more accurately religion) involves the assumption of transcendentalism (i.e., the belief that all extant phenomena are the product of a knowledge,
being, and/or energy which resides beyond the natural world) and advocates the experience of the “sacred” (in Christian terms) or the “formless” (in Buddhist terms), as the modality through which to acquire true knowledge.

Has this incompatibility been addressed? Slife, Hope, and Nebeker (1999) note that despite the increase in studies on spirituality, there has been little attention paid to such points of incongruence. In fact, they argue that conceptions of spirituality have been modified to better fit the scientific paradigm without touching upon, let alone resolving, this problem of metaphysics. They further assert that such alterations run the risk of undermining the credibility of spirituality studies. We agree on all three accounts.

In order for spirituality to gain a place within science, it must be shown to have both construct validity and incremental validity. That is, it must be shown, at minimum, to be an aspect of human functioning that is not, and cannot be, explained as a function of another variable or factor. In order to do this, the matter of transcendence needs to be fully explored within science since it is the notion of transcendence that is most often conceived as the core aspect of spirituality. Ultimately, such exploration will need to entail a critical examination of the naturalistic assumptions underlying science.

Unfortunately, given the developments seen to date, there is little evidence of effort to determine the place of transcendence within scientific thought. Instead, what we are witnessing is the separation of substantive components of spirituality from its functions (e.g., Pargament, 1997) and an increasing reduction of spirituality and religion to simple observable naturalistic mechanisms. For example, George et al (2000) propose that religion seems to impact health through increasing healthy behaviors, providing avenues for social support, and aiding in the development of a sense of coherence or meaning in life). In order for a viable and authentic science of spirituality to develop, issues around the metaphysics of science and spirituality need to be explored. Otherwise, spirituality runs the risk of losing its transcendent connotations and becoming a construct whose primary value to science is as a mediating psychosocial variable in facilitating human health.

**Spirituality, Language, and Theory Development.** Few individuals would disagree that spirituality is something that eludes accurate and complete description through conventional language. In fact, examination of religious and spiritual literature reveals that spirituality is generally viewed as existing outside the purview of language (e.g., the Diamond Sutra in the Buddhist tradition and the Tao Teh Ching in the Taoist tradition both make explicit statements about the limitations of language). If this is so, then how can one study it scientifically? Science is an empirical social epistemology that relies extensively on the codification of experience into language for the purposes of communication and discourse on the assumption that there can exist some literal correspondence between a symbol/word/expression and aspects of reality. By extension, if language is insufficient to simply describe spirituality, then how does one devise a meaningful theory of spirituality? Since theories are generally higher-order internally consistent cognitive abstractions/symbol systems, they seem like they would be even more limited in their ability to capture and explain spirituality. Akin to the problem of transcendence, difficulties around the inadequacy of language have not been given due consideration by most researchers.

**Spirituality, Religion, and Culture.** As pointed out by Zinnbauer, Pargament, Cole, Rye, Butter, Belavich, Hipp, Scott, and Kadar, (1997), the differentiation of spirituality (defined typically as an experiential relationship with some form of higher power, intelligence, or being) and religion (described as relating to beliefs, doctrines, and practices associated with membership in religious institutions) as separate constructs is a relatively recent phenomenon. This distinction, however, is somewhat confusing since the terms are used interchangeably in both past and current literature. Fortunately, there is some recognition of this confusion and efforts have been made to more clearly delineate the relationship between these concepts (Hill, Pargament, Hood, McCullough, Swyers, Larson, & Zinnbauer, 2000; MacDonald, 2000; Zinnbauer, et al. 1997).

Notwithstanding these efforts, which, incidentally, all conclude that there is some points of overlap and some of uniqueness between spirituality and religion, another problem lurks. Both spirituality and religion are typically defined in Judeo-Christian terms (Lukoff, Turner, & Lu, 1993). Cultural differences in religious and spiritual outlook have not been accommodated very well in existing conceptualizations of spirituality (Gorsuch & Miller, 1999).

**Measurement Challenges to the Scientific Study of Spirituality**

With the overview of some dominant philosophical considerations completed, we want to quickly touch upon three challenges specific to the measurement of spirituality within a conventional scientific framework.

**Determining the Content Domain.** One of the largest challenges facing the measurement of spirituality concerns establishing what spirituality is, and what it is not. The delineation of the content domain of spirituality is complicated, however, by the problems cited above (e.g. should all religions and/or religious concepts be incorporated into the realm of spirituality and should we just focus on readily observable aspects of spirituality?).

**Operationalization.** Once the content domain has been established, the matter of operationalization is the next major obstacle. Here we find issues concerning whether spirituality is best operationalized as a qualitative versus quantitative construct (e.g., Emmons, Cheung, & Tehrani, 1998), or as self-report versus behavioral observation (e.g., Gartner, 1996).

**Establishing Construct Validity.** Upon developing a measure of spirituality, the monumental chore of determining its construct validity then presents itself. How can validity be truly established for a measure which is claiming to assess something which is highly experiential and known to undermine language? What could serve as an appropriate criterion by which to properly validate a measure of spirituality? Nested within this latter question is another issue-
how can any measure of spirituality accurately differentiate persons known to be authentically spiritual from those who are not but just present themselves as such? As we have discussed in previous articles (e.g., MacDonald, et al., 1995), these questions place considerable constraints on the confidence researchers can have in measures of spirituality.

Conclusion

Given what has been stated, it should be apparent that if a legitimate science of spirituality is to take root and flourish, there are several problems that need to be addressed. In this vein, we strongly recommend the following: (a) scientists need to open dialogue about the metaphysics of science and spirituality with an eye towards devising more copasetic epistemological assumptions which allow for the inclusion of transcendence and minimize the exclusive reduction of spirituality into naturalistic terms, (b) scientists must identify the limits of language and attempt to work with language in a way which does justice to the complexities of spirituality, (c) investigators need to clarify the relationship of spirituality to religion and examine how culture impacts our conception of these constructs, and (d) appropriate criteria by which to confirm or validate conceptions of spirituality need to be established.

References


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The Psychophysiological Aspects Of Prayer

Jeffrey R. Cram, PhD

Abstract: The author and a colleague investigated the non-local effects of prayer on human physiology. They utilized a double-blind crossover model to study the effects of a healer praying for research subjects located 250 miles away. The prayer condition showed no impact on autonomic variables including heart rate, hand temperature and GSR. The prayer appeared to lower surface electromyography readings measured at several of the sites labeled as “chakras” in Hindu yonic maps of the human body. The author encourages the research community to remain mentally open to anomalous phenomena, and to apply the tools of psychophysiological research to such phenomena.

Non-Local Effects of Prayer

How does one go about studying the non-local effects of prayer? That is really the question! Answering the question is relatively easy. Asking the right question is always the hardest part. So, when I was asked to study the psychophysiology of the non-local effects of prayer, I had some pretty hard decisions to make.

“Non-local effects of prayer” signify the effects of individuals praying in location A on the health and physiology of individuals who are located at a distant point B. In many research studies, the individual being prayed for is blinded or unaware that he or she is being prayed for, or is unaware at which time the prayer is taking place (Dossey, 1993, 1999).

The choice of what to measure, and where to measure it weighed heavily on my mind as I undertook this research. Should I perceive the non-local effects of prayer from a psychophysiological perspective as I would in stress profiling? In other words, should I study what I have always studied, and in the way I have always studied these things? Or does the nature of the question invoke a new way of seeing? After all, the independent variable (IV) was outside of our normal sensory channels. We would not be able to see, touch or feel the prayerful efforts of an individual 250 miles away. And since this study was going to be a non-sensory type of study, should we expect the psychophysiology of the receiver of the prayer to behave in the same fashion as when the IV is a sensory event?

Since I was going to study prayer, my judgment on this lead me in the direction of trying to think how a rishi (a Hindu sage or man of God) might think, and then to translate that into the nature of how to monitor the effects of prayer. This type of thinking eventually allowed me to consider that since the IV was going to be non-local and meta-physical in nature, maybe the dependent variables (DV) should also have a metaphysical flavor as well. So, I decided to study the more metaphysical locations on the human body. Those sites are known as the chakras in the Hindu tradition. Maybe the non-local effects of prayer could be sensed or monitored there. Valerie Hunt (1999) certainly found meaningful electrophysiological events at these sites.

Biological Monitoring

I had eight channels of information that I could record with. I decided to monitor hand temperature, GSR and heart rate. This would allow me a bridge to more traditional psychophysiological research. With the five remaining channels, I decided to monitor the sEMG activity at a number of chakra sites: The third eye (a wide frontal placement); The medulla oblongata or seat of the ego (a wide mastoid to mastoid placement); The cervical chakra (bilateral C4); The heart chakra (bilateral at T6) and The lumbar chakra (bilateral at T12).

Research Design

To make this all work, we decided to have subjects sit in an unsupported position on a comfortable stool, while they looked out a window at a beautiful mountain scene. Once connected to the electrodes, subjects would sit for twenty-one minutes. The first seven of these minutes would be considered baseline levels, with two seven-minute periods for the prayerful intervention. In this way we could see a trend of activity.

The experimental paradigm for this type of study needed to be an irrefutable one. The experimental design with the greatest integrity is the randomized double blind cross-over design. In this design, the subject acts not only as a control for another party, but also as his or her own control. The subject would sit twice, once in a control condition, and once in an experimental condition. In essence, we would randomly assign subjects to one of two tracks. Track A would be prayed for in the morning recording, but would sit without prayer in the afternoon. Track B would experience the opposite order of events.

The individuals selected to carry out prayer were experienced healing practitioners. The healers were instructed to view the name and photograph of a subject located 250 miles away, to center themselves and to become as a channel for the Divine love of God which they would send onto the subject. No specific healing energy was sent. Only that God’s will be done. The healers followed either the LeShan Technique or the Reiki Technique for healing prayer.

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Results

The results of the study were quite intriguing. All of the traditional psychophysiological measurements showed a nice habituation effect. The hands warmed over time, the heart slowed over time, and the GSR values (SCL) increased over time. These trends occurred whether the subject had been prayed for or not. There was a significant period effect, but no interaction with the prayerful intervention. As I had suspected, the traditional autonomic measures were just not up to the task.

The main outcome of this rather unique study was found in the interaction between the Experimental Condition (pray or non-prayer) x period (baseline, test1, test2) x time (7 minutes). The statistics on this interaction were an astounding p<.000008. The condition by period interaction is shown in a graphic labeled Figure 1 below. As you might have guessed, the Sequence 1 subjects were prayed for in the morning, while the Sequence 2 subjects were prayed for in the afternoon. As one can see, the overall sEMG activity went from around 10 microvolts by the end of the prayerful time. This is a significant muscle relaxation response, dropping from around 16 microvolts at baseline to about 8 microvolts by the end of the prayerful time. This is a significant muscle relaxation effect.

Discussion: The Healing Power of Prayer

Many people believe in the power of prayer. Yet others do not. Still others say that one should not use science to study religious events. But this type of research continues. Larry Dossey (1993), in an appendix to his book Healing Words, lists over 200 studies conducted on the effects of prayer. A recent review of randomized controlled trials of distant healing in humans, published in the June 2000 issue of Annals of Internal Medicine, reviews 23 research trials involving 2,774 patients. Thirteen of the studies (57%) showed statistically significant results. The most often cited studies include those of: Byrd (1988) who found that prayed-for coronary care patients required less ventilatory support, antibiotics and diuretics; Harris, Gowda, et al (1999) who found that prayed for coronary care patients improved on a summed and weighted coronary care unit score; and Sicher, Targ, Moore, & Smith (1998) who found that prayed-for AIDS patients had fewer new AIDS-defining illnesses, less illness severity, fewer physician visits and hospitalizations, and improved mood.

In the case of this study, the primary effect was found in the “heart chakra” area. According to ancient traditions, the heart chakra is the receiving center for prayer. Perhaps we should study the maps given to us by the ancient writings to guide us in our investigations. As psychophysicologists, we need to be open to these phenomena. We need to consider how we can better use our instruments to document these extraordinary sensory experiences. Perhaps by validating what we cannot see, hear or touch, we can refine our extra sensory experience and learn to grow more in these areas.

References


Footnotes:

i For full methodological detail on the prayer study discussed here, please refer to Wirth and Cram (1994).
Transcendental Consciousness as Self-Referral Awareness: The Platform for Psychophysiological Homeostasis and Perfect Health: Notes from a TM teacher

Russell Hebert, MA

Abstract: The article presents a current view of the health-related applications of Maharishi Mahesh Yogi’s Transcendental Meditation (TM) program, as noted by a TM teacher and researcher. The writer traces the development of research in the medical field concerning the role of TM as a preventive and corrective strategy for promoting homeostasis. Current physiological feedback loop models and speculative quantum theoretical ideas are considered as mechanisms that mediate the holistic impact of TM on health.

The Changing Paradigm of Health Care

Mark Skellenger, a veteran vascular surgeon at Houston’s St. John’s Hospital, scratched his head as he gave the good news to my mother: “Among thousands of patients I have never before seen this. There has been a decrease in arterial plaque in your carotid artery doppler test.” I made a mental note to send him the recent article in the journal Stroke (Castillo-Richmond, Schneider, Alexander, Cook, Meyers, Nidich, Haney, Rainforth, & Salerno, 2000) that had shown a decrease in carotid intima media-thickness in a study of sixty subjects practicing the Transcendental Meditation (TM) technique in California. My father, who at that time had practiced TM for one year, was intrigued to tell me that his optometrist had informed him that his vision was improving with age. In my own TM experience, the body’s natural defense and auto-regulation mechanisms reliably throw off unwanted influences (viral, environmental, emotional) within one or two meditation sessions, before imbalances have a chance to take root and cause problems in mind and body.

