

AGING Notes

UNIVERSITY OF WISCONSIN INSTITUTE ON AGING

SPRING 2005



Updates From Mind-Body Center

◆ In the Face of Pain: The Relationship between Psychological Well-Being and Disability in Women with Fibromyalgia

Periodic aches and pains are quite common as we grow older. However, for some the pain is more sustained, associated with a generalized tenderness to even moderate touch pressure, and may be accompanied by debilitating fatigue. When there is no medical explanation for the pain such as arthritis, diabetes or a thyroid condition, this painful state is often described as being fibromyalgia. Fibromyalgia is surprisingly prevalent, impacting about 1-2% of younger adults, and the incidence rises with age. By the time we reach our 60s, about 6% of people are likely to meet the clinical criteria for a diagnosis. It also occurs more frequently in women than men, at a ratio of about 6-7 to 1. Despite these facts, we still know very little about the etiology of

fibromyalgia, or the biological basis for the persistence of the pain. For some it seemed to start spontaneously and for others it began after an infection or recovery from a physical trauma.

For the last 5 years, a group at the University of Wisconsin, comprised of a rheumatologist, immunologist, psychiatrist, and several psychologists, has been investigating the physiological and psychological correlates of pain in women with fibromyalgia. A primary goal was to determine if there were some subtle hormone or immune imbalances, which might not have been detected previously with the standard laboratory tests. Another aim was to ascertain whether certain personality attributes and outlooks could be helpful in coping with the unremitting pain, and thereby reduce the disabling aspects of this enigmatic condition. It has been known for a long time that depression can be one of the side effects of having to deal with chronic pain and fatigue on a daily basis. Perhaps these negative feelings could also feed back and make one more sensitive to the pain, and to feel less able to strategize and bear up to the limitations it can impose on one's lifestyle.

The project's main focus, however, was not to dwell just on the negative, but rather to investigate the potential power of positive emotions to sustain and invigorate a person living with pain. Specifically, one arm of the study evaluated what aspects of psychological well-being

were most compromised in individuals with fibromyalgia, and which domains might be more helpful in reducing the disabling impact of pain. For example, the findings suggested that being able to maintain a sense of environmental mastery (that is, feeling that one can effectively manage life's demands and the surrounding world), as well as being able to sustain the belief that life is meaningful and purposeful, were extremely helpful in reducing the disabling and demoralizing effects of the frequent pain and fatigue symptoms. Of course, this type of attitude is not so easy to maintain on one's own, especially if a person feels socially isolated. Thus, it may not be too surprising that two other domains proved to be very important: 1) being able to maintain high quality positive relations with others, and 2) to have a favorable view of one's past and current life.

Maybe maintaining a positive attitude is not easy to do when dealing with unrelenting physical symptoms and an illness that we don't yet understand or know how to cure. So an important corollary of the first study was to evaluate the potential benefits of an intervention that can help to foster this type of positive cognitive and emotional outlook. Some women with fibromyalgia were offered a two-month course in mindfulness meditation, which incorporates many practices that derive from stress management and relaxation therapies, along with yoga techniques and an emphasis

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on being “mindful”. That is, with mental training to stay focused on the present, not to dwell in the past or worry so much about the future. Although it did not prove to be an instant cure for fibromyalgia, the 1.5-year follow up indicated that sustained practice was helpful in improving sleep, reducing negative emotions, and lessening the feeling of being disabled by the pain.

This project was sponsored by the Mind-Body Center, which has had an abiding interest in furthering our understanding of how physiological processes are affected by our psychological state, and in turn, how bodily responses can influence our mood and thought. These ideas are also very germane to the aging process, when our attitudes have a growing influence on our sense of vitality and health, and if challenged, can even increase our susceptibility for illness.

Christopher Coe **Professor of Psychology**

Source: “In the Face of Pain: The Relationship between Psychological Well-Being and Disability in Women with Fibromyalgia.” H. Schleicher, C. Alonso, E. Shirtcliff, D. Muller, B. Loevinger, C. Coe. Psychosom 851 (2005).

◆ **Psychological Well-Being and Risk of Disease in Older Women**

As people age, they typically become more vulnerable to health problems such as heart disease, Alzheimers Disease, and arthritis, and many of these diseases are linked to larger amounts of specific

disease-related chemicals in the blood. One of these chemicals, interleukin-6 (IL-6), rises with age and rises even faster in people who have strong negative psychological experiences, such as clinical depression or the stress of caring for a spouse with a chronic disease. Institute on Aging researchers Elliot Friedman, Ph.D., Gayle Love, Ph.D., and Carol Ryff, Ph.D. report that positive psychological experiences might have the opposite effect. In a sample of 135 women aged 61-91, those that maintained high quality social relationships had significantly lower levels of IL-6 in their blood. Women who actively