These personal anecdotes have a common denominator. They represent everyday evidence of the body’s profound ability to throw off stress and auto-regulate. If a person meditates twice a day, the body is optimized in the ability to self-adjust in the direction of normal functioning or homeostasis. I learned about homeostasis thirty years ago in Physiology 465 through required reading of Walter B. Cannon’s The Wisdom of the Body (Cannon, 1932). As the following article shows, TM and quantum biology are giving a new boost to the concept of homeostasis.

The self-repair/auto-regulation model is receiving wider acknowledgement in the medical community, as evidence mounts concerning the role of stress in health. In 1999 the University of Texas Medical School at Houston sponsored an alternative medicine conference for physicians, titled “Modern Science and Ancient Wisdom.” The opening speaker, Leland Kaiser, stated that a coming fifth wave will soon re-figure American healthcare. Beyond the hunter-gatherer, agricultural, industrial, and information waves, he foresees an impending “consciousness wave,” which he believes will re-integrate science and spirituality. Under this wave, he said, integrative medicine will be the norm in American society. He pointed to the growing demand for prevention-oriented health care and to increasing government grants for prevention. In this vein the National Institutes of Health recently issued a 12 million dollar grant to the Center for Preventive Medicine in Fairfield, Iowa to extend the published findings that TM reduces hypertension (Schneider, Staggers, Alexander, Sheppard, Rainforth, Kawondi, Smith, & Gaylord-King, 1995). Physicians want to know more about TM and related therapies as evidenced by the explosive growth of Continuing Medical Education classes on the subject.

Recently I was invited by the student-sponsored Wellness Advocates Club to speak about TM to the Baylor Medical School faculty and staff. What was a TM teacher doing speaking at a prestigious medical school? I learned from the organizer that the present generation of medical students wants to be educated in alternative therapies, and TM is regarded as the system with the most extensive scientific backing. She was pleased to hear from me that the American Association of Physicians Practicing the TM technique topped 30,000 members this year. I explained that doctors and lawyers are our biggest client base, because of the high stress component in their professions.

Health Insights

In the Baylor lecture I described a scene with Maharishi Mahesh Yogi on a houseboat lecture hall in Kashmir India in 1970. As usual Maharishi had surrounded himself with scientists to inspire them to consider his thoughts on the health and well being of
society. He began talking about how TM affects the immune system. Even though I considered myself knowledgeable in physiology and psychology, I noticed myself wondering if this link would ever be proven. At that time the role of the stress hormone cortisol in compromising immune function had not been discovered, much less the role of cytokines, the mentally released messenger molecules that interact with the immune system. I pointed out to the Baylor audience that in the adjacent Texas Medical Center library there are now five journals, including the *Journal of Psycho-neuro-immunology*, exclusively dedicated to exploring the influence if mental states on the immune system.

In reviewing my notes from Kashmir I was recently reminded of how insightful and predictive Maharishi’s explanations have proven to be. “Transcendental consciousness or self-referral awareness” he said “is a field of increased orderliness which when experienced in meditation brings order to the multiple physiological processes in the body.” In this vein, subsequent research has shown that the stress hormone cortisol, the enemy of the immune system, goes down and stays low after TM (Jevning, Wilson, Davidson, 1978). Both the Maharishi’s teachings and empirical research show that stress builds in the mind and body because we do not give the physiological homeostasis mechanisms adequate opportunity to self-adjust or auto-regulate. TM provides ideal conditions for the natural restorative powers of the body to be maximized. The hormonal feedback loops involved in TM stress reduction are reviewed in an article from the journal *Homeostasis* (Alexander, Robinson, Orme-Johnson, Schneider, & Walton, 1995).

**Ideal Physiologic Conditions for Self-Repair**

To understand why many different systems in the body effectively auto-adjust during TM, we look to the nature of the TM mind-body condition. Wallace, Benson, and Wilson (1971) describe TM as a wakeful hypo-metabolic physiologic state. This means that the mind is alert but the body rests more deeply than in sleep. Throughout the day the mind and body are trying to auto-regulate as we are exposed to the changing conditions in the environment. With the attention directed outwardly into thought and action, we are unable to “un-do” the effects of stress in the physiology. During TM the restfully alert conditions maximize the inner intelligence to bring each physiologic system back into a normal range of function and also each system is allowed to reference, interact and adjust to all the others. During sleep, consciousness is minimal and the body does not have the full opportunity to self-correct because mind and body are functionally disconnect ed. Central to the unique ability of TM to create homeostasis is the understanding of state of consciousness itself. According to TM, the state of transcending is completely self-referral. There is no perceptual, cognitive, emotional or mental activity to be aware of, only the inner awareness of the self. Maharishi explains that in transcendental consciousness the whole physiology becomes self-referral and is then able to adjust through what he calls the “self-interacting dynamics of consciousness.”

**Research Focus through the Years**

Back in Kashmir on the Dal Lake houseboat, my roommate told me that his father promised to start TM only after it was discussed in *Scientific American*. I chuckled. Seated beside me at our next TM meeting was Peter Wallace from Los Angeles, who informed me that his brother Keith was doing his PhD at UCLA on TM under Maharishi’s guidance. He stated that Keith’s research had been accepted by *Science* magazine (Wallace, 1970), and that he had collaborated with Harvard Medical School to publish an article in *Scientific American* entitled *The Physiology of Meditation* (Wallace, Benson, & Wilson, 1972). When I returned to teach TM in Houston, these articles were already on the shelves.

In later years working with Maharishi in Europe I saw first hand how he inspired research in the areas of health, EEG and consciousness research. In Switzerland in 1974, I learned that he had a group of La Jolla scientists bringing over a state-of-the-art psychophysiology lab. We were at that time conducting an advanced course in the TM technique and had some of the most advanced meditators in the world available for testing. In that period the Maharishi European Research University was formed and symposia were held with EEG and physiology experts interacting with Maharishi on the subject of TM and consciousness. Early notions of quantum events in consciousness were discussed in those meetings with physicists. Maharishi always had scientists around him. “I like the way physicists think,” I heard him say.

One of those meetings with Maharishi led to the use of coherence as an effective way of looking at the EEG. Maharishi said that during transcending the nervous system becomes coherent and orderly, and that this is the basis for stress release and improvements in health. Paul Levine, the San Diego physicist who designed the computer analysis and graphics components of the lab, later discussed this with Maharishi. Within days we were analyzing the EEG with a new technique called the coherence spectral array (COSPAR) (Levine, 1976). Signal analysis techniques borrowed from radar-detection technology were then applied to computer-assisted EEG analysis. The software depicted long-range spatial order in the EEG. Coherence (above the .95 level) in the alpha and theta bands turned out to be the “fingerprint” of TM. An internet search of Medline today will show that coherence is one of the most important measures in the fields of sensation, perception, cognition, traumatic brain injury and neurofeedback.

**Maharishi’s Vedic Science is Leading Modern Science**

There has been this pattern in listening to Maharishi through the years. Embedded in the ancient teachings, which had been diluted and fragmented for centuries, were secrets that underlie the functioning of the human mind and body. Maharishi has devoted his life to bringing these realities out to the surface of life both on the experimental side through his technologies of consciousness, and on the experimental side through the promotion of research.

At one of the conferences on aging Maharishi described how TM affects the body holistically. This triggered Wallace to study the multiple factors involved in aging,
near point vision, vital capacity of the lungs, and blood pressure. He soon published (Wallace, Dillbeck, Jacobs, & Harrington, 1982) evidence that TM reverses the aging process.

One day at a conference on science and consciousness on Lake Lucerne, Maharishi stunned us by asking that we look for sociological “field effects” of TM. Transcending, he said, represents the ground state of quantum field, the unified state of all the laws of nature described by physics. It would not be long before scientists were discovering that field effects of consciousness — in the form of reduced crime rate — were as reliable as the third law of thermodynamics (Hagelin, 1996).

After being away from this research for some time, I was driving down Kirby Drive in Houston listening to an audiotape of E. Roy John, The Physiology of Consciousness, the keynote address of the Society of Neuronal Regulation in 1999. I could not believe my ears, and had to pull the car over. John stated that his conclusion from over forty years of research in neuroscience is that “consciousness is a field, like a gravitational field” (John, 2001). John has not been inclined thus far to identify consciousness with the quantum field, however recent theorists have brought out elements of quantum functioning in living organisms.

Maharishi’s Vedic Approach to Health

Maharishi is not shy about associating the unified field of physics with the field of consciousness. His Vedic Science curriculum points to explanations that embrace quantum phenomena. What is Vedic Science? Traditionally Veda means knowledge, but not knowledge in the usual objective sense. Rather this is knowledge about consciousness. Maharishi’s Vedic approach to health is described as a consciousness-based approach which holds that transcendent consciousness is the “ground state” of the field of consciousness and is synonymous with the unified field of physics. Maharishi’s Vedic Science evaluates each discipline (here health & homeostasis) by comparing the field of consciousness with the quantum field of modern physics using the Maharishi’s “unified field charts.”

The charts first show that from the bottom-up classical-quantum interface arise all the aspects of elementary particles, atoms, molecules, cells, organs, systems, humans, and society. This is on the left-hand side of the chart. The right hand side of the chart points to the TM technique as the basis for the top-down perspective contacting the unified field of infinite order in creation. The Unified Field Charts explain the basis for Maharishi’s Vedic approach to health. The application of these approaches has recently created a breakthrough in eradicating intractable chronic disease (Nader, Rothenberg, Averbach, Charles, Fields, & Schneider, 2000). Maharishi suggests that deep levels of coherence (on the level of quantum coherence) can be drawn to the surface to benefit health through his Vedic technologies of consciousness.

Quantum Theoretical Models

Familiar to most of us are instances of macroscopic quantum coherence on the physical level in such phenomena as laser light and superconductivity. However in a recent book by Satinover (2001) the case has been made that quantum behavior (e.g., quantum coherence) exists in the everyday biological scale that has been “amplified up” from the ultramicroscopic (quantum) scale. The author suggests that through quantum effects life appears to extract order from disorder (p. 186). He points to how such quantum coherence (quantum wave function) has tunneled or “leaked through” all scales into biological systems such as in protein folding and DNA repair. These biological activities occur at such speeds and complexity as to be “utterly beyond imagining in a deterministic universe.” Not all proton and electron tunneling is spontaneous. Biological tunneling, he says, can be enhanced by phononic (vibration)-modified proton/electron transfer under physiological conditions (p.185). A little jiggling somehow pleases the King of the cosmic domain to the extent that deep treasures are offered up. This is the bottom-up approach.

A Synthesis

The top-down model from Maharishi’s Vedic Science makes the case that the process of “transcending” extracts order from the deeper levels of nature’s functioning and that the deeper quantum-like processes are capable of maintaining perfect order on all levels of human physiology. By introducing sound (the mantra) in TM at increasingly subtle levels of the mind the phononic “jiggling” may stimulate and accelerate the induction of order across all scales, because all scales are “iterative and nested” (Satinover, 2001, P. 204). On the subjective phenomenological side experiencing increasing subtlety in TM is accompanied by unbounded awareness (Travis, & Pearson, 1999). On the experiential level the “self” is getting larger as the self-interacting dynamics of consciousness unfold. At the end point (transcending) Maharishi says that the total brain is awake (global alpha synchronization) and that every physiologic system in the body is tended to simultaneously. He calls it infinite correlation. This is the basis for the holistic health benefits — a kind of cosmic homeostasis.

Stimulating the quantum level of nature’s functioning is the only way to do this. Only such a mechanism could account for the myriad of medical benefits and orderliness in the system. A deep source of physiologic balance has been tapped. It is on the level of “quantum greased lightning” (Satinover, 2001, p. 184).

Epilogue

According to Maharishi Vedic Science the quality of self-referral consciousness is bliss. Thus there is a simple test to determine if your health is improving. Are you growing in self-referral happiness? Happiness is the best medicine.

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background. Post, Puchalski, & Larson (2000) discuss appropriate and ethical professional approaches to patients’ spirituality, and suggest four questions to open discussion:

“Is faith (religion, spirituality) important to you in this illness?”

“Has faith been important at other times in your life?”

“Do you have someone to talk to about religious matters?”

“Would you like to explore religious matters with someone?”

Koenig (2000, p. 1708) also offers a position on prayer with patients. He suggests that requests for prayers should come from the patient, but when the patient is comfortable can be deeply meaningful.

“Our calling as physicians is to cure sometimes, relieve often, comfort always. If a distressed and scared patient asks for a prayer and the physician sees that such a prayer could bring comfort, then it is difficult to justify a refusal to do so. The comfort conveyed when a physician supports the core that gives the patient's life meaning and hope is what many patients miss in their encounters with caregivers.”

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Spiritual Experience and Life Decisions: A Personal Narrative

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Abstract: The author, a practicing physician, reports a series of spiritual experiences that redirected his life, and continue to challenge his understanding of reality. He depicts a spiritual universe, becoming manifest in key moments, such as near death experiences. He reviews traditional Eastern conceptual models to account for such experiences, and introduces emerging scientific, evolutionary and neurophysiological perspectives on spiritual experience.

Introduction

This essay is a personal narrative about experiential capabilities that I believe we are all born with. These experiential capabilities and the intrinsic potential transformational potential they embody, I am loosely defining as “spiritual experience.” They have been otherwise called “varieties of religious experience” (James, 1902), “varieties of anomalous experience” (Cardena, Lynn & Krippner, 2000), or “altered states of consciousness” (Tart, 1969). My narrative is not intended to be a systematic account of the range of spiritual or non-ordinary phenomenological states that humans are capable of experiencing. Rather this essay is centered around a first hand account of what, without forethought, expectation, or any sort of cultural or religious priming, happened to me during my childhood.

Nevertheless, the fact that these experiential capabilities, in one form or another, have been reported and described by humans from all cultures throughout history indicates to me that they represent universal experiential capabilities (Cardena et al, 2000). This “universal reporting” coupled with the fact that individuals, who have experienced them, subsequently place such priority and significance on their occurrence, continues to bolster my belief that is important to share our personal experiences of them, as well as study them scientifically.

My Story

I was born and raised on a sheep ranch on the North Island of New Zealand. Until I was nine years old, except for a few playground hassles, bumps and scrapes, I would describe my early life as fairly idyllic. Sheep, sheep dogs, cattle, more sheep, hunting, fishing, horses, endless summer days, collective efforts on each other’s ranch to perform tasks like hay making and shearing the sheep — it was all largely bucolic.

When I was nine years old all of this changed. I was sent to boarding school. I was sent not because I was a bad child, but because, in the British Colonial culture I grew up in, this is what families did with their male children if they could afford it. Such institutions were harsh environments. There was no feminine touch, no one to tuck you into bed, no one to kiss you goodnight. Our days began at 6.30am with an obligatory cold shower. The next 45 minutes was spent performing “squad work.” Such work included gathering and chopping firewood, sweeping the yards, blacktop and classrooms, and maintaining the sports fields. If you failed to perform, got out of line, or mouthed off, the discipline was swift and brutal. If you broke the rules you were caned, a form of physical punishment the colonial British learned from the Indian sub-continent and quickly adopted as a way of keeping men of any age in line, such is the degree of pain and humiliation it can quickly inflict. As a boarder you were only allowed to see your parents and other family members every second or third Sunday for a few hours. The vacations were fairly minimal. This was to be my lot for the next nine years of my life. It was essentially the end of my home life. Every time I saw my parents I spent most of my time in an agitated state trying to stifle my sobbing. I’m sure my parents were distressed by my state. Nevertheless, they remained willing and honorable participants in this grand process of making strong men out of young boys.

Most of these British boarding schools were inspired and built around a Christian Denomination. During my third year at this school I began the course of study that resulted in being confirmed by the local Anglican Bishop. The course of study centered on promoting familiarity with the core belief system, “the creed” of the church, and cultivating an understanding of the religious significance of being able to receive Holy Communion. Nothing of note occurred as a result of completing this course of study. During the act of being confirmed into the Church, however, an experience occurred that continues to play a seminal role in navigating my life on a very different course than one might have been expected, from my background, family and culture of origin.

When it was my turn to be confirmed I approached the Bishop and knelt before him. He then proceeded to lay his hands over my head and recite the prayer that signaled confirmation. No sooner had he laid his hands upon my head than I experienced from above this huge “inrush” of what I can only describe as a huge bolt of blue electric force entered my cranium and brain, it took hold of my consciousness and affected a fairly rapid dissolution or falling away of the usual sensory boundaries or customary perceptual priorities. I found myself standing in this wondrous, infinitely extending, shimmering ocean of light. I was...
embraced by this dancing sea of light and delight; and further, this light showed me that it was my very essence and the core substance of all the people I was with and all of the other objects in my immediate environment. Intrinsic to this endless sea of light and energy, was the sense that all of this was held in place and enlivened by the fundamental glue of the Universe, love. Somehow I was able to get back up on my feet and find my way back to my seat despite the overwhelming bliss the experience brought with it. The experience was with me in its fullest intensity for several hours after its initiation. The experience lingered with me for several days afterwards in ever more subtle form. If I attended to its features I could bring it back into focus. I didn't know what to make of it, but at the same time implicitly understood that I didn't need to think about it or try to figure it out, but just be grateful that it occurred. But I did begin to realize that behind all the ritual pomp and circumstance of exoteric Christian religiosity there was some pretty mighty stuff. Why didn't they teach us about this in Sunday school?

Tacitly I understood that there was no point in sharing this with any of my friends or my elders, especially in light of the fact that no one had said anything about such phenomena occurring as a result of confirmation by the Bishop. To this day I have discussed this matter with very few people. The only words that I had heard during my preparatory course of study from the Gospels that seemed of any relevance was the enigmatic statement by Jesus that: “The Kingdom of Heaven is within.” Reference to “the peace that passes all understanding” and that “for he who knocks, the door the door shall be opened” were also teasers. But the fundamental focus of the Church and its teaching of vicarious salvation through the death of Jesus on the Cross and belief in his posthumous physical resurrection seemed somehow very alien to what I was dimly beginning to intuit might be at the heart of all religions and spiritual traditions.

The Life Implications of this Experience

I have shared in some detail the circumstances so that the interested reader can draw their own conclusions about what role any of the significant biographical details may have played in my being vulnerable to this experience. At this stage of my career what appears to be of significance to me is that despite being around a good number of other young boys, this did not compensate for feeling socially isolated and being in a state of lingering depression for the few years prior to this experience. The starkness of this boarding school environment as compared to the warmth and nurturing environment provided by my family of origin and the ranching neighbors I grew up with may have played a role in my heightened susceptibility. I certainly developed a fairly rich fantasy life to compensate and cope with the somewhat oppressive nature of my everyday life and perhaps this factor contributed to. But I want to make it clear that this experience was nothing like anything I could or did fantasize. The potency, vividness and immediacy of the experience I have described above make the experience of our everyday lives feel more dream-like in comparison.

Traditional Understanding of Spiritual Experience

I was blessed with this experience, or should I say this experience intruded itself into my life in 1960. It wasn’t until 1992, when the book The Tibetan Book of Living and Dying by Sogyal Rinpoche (1992) was published, that I discovered a written account of my experience. This account included a description of the significance of this experience in light of this tradition’s elaborate spiritual conceptual framework or cosmology. This experience is described as the first of four Bardos or gradations of spiritual experience that emerge from what their tradition calls the opening of the Ground Luminosity (Dharmata). This opening follows a brief glimpse of Nirvana, or complete release, which emerges after the dissolution phase of the dying process has been completed. The Tibetan’s belief is that the individual can only remain in such a state if they have consciously learned to access such states as a result of the spiritual practices they have undertaken during their lifetime. Nevertheless this tradition insists that all people are offered at least brief glimpses of these states during the dying process, perhaps as a reminder of their born destiny.

Here is the description offered by this book (Rinpoche 1992) beginning on page 276:

“1. Luminosity – The Landscape of Light

In the Bardo of Dharmata, you take on a body of light. The first phase of this Bardo is when “space dissolves into luminosity.” Suddenly you become aware of a flowing vibrant world of sound, light, and color. All the ordinary features of our familiar environment have melted into an all-pervasive landscape of light. This is brilliantly clear and radiant, transparent and multicolored, unlimited by any kind of dimension or direction, shimmering and constantly in motion. The Tibetan Book of the Dead calls it “like a mirage on a plain in the heat of summer.” Its blended shimmering prismatic colors are the natural expression of the intrinsic elemental qualities of the mind.”

When an ancient spiritual tradition can describe experiences with such exactitude in detail, and in language that so closely mirrors my personal experience, it certainly helps to foster trust in the authenticity of the tradition and its great pioneers. Do I believe any of the traditional explanations of the significance of such experiences? The best I can state is that I don’t know, but I am empathetic. The last thing one doubts is the reality of one’s experience, but the quest and discovery of a valid explanation for such experience is another issue altogether. I explore this question briefly in the section below entitled “Scientific Understanding.”

I want any reader of this essay to understand that, relative to my spiritual seeking and practice, having this experience explained was not a priority for me. I have never believed that being blessed with such an experience should be paraded as a mark of distinction, like a medal on the breast of a military individual’s uniform. I understood fairly early on that as desirable and attractive as such experiences are, they are not the fundamental point of spirituality. Nonetheless such experiences do represent a major invitation, a kind of cosmic e-mail if you will, that have lasting initiatory power or life transforming potential — like near death experiences (Ring, 1980; Rinpoche, 1992). For a provocative, compassionate, egalitarian, and very contemporary review of the initiatory power of such experiences
see the writings of John Wren-Lewis, (referenced in Wren-Lewis, 1994).

This experience, although the seminal initiatory experience of my life, was the first of a number of different spiritual experiences that have occurred during my life thus far. The invitation these experiences extended led me early on to traditions and teachers whose focus in the practices they advocated was not cultivating the ability to have these experiences. Rather their main emphasis was on getting their students to realize what they always already are and, on the basis of such recognition, to transcend the need for such experiences, while at the same time paradoxically opening the door for their recurrence (Godman, 1985; Nisagadatta, 1973; Tolle, 1999).

As a result of my learning and personal experiences, I have come to believe that spiritual experiences can help us redefine and transcend our very notions of self, i.e., our assumptions or unconscious schemas as to who and what we tacitly take ourselves to be (Nisagadatta, 1973; Wren-Lewis, 1994). The traditions report that spiritual experience gives birth to the feeling of knowing that we are lived, embraced, loved, and nurtured by a presence, a force, a pregnant void that we are lived, embraced, loved, and nurtured by a presence, a force, a pregnant void that we are. Are such beliefs and reported potentialities a "perfected illusion" or an advanced evolutionary capability?

**Scientific Understanding**

Only recently have I sought for what understanding science could bring to these experiences. For many years I tacitly assumed the validity of the traditional spiritual model(s) such as the Hindu Vedantic (Dyczkowski, 1987), Theravada Buddhist (Goleman, 1988), and the Tibetan Buddhist Cosmologies (Rinpoche, 1992). What happens in the brain is now the current focus of my ongoing attempt to deepen my understanding of the nature and neural underpinnings of "spiritual experience." As an extension to exploring the role of the brain, I continue to explore the evolutionary origins of this apparent universal human experiential capability. This effort is predicated on the supposition that all of our phenotypic affective and behavioral capabilities have, during the course of hominoid evolution, been selected because of their ability to enhance survival, facilitate reproduction, and drive adaptability.

Is the universal capacity for spiritual experience an evolved capability? If it is then why might we have evolved this capability? Did the capacity for spiritual experience emerge from the capability for extra-sensory perception that certain races like the Australian Aboriginals may have depended upon to adapt and survive in the very harsh and unforgiving environments they exist in? I have no clear answers but believe these are pertinent questions. In a very different vein, are spiritual experiences more likely to occur in those individuals who have experienced some form of brain developmental compromise as at outlined by Teichner (2000), occurring as a result of some form of childhood deprivation or traumatic abuse? Research evidence suggests that such individuals are more vulnerable to temporal lobe epilepsy.

The study of the brain correlates of spiritual experience is an emerging discipline that some are calling “neuro-theology.” This emergent field of investigation was recently described in a recent Newsweek cover story (Begley, 2001; Bower, 2001). This fascinating article presents a picture of the functional brain changes associated with spiritual experience that is fairly consistent with what is reported by spiritual practitioners while they are actually engaged in such experiences. This emerging picture of functional brain correlates and possible associated neural networks of spiritual experiences is based on the research of several investigators, including James Austin (Austin, 1998; Joseph, 2001). Their research is based on brain changes as seen on PET and fMRI scans while experienced practitioners are actually engaged in the active spiritual experience to which their particular discipline leads them. Of course many questions remain about the theoretical and practical implications of these functional brain correlational studies, but I believe they represent an important new direction in neuroscience research.

The work of these pioneers (Begley, 2001; Brower, 2001), is the latest in a line of research begun, in part, with the pioneering bedside neurological investigations of my great uncle, Hughlings Jackson (1888). It is my understanding that he was the first to note that temporal lobe epileptics can, at times, have extraordinary spiritual visions or revelations as part of their seizure. Later Wilder Penfield confirmed the role of the temporal lobes in spiritual abilities through his experiments on electrical brain stimulation, mostly on the cortex (Penfield, 1975).

More recently Persinger, in his own self-experimentation, also discovered the ability to induce enlightenment experiences though the application of a relatively new medical technology called transcranial magnetic stimulation (Persinger, 1987). This technology is also proving useful for treating recalcitrant major depressive disorders, as well as certain musculo-skeletal pain syndromes. The neurologist Ramachandran offers a fascinating and challenging perspective on this research (Ramachandran, 1998).

**Conclusion: Practical Implications**

I can only briefly allude to these. My interest in this arena is in part sustained by my belief that science should remain committed to exploring anything that legitimately helps to reduce human suffering, promote forbearance and tolerance, transcend our near universal tendency to blame, gossip, stigmatize and exclude, and instantly trust, empathy, compassion and forgiveness. I resonate with the work of Jon Kabat-Zinn and his associates (Kabat-Zinn, 1990, Santorelli, 1998) and their scientific clinical trials proving the usefulness of Buddhist Insight Meditation to a variety of medical conditions. I am interested in the more recent applications by John Teasdale (2000) in his application of mindfulness meditation, along with cognitive behavioral therapy, to the treatment of major depressive disorder. I am fascinated with the continuing cross-pollination of traditional insights into the relevance of breathing practices in both the Indian and Chinese “brain-body integration traditions”, namely Yoga and Qi Gong respectively, with modern traditions investigating the role of relaxed or resonant breathing practices in...
the treatment of a number of medical conditions is important. The continuing efforts of Paul Lehrer, Dick Gevirtz and the work of Professor Tom Roth (Meuret, Wilhelm, & Roth, in press) are important in this regard. The integration of the “near death experience (NDE)” literature (Ring 1998, Wren-Lewis, 1994) with the traditional accounts offered by the Tibetan Buddhist Tradition (Rinpoche, 1992) is a fascinating and timely challenge. Whether these experiences have the ability to heal through mechanisms other than their role in eliciting the relaxation response is at this point uncertain, (Morse, 2000). The potential exchange mutual exchange between neuro-science, psychophysiology and spiritual experience (Austin, 1998, Bower, 2001, Joseph, 2001, Ramachandran, 1998) has many potential practical implications, not the least of which is the gold mine of opportunities it offers to further explore the nature of consciousness itself. As noted above, the recent cover story from Newsweek Magazine (Begley, 2001) gave a fascinating overview of the emerging field of neuro-theology.

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(For further reading):


Footnotes
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A Week of Horror
Don Moss, AAPB President

Peace-loving persons throughout the world are today sharing common feelings of anger, sadness, fear, and concern. There is a yet unknown dramatic toll of human life and sacrifice in the aftermath of Tuesday’s attacks in New York and Washington, DC. The global, boundary-less lifestyle of the West continues to show vulnerability when terrorists can attack critical institutions and wreak such havoc on an entire country. There are also new dangers that resentments and bitterness will harm the many peace-loving Muslims and Arab-Americans who call America their home, and will turn one ethnic or religious group against another within America and around the Western world.

Since many of AAPB’s members are health professionals and counselors, we are in a unique place to be helpful. First, the American Red Cross is accepting mental health volunteers, to assist survivors of the traumatic disasters on site. Consider contacting the Red Cross and offering your voluntary services for this and future disasters. Call 1-800-801-8092 to volunteer.

Further, we will each, in our own communities, be dealing with the sadness, fears and confusions of many of our clients and others with whom we have daily contact. I personally have found that many of my clients and acquaintances are deeply shaken by this week’s events. We have posted on our web site a sample letter sent out by one therapist to his entire client caseload, with some excellent advice on coping with trauma: Click here: http://www.aapb.org/public/article/details.cfm?id=119

Meanwhile, the American Red Cross is mobilizing financial support for the relief and recovery efforts in the aftermath of the tragedies in New York City and the Pentagon. We invite anyone interested to gather contributions from yourself, your staff, and others. They can be reached at 1-800 HELP NOW (1-800-435-7669). Or at http://www.redcross.org/donate/donate.html Or you can send donations to the American Red Cross Disaster Relief Fund, P.O. Box 37243, Washington, D.C. 20013. (Make your check out to the American Red Cross Disaster Relief Fund.)
Absorption and its Relationship to Outcome Measures as a Result of Holotropic Breathwork

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Abstract: This doctoral dissertation applying an empirical research model to holotropic breathwork, an alternative psychotherapy developed by Stanislav Grof, This article introduces the High Risk Model of Threat Perception proposed by Ian Wickramasekera, and applies this model to study mechanisms of efficacy for holotropic breathwork psychotherapy.

Introduction

This doctoral dissertation asked the research question: Is holotropic breathwork (an alternative form of psychotherapy developed by Stanislav Grof) an efficacious form of psychotherapy and what is its mechanism of efficacy? This research adopted an empirical research model developed by Ian Wickramasekera, the “High Risk Model of Threat Perception” (HRMTP). Using the model, the research measured the impact of holotropic breathwork on such variables as negative affect, general psychological distress, and death anxiety. Another area of interest was the mechanism of efficacy changes and type of subject—i.e., high or low in trait hypnotic ability—who would be attracted to a psychotherapy that involved entering an altered state of consciousness (e.g., hypnotic state). A broad model, such as the HRMTP, may be able to pick up changes that occur in these areas.

HRMTP

The HRMTP which is supported by considerable empirical research, postulates certain predisposing psychosocial variables that set an individual up for somatic complaints and even organic disease such as heart disease, cancer, and stroke (Wickramasekera, 1979, 1988, 1998). These factors include high and low trait hypnotic ability, negative affect (NA), and repression. According to Wickramasekera, possessing these variables can lead to the automatic generation of somatic symptoms, physical disease, and maladaptive behavior. Wickramasekera proposes that secrets kept from the mind can and do affect the body and behavior. People who are predisposed to have these tendencies may have their symptoms amplified by triggers, or situational variables, such as daily stress, or hassles, and major life changes. Buffers, such as approach coping skills, are important assets when dealing with stress.

Let us look at these predisposing variables included in the HRMTP. The first factor, NA, or negative affect, involves a negative mood state including subjective feelings of nervousness, tension, worry, and vulnerability. NA also includes physiological symptoms of hyper-arousal, a factor containing features specific to anxiety. Individuals high in NA are particularly sensitive to minor failures, frustrations, and irritations of daily life, as shown by the likelihood, magnitude, and duration of their reactions. The poor self-esteem and negative mood of high-NA persons seem to be associated with their tendency to dwell upon and magnify mistakes. According to Wickramasekera, high NA, or neuroticism, is a risk factor for threat related organic disorders because this negative bias in perception and memory can chronically alter the hypothalamic-pituitary-adrenal axis and impair immune function. NA is believed to be at least in part genetically driven.

Absorption, which correlates modestly with hypnotic ability, is a characteristic of the individual that involves an openness to experience emotional and cognitive alterations across a variety of situations. It has also been defined as the capacity for focused attention. Participants high on absorption tend to adopt an experiential set that is image-oriented and affectively toned and they generally process information in idiosyncratic ways. Various researchers have found a moderate to strong correlation between absorption and belief in or verbal reports of mystical or paranormal experiences, near-death experiences, and reports of alien-abductions. From Wickramasekera’s perspective, because high absorption individuals are more reactive to threat and are more aware of their feelings, they are reported to be more aware of psychological distress than low absorption people. But high absorption people can paradoxically block threat perception from consciousness as in post hypnotic analgesia and post hypnotic amnesia. Somatic and psychological symptoms are more likely to be present in these individuals if they do not block NA from consciousness. Individuals low on absorption are generally more skeptical and reality-oriented, pragmatic, and also demonstrate a tendency to block the perception of stress or negative affect from consciousness. Lows tend to deny or minimize psychosocial causation (e.g., loss, rejection, failure) and subtle psychosocial cues of threat perception. Both highs and lows are at risk to develop somatic symptoms as well as organic disease if one or more of the other risk factors (e.g., negative
Holotropic Breathwork

It should be mentioned that holotropic breathwork, the therapy under investigation, is not a conventional form of psychotherapy. It is, therefore, important to warn the reader that Grof’s transpersonal model is based on an expanded model of the human psyche not endorsed by mainstream science. Grof, originally trained as a psychoanalyst, devised this transpersonal model of the human psyche after studying approximately 3,000 LSD psychotherapy sessions, first in Europe and then as a physician at Johns Hopkins in Baltimore, Maryland. When LSD became illegal and could no longer be used as a clinical agent, Grof conducted over 20,000 hours of therapy sessions using holotropic breathwork.

Holotropic breathwork is a highly unstructured, experiential, group psychotherapy that involves deep, rapid breathing, evocative music as well as other types of sound technology, and bodywork. Bodywork involves an intervention from a Grof trained breathwork facilitator, or Grof himself, when a breathwork participant is experiencing somatic discomfort. This process may, for example, take the form of massage or pressure on the area of the body that is tense or painful. The basic principle of focused bodywork, in Grof’s perspective, is to exteriorize the various forms of physical discomfort associated with emotional distress.

According to Grof, the main objective of holotropic breathwork is to activate the unconscious in order to unblock the energy that is bound in emotional and somatic symptoms and to convert the stationary balance of this energy into a stream of experience. Grof states that his breathwork technique can break through defenses and reduce psychological distress due to the powerful experiential nature of the psychotherapy. Grof had previously conducted no “hard” research, prior to this particular study, on LSD psychotherapy or holotropic breathwork, preferring to rely instead on anecdotal material from his patients. As a result of this, mainstream investigators do not take him seriously.

Grof believes that consciousness is a field that cannot be localized in time or space and exists independently of the brain, although the brain mediates it. In this model, psychological health is promoted by reexperiencing events in this life (biographical level), during or around the birth process (perinatal level), or in a previous physical life (transpersonal level). Grof’s model proposes that systems of condensed experiences, or COEX systems, organizes emotional material, which the psyche can then process in an experiential manner, on these three levels. Grof’s model is, therefore, highly controversial.

It is important to note that Grof’s transpersonal model lies beyond the scope of direct empirical investigation. It is certainly not possible to access various theorized levels of existence and bring back concrete, material data that would be accepted by mainstream scientists. Rather, it is a more productive approach to examine the breathwork psychotherapy that is supported by the model Grof proposes. By using the scientific method to carefully examine outcome scores on valid scientific measuring devices, both before and after the psychotherapy takes place, we can determine if the treatment produces positive effects. In addition, if we find that the psychotherapy under examination produces lasting results—for example, after a 6-month follow-up investigation—we may conclude that it may be effective.

This investigator studied holotropic breathwork at one of Grof’s national workshops on November 1-7, 1999. With the help of experienced researchers on my committee, I was able to devise a research project that would examine the breathwork psychotherapy using valid and reliable psychometric tests to determine the efficacy of this breathwork technique.

Measuring Instruments

Because hypnotic ability could not be tested in this study, a moderate correlate of hypnotic ability, the Tellegen Absorption Scale (TAS) was used instead. The TAS is a short, 34-item, true-false test, which measures absorption. The Positive Affect and Negative Affect Schedule (PANAS) was used to measure NA. This is a short, 20-item, mood scale, asking participants to score items on a 5 point scale to the extent to which they had experienced each mood during a specific time frame. The Marlowe-Crowne Scale (MC) was used to determine level of represssion. The MC, a 33-item self-
report measure, was initially designed as a measure of social approval. The more recent interpretation of high scores on the MC suggest an individual who attempts to maintain an idealized self-concept, particularly by the defensive avoidance of negative affect such as anxiety or anger. In addition, the effect of holotropic breathwork on death anxiety was measured by using Templer’s Death Anxiety Scale (DAS), a 15-item true-false self-report scale. A general measure of psychological distress, the Brief Symptom Inventory (BSI), is a 53-item likert type scale, and a shorter version of the Symptoms Checklist-90, or SCL-90. It includes nine primary dimensions: Somatization (SOM), obsessive-compulsive (O-C), interpersonal sensitivity (I-S), depression (DEP), anxiety (ANX), hostility (HOS), phobic anxiety (PHOB), paranoid ideation (PAR), and psychoticism (PSY), and two global dimensions, the positive symptom total (PST) and the global symptom inventory (GSI).

The selection of tests in this study was largely determined by risk factors from the HRMTP. These measuring instruments were high in validity and reliability. Some of these tests were orthogonal, or independent, from each other showing that they were measuring different things (e.g., the Absorption, NA, and MC measures). All tests, except the TAS, were administered at pretest, posttest, and at 6-month follow-up. The TAS was only administered at pretest. Clinical questionnaires also recorded participants’ subjective comments at pretest, posttest, and follow-up.

Results

Of the approximately 150 people who attended the workshop, only 44 agreed to participate in the research; 22 participated in the follow-up portion of the study. It was found at post-testing that a linear combination of HRMTP factors predicted a large part of the variance ($R^2 = .41$, $F(4,39) = 6.515, p = .000$) and that at 6 months follow-up and even larger portion of the variance was predicted ($R^2 = .71$). Breathwork participants were found to be composed of very highly educated individuals with all but 2 having college degrees and more than half possessing post-graduate education. Most subjects, 32 of 44 (73%), were female. Average age was 48.4 years and mean educational level was 17.4 years. Also, most breathwork experiencers expressed an Eastern belief system with a consequent acceptance of reincarnation. The distribution of scores for this sample of participants was not drawn form the normal population of absorption scores. There were no low scorers in this sample and approximately half the participants, 21, fell in the high range of absorption scores; the rest of the scores (23) were distributed in the moderate range. The mean absorption score was at the 68th percentile.

There were significant reductions (of at least the .05 level) in symptoms on all tests from pretest to posttest. Results showed a significant reduction in negative affect ($p = .001$) from pretest to posttest. In the general population, absorption is a normally distributed variable, but in this sample only high and moderate absorption scores were observed ($p = .000$). There was no change (pre to post) for the total sample on the Marlowe-Crowne (MC) measure of repression.

One subject did show a dramatic reduction in the MC measure of repression from pretest to posttest and a consequent dramatic increase in all other measure of distress, skewing all group scores. When this individual’s scores were removed from the data, three subscales of the BSI and both global scales (GSI = .005, PST = .000) reached the significance level.

Another area of the research compared 13 experienced breathwork subjects (5 or more previous holotropic breathwork sessions) to 11 first-time breathers. Experienced breathers were found to have lower mean scores than novice participants on the MC measure of repression and nearly ($p = .089$) significantly lower mean scores on NA. At six-month follow-up, scores from half of the original subjects, or 22, were compared on pretest, posttest, and follow-up.

Three of the clinical scales and the two global scales of the BSI showed significantly lower scores on posttest and follow-up when compared to pretest. NA rebounded somewhat from posttest, and was no longer significantly reduced ($p = .076$). Positive affect was found to be significantly reduced ($p = .022$) at follow-up when compared to pretest. Also, the DAS showed significantly reductions on follow-up when compared to pretest ($p = .033$), see figure 1.

Discussion

The ease in accessing non-ordinary states of consciousness, as shown by the high absorption scores, likely attracted these subjects to this mode of psychotherapy. The accuracy with which a linear combination of the HRMTP factors predicted the outcome of this therapy is very surprising. If replicated, these HRMTP factors could be important predictors of psychotherapy outcome in other domains like cognitive behavior therapy and biofeedback therapy. Conversely, it is not likely that individuals who score low on absorption would be interested in this kind of experience, and they were not found in this tested sample. In addition, a person with an Eastern belief system, with an acceptance of reincarnation, would also be more accepting of Grof’s transpersonal theory. Also, a highly educat-
ed individual could more easily conceptualize this complex model of the psyche and integrate experiences involved in the breathwork experience. (It is important to mention that in the pilot study, the only person experiencing a negative result from the breathwork therapy had the lowest reported educational level of any breathwork participant, a high school diploma.) It could be argued that this population does not represent the average highly educated person. However, in my small process group at the workshop (N = 12), there was a neurologist, a microbiologist, and a physician from Europe. One of my roommates was an administrative law judge, another a doctoral level psychologist, and I had discussions with several corporation CEOs as well as a stockbroker, who lectured me on chakras, or alleged energy points, in the human body. (A “No Talk” rule at the workshop prevented me from talking to more people. At other workshops I had attended, however, I had met and conversed with doctors, lawyers, and accountants.) Many of these people reported having experienced nonordinary states of consciousness both during the breathwork sessions and in their personal lives, some even prior to learning about this mode of therapy. For instance, people talked of having had near-death and out-of-body experiences, as well as having experienced meaningful coincidences, or synchronicity.

This research suggests that negative affect, an important predisposing risk factor for the production of threat related illness (both psychological and somatic) in the HRMTP, can be dramatically reduced in the short-term by this form of psychotherapy in subjects who are high or moderate on the absorption scale, but the lack of low absorption subjects make it impossible to determine if NA can also be reduced in low absorption subjects by this method of psychotherapy.

Particularly interesting is the sharp reduction in psychological distress on the BSI which suggests benefit from the breathwork psychotherapy. This suggests that this form of therapy is beneficial in treating overall emotional dysphoria in the short term with this particular sample of subjects.

As mentioned previously, one subject who scored moderately high on the MC measure of repression at pretest showed a dramatic increase in posttest measures of all tests as well as a significant reduction in the MC score at posttest. She may have been suffering from Post Traumatic Stress Disorder (PTSD), judging from the posttest comments on her questionnaire. For instance, she stated: “As a non-violent person, to whom much violence and atrocity has been committed.” And: “I felt I was in control, although I was out of control, and realized this had been the state of my tormenters—not in control and therefore not personal.” This individual, a first-time breather, was also very high on the trait of absorption.

Even with the small number of selected subjects studied here producing a restricted range of scores, nearly significant results were found when comparing NA on the PANAS between these two extreme groups, novice and experienced breathers, with regards to breathwork experience. This suggests long-term benefit from this type of therapy. Since NA is partially genetically influenced, this finding is even more impressive. What is also interesting are the wide mean differences, although not significant, on the MC measure of repression, between novice breathers and experienced breathwork participants. This suggests an impact from the breathwork. Why PA also dropped is not known, however.

While the follow-up results showed some rebound, they maintained their level of statistical significance. This is quite impressive, particularly considering the small number of participants. As already discussed, follow-up research showed a significant reduction in death anxiety. This supports Grof’s assertion that holotropic breathwork reduces death anxiety. The peculiar thing is that it appears to take some time to gain this benefit. Perhaps the psyche needs time to integrate the breathwork experience. If the research from thanatology is correct in proposing that our society has an entrenched fear of death, a mode of psychotherapy that can bring relief in this area would be extremely useful.

Also, I was only able to study a volunteer sub-set (29.3%) of all participants at the breathwork workshop. I was only able to get half of these subjects (22) to participate in follow-up (14.7%). Therefore, we have to be very cautious in generalizing the results I found regarding this form of therapy to the percent of subjects even in Grof’s workshop and definitely in the general population of the U. S.

There was no significant correlation observed between absorption and outcome measures, probably due to the small sample size and the restricted range of absorption scores. The unique personality (absorption) and demographic subject composition makes these results difficult to generalize to the larger population. However, participation in a week-long workshop, which involved a nonspecific type of psychotherapy, produced the significant reductions found on psychometric clinical scales in this study suggesting lasting beneficial effects as a result of holotropic breathwork psychotherapy for this highly select group of subjects. Finally, the mechanism of efficacy was probably high participant trait absorption, which likely attracted these individuals to this type of experience, and may have allowed them to access a nonordinary state of consciousness. It remains to be seen if low absorption subjects could also derive benefit from this mode of psychotherapy.

References


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PROFILES OF CONTRIBUTORS

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Jeffrey Cram is currently the director of the Sierra Health Institute of Nevada City, California where he coordinates and treats patients using a holistic approach to psychology. He is the founding president of the Surface EMG Society of North America (SESNA). He is the author of three books and 35 articles on surface EMG. He is on the editorial list of four journals (AJPM, JAPB, JMPT, IJHC) and is the current editor of the California Biofeedback Newsletter. Dr. Cram is an international expert on surface EMG. He teaches both nationally and abroad several times a year.

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Harris Friedman is Academic Dean and Vice President for Academic Affairs at Saybrook Graduate School and Research Center where he is a member of the Executive Faculty. He is also a licensed psychologist and practitioner/teacher of Aikido. Current research interests include the assessment of transpersonal and spiritual constructs, the relationship of these constructs to various psychological, sociological and health variables, the assessment of organizational culture and change, and epistemological issues in empirical research methodology.

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Patrick M. Hanratty is at the candidacy level in the psychology doctorate program of the Saybrook Graduate School in San Francisco. Pat completed a Bachelor of Arts degree from the University of Wisconsin-Milwaukee in 1977 and a Master of Arts degree in Counseling Psychology from Marquette University in 1986. He has worked in mental health for over 25 years and is a Licensed Psychologist. His dream has been to research non-mainstream types of practices, such as holotropic breathwork, using valid and reliable empirical measures. Pat lives in La Crosse, Wisconsin with his wife.

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Born in Houston, Texas. Received BA in Psychology and MA in Psychophysiology from the University of Texas at Austin in 1967. Became a teacher of the TM technique in 1970. Taught Psychology at Texas Southern University 1970-71. Performed research on the TM technique at the Psychophysiology Laboratory of Maharishi European Research University in Weggis, Switzerland in 1974-77. Published papers on EEG and TM 1977-84. Taught TM in Houston as Director of the Maharishi School of Vedic Science 1977-present. Currently enrolled in the PhD program in Psychophysiology at Maharishi University of Management in Fairfield, Iowa. Dissertation topic: Capturing the State of Maximum Negative Entropy in the Brain: Low Resolution Electromagnetic Tomographic Analysis during Transcendental Meditation.

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Stanley Krippner is professor of psychology, Saybrook Graduate School and Research Center, San Francisco, California. He is a Fellow of the American Psychological Association, the American Psychological Society, the American Society of Clinical Hypnosis, and the International Society for Clinical and Experimental Hypnosis; he is a past president of two divisions of the American Psychological Association. He is co-author of The Mythic Path, editor of Dreamtime and Dreamwork, and co-editor of Varieties of Anomalous Experience, recently published by the American Psychological Association.

Douglas A. MacDonald, PhD
Douglas MacDonald is Assistant Professor of Psychology at the University of Detroit Mercy, and a psychologist in private practice in Windsor, Canada. Current areas of research interest and/or involvement include the assessment of spirituality and examination of its relationship to physical, psychological, and social functioning; non-ordinary states of consciousness; meditation as an adjunct to psychotherapy and medical interventions; and the structure of personality from the perspective of trait theory.

Peter V. Madill, MD
Dr. Peter Madill was born and raised on a sheep ranch in New Zealand and underwent his medical education there. He moved to California in 1975 to continue his studies in holistic medicine, which included training in acupuncture, nutrition, and, later, behavioral medicine. Following their marriage, Cindy, a native San Franciscan, and Dr. Madill opened their medical practice in Sebastopol, California. He continues to pursue his passion of contributing to the integration of the evolving understanding of spirituality and the mind-brain-body connection into mainstream and holistic medicine.

Donald Moss, PhD
Donald Moss, PhD, is a partner in Western Michigan Behavioral Health in Grand Rapids and Grand Haven, Michigan. He directs their Chronic Pain Services and Primary Care Outreach Services. He is Editor of the Biofeedback News Magazine and Consulting Editor for the Journal of Neurotherapy. He is also adjunct graduate faculty of the Saybrook Graduate School and Research Center in San Francisco. His primary interests are the application of clinical psychophysiological knowledge and interventions to the anxiety disorders, and to the functional problems of primary care medicine. His current book in progress is Handbook of Mind/Body Medicine for Primary Care (Sage).

Sebastian Striefel, PhD
Sebastian “Seb” Striefel became a Professor Emeritus in the Department of Psychology at Utah State University in September 2000. For twenty six years he continued on Page 39
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<td>Xavier Castellanos, MD</td>
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<td>SYMPOSIUM 1: Treatment Approaches to the Complex, Chronic and Difficult Medical Patient (2 tapes)</td>
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<td>SYMPOSIUM 2: Cognitive-Behavioral and Psychophysiological Approaches to Pain Management: Science and Practice (2 tapes)</td>
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<td>SYMPOSIUM 3: Peak Performance Training: Physiological Bases and Practical Approaches (2 tapes)</td>
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<td>Wesley Sime, PhD, MPH; Jonathan Cowan, PhD; Rae Tattenbaum, LCSW; Barry Sterman, PhD</td>
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<td>SC 1: A Protocol for Clinical and Financial Effectiveness: Helping your Patients and Helping your Practice (2 tapes)</td>
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<td>Avie J. Rainwater, III, PhD, ABPP, BCIA</td>
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<td>8:30 am-9:30 am</td>
<td>KEYNOTE ADDRESS: Social Context of Current Pain Management (2 tapes)</td>
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<td>SYMPOSIUM 4: The Future of Biofeedback: Fun and Games? (2 tapes)</td>
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<td>Alan T. Pope, PhD; Olafur S. Palsson, PsyD; Deborah Stewart; Lawrence J. Prinzel III, PhD; Jim Mitchell, MS</td>
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<td>10:00 am-11:00 am</td>
<td>SYMPOSIUM 5: Operant Conditioning or Conditioned Operation (2 tapes)</td>
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<td>Barry Sterman, PhD; Gail Peterson, PhD</td>
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<td>11:00 am-12:00 pm</td>
<td>CLINICAL FORUM: Constraint Induced Movement Therapy: Efficacious Behavioral Treatment for Motor Disability After Stroke (2 tapes)</td>
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<td>2 tapes</td>
<td>Edward Tash, PhD; Steven Wolf, PhD</td>
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<td>Naras Bhat, MD, FACP; Kusum Bhat, PhD</td>
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<td>9:00 am-10:00 am</td>
<td>SYMPOSIUM 6: Collaboration Between Primary Care and Applied Psychophysiology: Research, Education and Service (2 tapes)</td>
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<td>1 tape</td>
<td>Angele McGrady, PhD, MED, LPC; Margaret S. Davies, MD; Michael G. McKee, PhD; Ian Wickremasekera, PhD</td>
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- AAPB01-23 PRESIDENTIAL ADDRESS: Change: Detection and Modification
  - Doil Montgomery, PhD

10:30 am-11:30 am
- AAPB01-24 KEYNOTE ADDRESS: Symptoms and Science: Frontiers in Primary Care Research
  - Kurt Kroenke, MD

10:30 am-12:00 pm
- AAPB01-25 SYMPOSIUM 10: Advances in Real-Time TeleBiofeedback Internet Applications
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- AAPB01-26 FORUM 3 - KROENKE, MD
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- AAPB01-27 SYMPOSIUM 11: Optimal Functioning Paradigms
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taught graduate level courses in ethics and professional conduct, clinical applications of biofeedback, clinical applications of relaxation and behavior therapy. He was also the Director of the Division of Services at the Center for Persons with Disabilities at Utah State University. In that role he managed a variety of programs, including an outpatient clinic, a biofeedback lab and an early intervention program. He is a past president of the Association of Applied Psychophysiology and Biofeedback (AAPB), current president of the Neurofeedback Division of AAPB, Secretary/Treasurer of the International Section of AAPB and regularly writes an ongoing ethics column and conducts workshops on ethics, standards, and professional conduct.

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September 7, Friday • 7 hours
“New Approaches for ADD/ADHD: A Comprehensive Game Plan for Lasting Change”
Learn how to use neurofeedback as a core intervention for improving attention and reflection before action. Emphasis will be on the EEG as an assessment tool and a means for learning self-regulation in the context of a multi-modal approach.
Lynda Thompson PhD and Michael Thompson MD

September 7, Friday • 7 hours
“Migraines and IBS – Are They Both Brain Disorders?”
This workshop will offer an in-depth clinical guide to the advances in the diagnosis and management of primary headache disorders and irritable bowel syndrome.
Steven M. Baskin PhD

September 8, Saturday • 7 hours
“Neurofeedback and Biofeedback to Normalize/ Optimize Performance for Work and Play”
This workshop is about achieving excellent results by combining various biofeedback modalities: EEG, temperature, skin conductance, respiration, pulse, RSA, EMG. Clinical vignettes detailing assessments and treatment will be stressed.
Lynda Thompson PhD and Michael Thompson MD

**Chicago, Illinois**
November 8-9, Thursday and Friday • 15 hours
“Respiration: Connecting the Mind and the Body”
The workshop will cover two content areas: 1) the Psychophysiology of respiration and 2) autonomic regulation of the heart, lungs and viscera. Clinical techniques in breathing retraining will be covered in detail. The workshop concludes with a focus on clinical techniques to re-establish homeostasis.
Richard Gevirtz PhD

November 10-11, Saturday and Sunday • 15 hours
“Fundamentals of QEEG and Neurotherapy”
This workshop will provide an introduction to the concepts of QEEG from the definition of what is a band to more complex issues such as spatial Nyquist and volume conduction. The second day will include instrumentation applications and approaches. This course is an excellent preparation for individuals who plan to take the comprehensive 40 hour Fundamentals of Neurofeedback program.
Ted LaVaque PhD

November 6-10, Tuesday thru Saturday • 40 hours
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Faculty includes: Dale Walters PhD, Seb Striefel PhD, Joel Lubar PhD, Judith Lubar MA LCSW, J. Peter Rosenfeld PhD
I had the pleasure in January 2001 of delivering the commencement address for the first graduating class of the Behavioral Medicine Training and Research Foundation in Washington State. It was exciting to see three new doctoral graduates and four masters level graduates from this interdisciplinary program. I am proud to see new graduates with a solid preparation in psychophysiology and biofeedback completing their studies and entering the health care arena. These individuals are pioneers in starting a new independent profession of biofeedback practitioners. We may gain hope for the future, when new graduates contribute their energy to the field.

It is now over three decades since the first meeting of the Biofeedback Research Society in 1969 at the Surfrider Inn at Santa Monica. That small meeting of researchers in psychophysiology debated what to call the emerging new treatment approach involving electronic instrumentation and feedback. Contending groups argued for such labels as auto-feedback, self-regulation, and biological feedback. Finally biofeedback was chosen, and both the organization and the treatment approach were named. Both AAPB and the field of biofeedback are the culmination of a professional dialogue begun in that distant time.

The Santa Monica conference signaled a revolution in health care. Biofeedback involves gaining voluntary control over one’s own physiology. The diseases of the twentieth and twenty-first century call for personal involvement in seeking wellness. Today’s diseases, such as cardio-vascular disorders, diabetes, obesity, and lung cancer, are strongly influenced by life-stress and life style. It is not enough for the patient to passively wait for the physician to do something to the body to restore health. Instead the individual must bring about lasting changes in nutrition, activity level, lifestyle, coping skills, and stress management in order to correct or manage a chronic illness.

Today the general public has become convinced of the need for complementary and alternative approaches to health care. The recent study by Eisenberg, Davis, Ettner, et al (1998) shows that Americans by 1997 annually spent 27 billion dollars a year for 600 million visits to various non-traditional therapists. The media are abundant in references to “mind-body therapies” and “alternative therapies.” Unfortunately, what the public receives when it goes shopping for alternative care is mixed and even shoddy in quality. The public spends millions on crystals, oils, telephone psychic readings, magnets, and visits to non-certified health practitioners in wide variety, with few quality assurance systems in place. Few objective standards exist for non-traditional therapies, and the general public lacks relevant framework and knowledge to assess the therapies that are offered.

The field of biofeedback is strongly evidence-based. We continue to offer procedures with a foundation on empirical research. The quality of clinical services delivery, however, is highly inconsistent. I continue to hear from patients that they have paid for “biofeedback,” only to learn that the “biofeedback” consisted of being sent home with a relaxation training tape, without ever having the benefit of instrumentation-guided training. Alternately I hear that a patient was alone in a room with an instrument that she or he did not understand, and cannot tell me what part of their physiology was being monitored or what skills they mastered.

Today the availability of national certification is moving the field toward both standardization and quality assurance. Professionals learning biofeedback must attend didactic presentations in each knowledge area of the BCIA blueprint, learn to understand and operate biofeedback equipment, complete supervised personal training on the instruments, and carry out the required number of hours providing biofeedback treatment under supervision. Once these requirements are met, the stu- continued on Page 5A
This editorial is being written at the close of the first set of 2001 workshops being offered by AAPB. It will reflect two separate but related membership areas. The workshops, one offering 50 hours in general biofeedback and one offering 40 hours in neurofeedback, were, overall, very successful. So why am I discussing them? Do a good program, wrap it up and move on—right? Wrong. Do a good program, review it carefully and start looking at ways to improve it-right.

Step 1—read the evaluations carefully. Step 2—share the outcome (that’s why they call it feedback). Step 3: Make changes.

This is a process we have always used at AAPB. As a result we should get more people attending our programs. Interestingly, at this meeting, our numbers were comfortable, but lower. We continue to hear that the economy is affecting us. Not sure how we can effect that. Our programs are priced competitively and we have chosen inexpensive venues. In fact, this time, some folks asked for more amenities so they could bring families to vacation. We continue to bring new topics while offering the basics. And without question, AAPB has the best faculty ever. The folks teaching bring the latest knowledge and teaching techniques to the attendees. Our evaluation form asks for a rating from poor to excellent. I think a rating of “Doil rocks!” is somewhere way above excellent. I wish there were a way to convey the energy and enthusiasm of the workshop attendees—you gotta be there.

The second area is related because it has to do with feedback again—this time from the inside out. I was at the table of a Board meeting a few weeks ago and listened to some of the reports. It was incredible how much work all the committees were doing and how many projects initiated by the Board were being accomplished. Then we heard the report from the membership committee which included letters from a number of members who resigned. The common theme in the resignation letters was—(the organization) isn’t doing enough for me. We all read them and threw up our hands almost helplessly and groaned “How come they don’t know about this and that” as we named numerous projects. And after the din calmed down we looked at the process and realized that a lot of the good information on projects and programs was not just not being effectively translated through the association’s communications.

AAPB has a wonderful quarterly magazine we fondly call a newsmagazine, a scientifically reputable journal, an e-letter sent out monthly by the president, and a new and evolving web site. Every one is full of information about what AAPB is doing for you. We hope you read them and absorb the information and as a result want to be a part of AAPB ever more.

We don’t want you to miss anything—there’s too much good stuff going on.

Francine Butler PhD

The Future of Distance Learning

“There has been more information produced in the last 30 years than in the previous 5000.”
—Price Prichett

One of today’s realities is that knowledge is a continually moving target. Information that was considered current just two years ago is now, in many disciplines, considered hopelessly out-of-date. We have moved from the Industrial Age, to the Information Age, to the Knowledge Age. The time period for which knowledge is applicable and useful is decreasing while the volume of knowledge being produced is increasing. Shorter business cycles, the introduction of new technologies, and higher turnover of employees are reasons why the rapid capture and dissemination of knowledge is essential in today’s economy. Traditional business models, processes and training requirements are being re-engineered to adjust to these shorter timeframes.

As our economy continues to change, professionals will depend even more on education to gain the knowledge and skills necessary to succeed at work and at home. People will increasingly turn to the Internet for information and guidance on how to fulfill their career and personal goals. Distance learning has been referred to as the Internet’s “second wave.” By 2002, analysts estimate that 2.5 million North Americans will receive continuing education online. The Internet offers training solutions that can be customized to the individual’s knowledge, needs, learning style, schedule, and experience.

Distance learning offers you several benefits, such as: Convenience: as more and more people struggle to balance the demands of work and home, making time for continuing professional education is becoming increasingly difficult. Distance learning allows people to train anytime, anywhere, and at their own pace; Relevance: distance learning allows participants to bypass unnecessary content and enables them to focus on those sections of the course not yet mastered; Consistency;

continued on Page 5A
New York, Tuesday, September 11, 2001. A day that none of us will ever forget. Where were you? I was just parking my car, on the way to work, listening to WNYC, the local NPR station. The announcer said he thought that a second plane had just hit the other tower. I called my wife, and told her I thought we were at war. I worried about my cousin Brian, a WNYC commentator.

Here are some first-hand reports, from employees of a large corporation based about 20 floors up in the World Trade Center. They were lucky. They only lost 20 people, from about 350 in the building at that time. These accounts are from my memory. I have tried to be accurate, but please forgive me if I have misattributed some of the stories to particular people. The stories themselves are indelibly inscribed in my memory.

One man had just started drinking a cup of coffee. Suddenly there was a major jolt, and the coffee flew out of his hands. The building started swaying back and forth in a 30-degree arc. It was designed to do that. Everything was ok. But to some, the feeling of swaying stayed with them all day. Flames could be seen outside the window. Some thought: Maybe it is ok to stay here, as they had been trained. But outside the office, the hallway was full of smoke. They decided to leave.

A computer expert, in his mid 40’s, gave his story with a heavy Chinese accent: “I scoured the whole floor. I told everyone, ‘get out.’ Some people waited to pack up their laptops. I called my family and said that something hit the building, but that I was ok. I checked the whole floor. I even went into the mens’ room. Not the ladies’ room. Everyone was out… I was the fire marshal for the floor.”

“When I was sure everyone was out, I started down the stairwell. It was full of smoke. As I was walking down, firemen were walking up, urging us ‘Keep to the right, go quickly, be careful!’ And workers were telling them, too, ‘be careful.’”

He became tearful, and said that he was only able to keep himself emotionally intact by not talking about the firemen.

He exited on the 2nd floor, walked across the bridge to the World Financial Center, and took the last ferry to NJ. Half way across the river the buildings came down. Everyone on the boat went to one side, and the boat started to list. The captain told everyone to redistribute themselves.

Many others talked of the firemen. Some of the firemen were having trouble lugging their heavy equipment upstairs. Some of the workers turned around and helped them back up another 10 or so flights, then turned around and lived to tell the story.

One thing that everyone was clear about: No one had seen even a flicker of fear in the firemen’s faces. Just grim, professional determination. One worker gave a fireman her flashlight to help him through the black smoke.

Another worker, nearer to the elevator said: He saw a coworker get onto the elevator to go upstairs to the cafeteria on the 43rd floor, a young woman of Italian extraction. When the plane hit, a fireball shot down the elevator shafts, incinerating anyone in them, with flames leaping out the cracks in the door at each floor. A worker near the elevator shaft melted into the dissolving metal of the elevator door. People talked about this image as if it had been a dream.

Many people saw the company’s African American security guard standing in the lobby, with marble walls cracking around them. He was directing people how to get out of the building. He is one of the missing. Another worker disappeared again and again into the building to bring out injured and handicapped colleagues. The final time, he didn’t make it out.

Many of those who died were the most heroic of all. They died helping others.

An emergency room, Central New Jersey, Tuesday evening. I am working on the hospital’s crisis intervention team. A slow evening. Not many survivors made it this far into New Jersey. We had been prepared for hundreds. We were watching TV, the scenes that had us all glued to the screen. A Hispanic couple in their 40’s were standing in the corner of the room. The woman quietly sobbed each time the image of the flaming buildings appeared on the screen. Her husband had been on the 63rd floor of Tower 1. He kept saying “63rd”. I kept saying, “63rd Street? Could you see anything from there?” When he got to the lobby, he saw people jumping out of the building from the 100th floor. He heard the sound of their bodies hitting the ground. The “plopping” sound will never leave him. Most of his coworkers are dead.

His wife hadn’t heard from him until 4 that afternoon. The phones were not working. Cellular phone service was out throughout the city, and the wire lines were jammed. Her coworkers in NJ had been preparing her all day to accept the fact that he was dead. They went home at noon. She stayed at the office. He called her when he reached NJ. He was worried that he would not be able to pay his mortgage. The people he had worked for were gone.

Many evacuees stood at the base of the World Trade Center, transfixed by the sight of the burning buildings. Many of them didn’t survive.

People lined up at public telephones in the arcade under the World Trade Center. One person described the lines as 100 deep.
Managing Our Own Stress

Writing about stress management and biofeedback techniques in the shadow of such momentous events seems anticlimactic. I felt sorry for the rather articulate stress management expert from a local EAP program who had to talk to some World Trade Center survivors immediately after extraordinarily moving talks and prayers offered by a rabbi and a minister. Maybe this wasn’t in his league, or in mine.

But as professionals, much of whose work involves managing stress and its physiological sequellae, we do have a responsibility to take stock of our methods, and see what we can offer both to ourselves and to the many people who will be needing our services in the coming weeks and months, directly or indirectly because of the events of September 11.

So, can our storehouse of professional techniques and methods help us? What will war mean to ourselves, our clients, and our loved ones? None of us knows the capability or even identity of our enemy. We know we must “do something” to punish the perpetrators of one of history’s greatest crimes, and to protect ourselves. But, at least as private citizens, we do not have much information to go on; and, as any psychotherapist knows, “doing something” without enough information is often worse than doing nothing at all. “Don’t just do something,” one of my supervisors once said. “Stand there,” certainly until things become clear.

But standing still is stressful, and can be even more counterproductive.

Much of what we have learned from our field is about treating exaggerated stress reactions, often out of proportion to any real threats. How can we measure exaggeration here? Isn’t it normal to feel anxious now, threats. How can we measure exaggeration here? Isn’t it normal to feel anxious now, even to the point of experiencing some stress-related symptoms? This situation isn’t even to the point of experiencing some stress-related symptoms? This situation isn’t

If it’s little more than a futile exercise in catastrophe. Don’t exaggerate the strength of the enemy, whoever the enemy is. They are not that strong, and we are not that weak or vulnerable. We are becoming prepared. Thinking anxious thoughts breeds more anxious thoughts. It tunes our brains to scan for danger. The survival purpose of anxiety is to help us prepare to cope with dangers looming in the near future. How much thinking is necessary now in order to prepare for what we as individuals will be called upon to do within the next few days? Certainly some. But how much is the right balance? When does it cause us to think less clearly, or to exhaust us, to the point where we can prepare less well for what we are called upon to do?

1) Watch out for the vicious cycle of anxiety. Sometimes thinking about all of the “what if’s” is little more than a futile exercise in catastrophe. Don’t exaggerate the strength of the enemy, whoever the enemy is. They are not that strong, and we are not that weak or vulnerable. We are becoming prepared. Thinking anxious thoughts breeds more anxious thoughts. It tunes our brains to scan for danger. The survival purpose of anxiety is to help us prepare to cope with dangers looming in the near future. How much thinking is necessary now in order to prepare for what we as individuals will be called upon to do within the next few days? Certainly some. But how much is the right balance? When does it cause us to think less clearly, or to exhaust us, to the point where we can prepare less well for what we are called upon to do?

2) Keep your eye on the ball. Do not let this tragedy stop you from doing all the important things you were doing before. Keep work projects rolling. Give stress management seminars. Keep your biofeedback machines in good repair. Keep writing that paper. Advertise. Keep after the third party payers. And have fun. Go out to dinner. Dust off your guitar or fiddle. Climb a mountain. Go fishing. Pull out the knitting. Most importantly: go onto the AAPB website, www.aapb.org, and submit a poster, symposium or workshop proposal. Maybe, in a small way, it is now a patriotic duty, to ensure that our own organization survives and prospers, so we can help others with the coming wave of stress-related somatization and PTSD symptoms.
3) Care for your loved ones, and be sensitive to their needs. They are as stressed out as you are. Help them with their stress, don’t add to it. Draw on their company as a source of your own pleasure and strength. Isn’t this what life is really all about?

4) Active coping is better than passive. I guess that I covered this already. The active coping response might increase beta-sympathetic arousal, but it can be good for us, especially in times like this.

5) Talk and keep a diary. Recent research has demonstrated that mechanistic application of debriefing techniques, particularly in groups, can hurt more trauma victims than it helps. But we still need the support of others, and putting our ideas into words can keep us from exaggerating our fears or dissociating ourselves from them. Keep a diary. Write to others. Reach out to your friends. Figure out how we can help others by listening to them.

6) Stay involved with your community. This is a time to take strength from and contribute to community and religious organizations and institutions. Religious belief and practice also can be a source of strength and peace.

7) Don’t watch too much television. Although hiding our heads from reality is not adaptive, we sometimes need a relief from images of burning buildings and discussion of war strategies. Enough said about that.

8) Be tolerant, beware of ethnic and religious stereotyping. Enough said about that too.

9) Get help when we need it. We’re not superhuman. We’re in the business.

Psychopharmacology is also ok when needed. But watch out for kinds with major side effects (e.g., alcohol).

10) Above all, take a dose of your own medicine. Relax. Put the electrodes onto yourself for awhile. Breathe slowly. Relax your muscles. Center your thoughts. We all know how this restores our strength, clears the mind, and preserves well-being. Spread the skills around.

Biofeedback, Professional Education, and Complementary and Alternative Medicine continued from Page 1A

dent must pass the written and oral BCIA exams, and acquire initial certification. Thereafter, the certified professional must complete ongoing continuing education activities in order to renew the BCIA certification on an ongoing basis.

AAPB is dedicated to taking the lead in educating professionals in our field. AAPB is currently enlarging its education program, providing more web-based CE credits based on the AAPB journal and newsletter articles, and increasing the number and variety of workshops offered each year. A new AAPB program, in partnership with the DigitScript corporation, offers online videos, slides, transcripts, and handouts from keynote addresses, symposia, and workshops at our annual meeting, and CE credit based on brief exams covering those addresses. Twenty hours of programming from AAPB’s year 2001 Raleigh meeting are now online, with access through the AAPB website (www.aapb.org). General access will only cost $10.00 for AAPB members the first year, with access to workshops involving a workshop fee. This should make high quality lectures and workshops available to AAPB members who cannot afford the travel to the annual meeting.

Recently AAPB also purchased the Hartje home study program that provides the required didactic education necessary for the BCIA certification exam. This AAPB home study program will be a boon for professionals preparing for certification.

Our AAPB website provides information on the home study program. We can now see the emerging foundations for a new model of integrative health care and for a new health profession to implement this health care. Watching the Washington state students moving forward in cap and gown to receive their diplomas gave me a glimpse of this “health care of the future.” I am convinced that biofeedback and self-regulation approaches will play a large part in that health care. I hope that we will all be a part of that future.

References


The Future of Distance Learning continued from Page 2A

instructor-led training does not always guarantee that the same information or quality of instruction is provided to all students. Training Magazine (December 2000, v37) reported 50 to 60 percent improved consistency using some form of online learning.

The Association for Applied Psychophysiology and Biofeedback is on the cutting edge of this latest technology. Through our unique partnership with Digiscript, Inc., we want to make it easy for you to get online education and research on the latest mental health (?) issues. Many presentations from our 32nd Annual Meeting are digitally recorded and archived for you to view as much as you want, when you want, from wherever you have Internet access. Members can access our Virtual Library AT NO COST as part of our effort to bring you quality member services. Some of the many presentations you’ll find are:

• The Distinguished Scientist Address by Bernard T. Engel, PhD
• “The Anxiety Disorders: A Comprehensive Psychophysiologic Approach to Identification and Treatment,” by Donald P. Moss, PhD
• Keynote Address: “Neuroimaging of ADHD” by F. Xavier Castellanos, MD

And many other lectures and presentations. Among the highlights of our Annual Meeting were the opening remarks by Surgeon General Dr. David Satcher on the latest mental health report. Dr. Satcher has been instrumental in bringing suicide and suicide prevention to the forefront of our society. To view this outstanding lecture, and get a sample of our AAS Virtual Library, copy this link into your web browser (use Internet Explorer for optimal viewing):

http://library.digiscript.com/stream/index.cfm?id=lecture=383300 (find a hot-topic lecture and we can provide the link to it here.)

Again, this valuable information is free to AAPB members. You truly have to see it to believe it. So access our Virtual Library today from our homepage at www.aapb.org. Just look for the icon at the top of the page. Once you’re there, register as a new user to view the many lectures in our library. We’re confident you’ll find the virtual library a definite source on education, research, and professional growth. See you on the net!
New Task Force on Methodology and Empirically Validated Treatments

AAPB President Don Moss and SNR President Jay Gunkelman have appointed a new Task Force to develop standards on research methodology and on the empirical validation of treatments. Ted LaVaque and Cory Hammond have agreed to be co-chairs, with Cory representing SNR and Ted representing AAPB. The AAPB Neurofeedback and sEMG Divisions support the Task Force and have agreed to name delegates. Additionally, the Electroencephalography and Clinical Neuroscience Society (ECNS) has been approached to participate.

There have been several recent instances in which researchers have made critical statements about biofeedback lacking efficacy. The Association for Advancement of Behavioral Therapy (AABT) newsletter recently published an article critical of neurofeedback. A version of that article was later posted on a website dedicated to exposing pseudo-sciences. Reuters Health put out a press release reporting William Mullally’s headache research, and his statement that biofeedback is too expensive and not effective for headache. The New England Journal of Medicine published a landmark article challenging the placebo effect. In follow up to the NEJM study, a science reporter highlighted a biofeedback hypertension study, and stated that just entering a study was as effective as biofeedback in treating hypertension.

Each case is different, and groups like AAPB and SNR can respond by highlighting errors or weaknesses in an author’s empirical work or in failure to cite stronger biofeedback studies. There is a larger problem, however. It is difficult to respond strongly when one’s own house is not in order.

The AAPB efficacy book is seven years old and the AAPB white papers are not current. Practitioners announce new applications regularly, yet as a field we fail to discriminate among first line well documented treatments, and experimental new applications. The current health care movement toward evidence based medicine and “best practices” standards will leave biofeedback behind, unless we better validate and rate our own treatment protocols.

The Task Force is designed not to judge specific applications, but to identify standards for making these judgments validly; not necessarily merely adopting standards promulgated by APA or AABT. We need to make our own standards and then use them to evaluate our field in an objective way. The field needs a strong set of methodological standards, by which we can discriminate among applications: Best Validated, Well Validated, Some Validation, Unvalidated, Not Validated. This will give credence to our effective treatment protocols.

The Task Force will report back to the participating Boards of Directors for their comments and possible adoption of the proposed standards. More details on this Task Force and its objectives will be available on the AAPB and SNR Websites as well as in the Biofeedback Newsmagazine and SNR newsletter.

AAPB Announces New, Interactive Virtual Library Online plus CD-ROM Highlights

How long is your attention span? For the typical adult learner, it’s about an hour and a half. And that’s only in an environment that’s captivating, motivating, and experiential. Conference and workshop settings are ideal for this. But if you just couldn’t make it to our 32nd Annual Meeting, how can you get this valuable information, just as those of us who were there actually saw it?

You might have noticed the cameras in many of the lecture rooms at our last conference.

Thanks to our partnership with DigiScript, we digitally recorded many presentations in both audio and video, not to mention the slides, PowerPoint presentations, and complete transcription. We are now pleased to offer you these presentations interactively via the Internet, as it was originally presented, for only $10 in our AAPB Virtual Library. You didn’t have to be there to see it all.

Have you ever wanted to stop a speaker mid-way through a lecture and ask “Excuse me, could you repeat that?” Or stand up and stretch now and then? All of this is possible while experiencing a workshop in our Virtual Library. Every lecture is fully indexed and searchable by keyword or phrase. Start and stop at will, even bookmark throughout a lecture and return to it two weeks later. Take notes on your computer “note pad”, then print them out. You can also reprint an entire transcript of the lecture, depending on the speaker’s consent, and take it home or to work.

To access the virtual library, visit http://aapb.digiscript.com. If you’re a first time visitor, register as a new user, then subscribe for only $10! Coming soon: highlights of our Annual Meeting on CD-ROM including:

• Dysfunctional Breathing and Breathing Therapy, Dr. Jan Van Dinxhoorn, MD, PhD
• Is Breathing Really Abnormal in Anxiety Disorders?, Walton Roth, MD
• Biofeedback: A Model for Integrating Physiology and Behavior, Bernard Engel, PhD
• Mindful Eating: Physical and Psychological Hunger, Naras Bhat, MD, Cybernetic Medical Institute

Look for more information in upcoming newsletters and via email. We hope you will take advantage of this unique learning technology through AAPB.
The official BCIA website - www.bcia.org - is educating the world about biofeedback certification and how to locate certified practitioners 24 hours per day! Have you taken advantage of the expanded listing opportunity? A free standard listing for all certified practitioners shows your zip code, city, state, name, professional designation, telephone number, and BCIA certification type - General Biofeedback or EEG. The expanded listing is comparable to a business card ad in the yellow pages. For $35 per year, you can inform the public and other professionals about the work you do and the clients you treat. New in 2001 - linkage to your website! This is included for the same price. You may download an order form from the BCIA website or contact the office for further details.

**Attention EEG Certificates:**

BCIA needs your help. We are constantly updating our EEG exam item bank by adding new questions validated by qualified clinicians. BCIA will hold an EEG item validation exam in conjunction with the SNR fall workshop in Monterey, California. The exam will be on Friday, October 26. It has been scheduled to allow you to attend the workshops and associated functions of SNR beginning on Saturday, October 27. All EEG certificants are invited to take advantage of this opportunity to earn 3 Category A hours toward recertification. Call the BCIA office at (303) 420-2902 for details.

**Pelvic Floor Certification**

The BCIA Board has been in contact with Dr. John Perry, PhD about the possibility of launching a certification program in pelvic floor biofeedback. BCIA is very interested in learning what the experts in the field think this certification should look like and how we can make it a successful match with our other programs. If you are currently doing pelvic floor work or are interested in the possibility of this type of certification, please contact the BCIA office in order to get more details. Let us know what you think! E-mail us at BCIA@resourcecenter.com.

**Insurance through NPG**

By now you all know about obtaining great liability insurance rates as an AAPB member who is BCIA certified. Good news bears repeating! Visit our website at bcia.org or the AAPB website at aapb.org.

**Insurance Fraud**

BCIA has been working with insurance fraud investigations of practitioners who are falsely claiming to hold BCIA certification. When unqualified people act irresponsibly and provide poor quality services, the muddy water splashes back on all of us. The good news is that BCIA has been working with several large insurance companies, who are delighted to know about our certification programs and who will be recommending reimbursement only for certified practitioners.

**Alternative Certification**

BCIA has learned that the Neurotherapy and Biofeedback Certification Board (NBCB) is now offering lifetime and other forms of biofeedback certification to practitioners who already hold BCIA certification. Last year, as you may recall, NBCB offered recertification to BCIA practitioners certified in EEG Biofeedback. This caused confusion among our certificants, and it was necessary for us to explain that NBCB was not authorized by BCIA to recertify our certificants.

With this new expanded offering, it is necessary for BCIA to clarify matters again. We would like all BCIA certificants to know that BCIA has not authorized any recertification or reciprocal certification by NBCB. BCIA does not believe that the NBCB certifications add any value to your BCIA certification because they are not based on any additional educational, training, or assessment criteria beyond the standards you have already met.

BCIA has always held that the provision of biofeedback services is a complex and demanding professional undertaking that should be guided by professional codes of ethics, applicable state law, and certification based on high standards of demonstrated educational, training, and examination competence.

An additional NBCB proposal - to certify biofeedback technicians - should also concern us. Biofeedback technicians would be certified without anything more than ongoing supervision by a NBCB certified trainer. The materials available from NBCB do not indicate any other educational or training requirements.

BCIA knows our certificants will join us in opposing any attempt to reduce standards of ethical biofeedback practice.

**Barbara Brown, PhD, AAPB’s First President**

We have recently learned that Barbara Brown passed away in 1999, at a Rancho Mirage nursing home where she had lived, post-stroke, for several years. A Veterans Administration researcher, Dr. Brown was one of the organizing founders of AAPB (then called the Biofeedback Research Society), served as the first president of AAPB (from 1969-1970), and was among the first and most successful to make the public aware of the power and potential of biofeedback.

Her lay books on biofeedback (New Mind, New Body, and Stress and the Art of Biofeedback) were widely read and well received in the early seventies, and still stand up as good reads for most biofeedback applications. AAPB is seeking photos, anecdotes, and memories about Dr. Brown, her work, and influence, in preparation for assembling a tribute to her to be presented at the annual meeting and in the Biofeedback Magazine.

Anyone wishing to make a donation in her memory, may send a contribution to the AAPB Foundation, 10200 W. 44th Ave., Suite # 304, Wheat Ridge, CO 80033. Foundation support for student scholarships would be a fitting tribute to Barbara Brown.

[Rob Kall]
Strange New Medicare Rules For Incontinence Treatments:
Kegel’s Perineometer Will Not Be Reimbursed, But Failure at Kegel Exercises is Now Required

By John D. Perry, PhD, Chair, AAPB Task Force on Incontinence

Effective July 1, 2001 new rules, which were intended to enshrine only rock-solid evidence-based-medicine, have resulted in a hybrid therapeutic system that seems more designed to serve the needs of major instrument manufacturers and professional guilds than Medicare’s patient population.

The new regulatory morass came in two steps. On April 1st HCFA changed the status of external “electrical stimulation” from “absolutely NOT covered” to “nationally covered.”

Two restrictions were announced. The first, coverage for electrical stimulation will be allowed only after failure at verbal-instruction-only pelvic muscle exercise (PME), commonly (but incorrectly) known as “Kegel Exercises.” It is not yet known whether the four weeks must be “prospective” or can be “retrospective.”

The “Four Weeks Failure” clause is an enigma, since it doesn’t make much sense to require a test that virtually every patient is guaranteed to fail. Even organizations that actively promote PME’s admit that it takes 4 to 6 months to achieve significant results. No one is going to get “significant improvement” in only 4 weeks. [Hint: There is no corresponding four-week-waiting period for drugs or surgery.]

The second restriction was a very big surprise, because the topic never came up a public hearings: “stimulation” will only be reimbursed when patients use an inserted vaginal or anal electrode - not when using surface patch electrodes - a victory for certain major equipment manufacturers!

Step Two came on July 1, 2001 - more than 14 months after the public hearings - when Medicare began offering reimbursement for biofeedback in treatment of urinary incontinence. The new biofeedback regulations include the same “Four Week Failure” clause, with no more clarity than under the stimulation rules.

And there were two new surprises. First, unlike stimulation, inserted vaginal or anal sensors are NOT required for biofeedback. This is the opposite of clinical experience, which shows that inserted sensors provide more accurate signals for EMG, but stimulation works just as well with patch electrodes. This is because fatty peritoneal tissue attenuates EMG signals, but a stimulation device can be “turned up” to compensate.

The second surprise was the exclusion of home biofeedback trainers from coverage. Ironically, Arnold Kegel’s original 1948 perineometer, the device which started this whole revolution a half century ago, and which was designed to enable daily home practice, will not be covered under the new Medicare plan, which will not pay for any biofeedback device used in the home.

The exclusion of home biofeedback is especially bothersome because it is the use of daily home training that has produced the best clinical outcomes, according to both government and private research.

Worse yet, not only are at-home biofeedback instruments not covered, but physicians (and nurses, physical therapists, and biofeedback specialists) will not be allowed to charge for visiting invalid patients at home. This restriction seems especially cruel.

The net effect of these two sets of rules is that biofeedback is “OK” in the office, and electrical stimulation is “OK” at home and in the office. This has created a new model of clinical practice that has never been the subject of formal research by experimenters. Yet it is destined, for the time being, to become the new national standard of practice.

We need only assume that practitioners will, as they always have — bill Medicare for as many HCPCS codes and modalities as they possibly can get away with in a single office visit. Thus the most lucrative clinical pattern will be to provide and charge the patient for BOTH office biofeedback AND electrical stimulation in a single visit. The patient will then take the stimulation unit home for daily treatment - with rental or purchase paid for by Medicare.

Ironically, the requirement for inserted stimulation sensors means that these sensors will also be available for EMG biofeedback, providing better results than surface electrodes. And although it is possible to do stimulation without objective measurements, the additional reimbursement for biofeedback in the clinic will prompt clinicians to actually evaluate pelvic muscle condition on a weekly basis - something that should be done anyway. In the past the extra cost of inserted sensors was a barrier to biofeedback, but now it is a requirement for stimulation reimbursement.

It is rumored that the new regulations will come up for review in three years, which should be sufficient time for biofeedback clinicians to collect comparative data about relative efficacy of biofeedback versus stimulation home devices.

As a matter of clinical expediency, biofeedback therapists can point out to their Medicare patients who can afford it that they can always rent an EMG home trainer for a lot less than the cost of their present (non-reimbursed) adult incontinence products.

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Send chapter meeting announcements, section and division meeting reports, and any non-commercial information regarding meetings, presentations or publications which may be of interest to AAPB members. Articles should generally not exceed 750 words. Remember to send information on dated events well in advance (we may be able to publicize your event more than once if you get your calendar to us early enough).

Send Word (.doc) or text files by e-mail to the News and Events Editor: Ted LaVaque, PhD tlavaque@dct.com by September 1 for the Spring Issue.
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**SPECIAL REFERENCES ON THE USE OF BIOFEEDBACK FOR HEADACHE**

The following information is for reference only. Please refer to the original journals for further information. Contact info is given where available.

**Author(s):** Mauskop, A.
**Title:** Alternative therapies in headache. Is there a role?
**Journal:** Medical Clinics of North America
**Volume:** 85, Number: 4, pp. 1077-84
**Published:** Jul 2001

**Author(s):** Arndorfer, R.E., Allen, K.D.
**Title:** Extending the efficacy of a thermal biofeedback treatment package to the management of tension-type headaches in children.
**Journal:** Headache
**Volume:** 41, Number: 2, pp. 183-92
**Published:** Feb, 2001

**Author(s):** Diamond, S.
**Title:** Tension-type headache.
**Journal:** Clin Compr Endosc
**Volume:** 1, Number: 6, pp. 33-44
**Published:** 1999

**Author(s):** Marcus, D.A., Scharff, L., Mercer, S., Turk, D.C.
**Title:** Nonpharmacological treatment for migraine: Incremental utility of physical therapy with relaxation and thermal biofeedback.
**Journal:** Cephalalgia
**Volume:** 18, Number: 5, pp. 266-72; discussion 242
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**Author(s):** Grazzi, L., D_Amico, D., Leone, M., Moschiano, F., Bussone, G.
**Title:** Pharmacological and behavioral treatment of pediatric migraine and tension-type headache.
**Journal:** Italian Journal of Neurological Sciences
**Volume:** 19, Number: 2, pp. 59-64
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**Author(s):** Van_Hook, E.
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**Journal:** Clinical Neuroscience
**Volume:** 5, Number: 1, pp. 43-9
**Published:** 1998

**Author(s):** McGrady, A.V., Bush, E.G., Grubb, B.P.
**Title:** Outcome of Biofeedback-assisted relaxation for neurocardiogenic syncpe and headache: a clinical replication series.
**Journal:** Applied Psychophysiology and Biofeedback
**Volume:** 22, Number: 1, pp. 63-72
**Published:** Mar 1997

**Author(s):** King, N.J., Tonge, B.J.
**Title:** Behavioural assessment and treatment of chronic headaches in children.
**Journal:** Journal of Paediatrics and Child Health
**Volume:** 32, Number: 5, pp. 359-61
**Published:** Oct 1996

**Author(s):** Marcus, D.A., Scharff, L., Turk, D.C.
**Title:** Nonpharmacological management of headaches during pregnancy.
**Journal:** Psychosomatic Medicine
**Volume:** 57, Number: 6, pp. 527-35
**Published:** 1995

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Friday, March 30, 2001

1:30 pm-2:30 pm
- AAPB01-01 KEYNOTE ADDRESS: Neuroimaging of ADHD
  Xavier Castellanos, MD
  1 tape

3:00 pm-4:30 pm
- AAPB01-02 SYMPOSIUM 1: Treatment Approaches to the Complex, Chronic and Difficult Medical Patient
  Donald Moss, PhD; Richard Gevirtz, PhD; Olof Pålsson, PsyD; Mory Edwards, PhD; Gabriel E. Selma, MD, MPH, MSc; Terence Davies, MD
  1 tape
- AAPB01-03 SYMPOSIUM 2: Cognitive-Behavioral and Psychophysiological Approaches to Pain Management: Science and Practice
  Francis J. Keefe, PhD; Christopher Edwards, PhD; Wendy Webster, MA, Frank Andrasik, PhD
  1 tape
- AAPB01-04 SYMPOSIUM 3: Peak Performance Training: Physiological Bases and Practical Approaches
  Wesley Sine, PhD, MPH; Jonathan Cowan, PhD; Rae Tattenbaum, LCSW; Barry Stierman, PhD
  1 tape

Saturday, March 31, 2001

7:00 am-8:30 am
- AAPB01-05 SC 1: A Protocol for Clinical and Financial Effectiveness: Helping your Patients and Helping your Practice
  Avie J. Rainwater, III, PhD, ABPP, BCIA
  1 tape

8:30 am-9:30 am
  Richard Weiner, PhD
  1 tape

10:00 am-11:00 am
- AAPB01-08 SYMPOSIUM 4: The Future of Biofeedback: Fun and Games?
  Alan T. Pope, PhD; Olof Pålsson, PsyD; Deborah Stewart; Lawrence J. Prinzell, III, PhD; Jim Mitchell, MS
  1 tape
- AAPB01-09 SYMPOSIUM 5: Operant Conditioning or Conditioned Operation
  Barry Stierman, PhD; Gail Peterson, PhD
  1 tape

10:00 am-12:00 pm
- AAPB01-10 CLINICAL FORUM
  Richard Weiner, PhD
  2 tapes
- AAPB01-11 KEYNOTE ADDRESS: Dysfunctional Breathing and Breathing Therapy
  Jan van Dixhoorn, MD, PhD
  1 tape

1:00 pm-2:00 pm
- AAPB01-12 SYMPOSIUM 6: Collaboration Between Primary Care and Applied Psychophysiology: Research, Education and Service
  Angele McGrady, PhD, MED, LPCC; Margaret S. Davies, MD; Michael G. McKee, PhD
  1 tape

1:00 pm-2:00 pm
- AAPB01-13 Distinguished Scientist Address
  Biofeedback: A Model for Integrating Physiology and Behavior
  Bernad T. Engel, PhD
  1 tape

2:00 pm-3:30 pm
- AAPB01-14 KEYNOTE ADDRESS: Constraint Induced Movement Therapy: Efficacious Behavioral Treatment for Motor Disability After Stroke
  Edward Taub, PhD; Steven Wolf, PhD
  1 tape
- AAPB01-15 SYMPOSIUM 7: Low Resolution Brain Electromagnetic Tomography (LORETA) in Adult ADHD
  Joel Libas, PhD; J. Nolten White, Jr., MS; Leslie Sherlin; Marco F. Congedo
  1 tape

2:00 pm-4:00 pm
- AAPB01-16 CLINICAL FORUM
  Jan van Dixhoorn, MD, PhD
  2 tapes

4:00 pm-5:30 pm
- AAPB01-17 SYMPOSIUM 8: Towards a Standardization of Psychophysiological Investigative and Rehabilitative Biofeedback Modalities
  Gabriel E. Selma, MD; Stuart Donaldson, PhD; Jaime Romano, MD; Arnon Rohnick, PhD; Eugenio Carnagioni, PhD
  1 tape
- AAPB01-18 SYMPOSIUM 9: Biofeedback and Related Interventions for Pediatric Headache: Approaches and Perspectives Around the World
  Frank Andrasik, PhD; Wolf-Dieter Gerber; Peter Kropp; Michael Smucklin; Licia Grassi; D. D'Amico; M. Leone; G. Bussone; Bo Larsson; Timothy P. Colbert, MD; Elizabeth Stroebel, PhD
  1 tape

4:00 pm-5:00 pm
- AAPB01-19 KEYNOTE ADDRESS: Is Breathing Really Abnormal in Anxiety Disorders?
  Walton T. Roth, MD

Sunday, April 1, 2001

7:30 am-9:00 am
- AAPB01-20 SC 3: Mindful Eating
  Physical and Psychological Hunger
  Naras Bhat, MD, FACP; Kusum Bhat, PhD
  1 tape
- AAPB01-21 SC 4: Basic Review of Neurons
  Fred Shaffee, PhD; Fredrick Franken
  1 tape

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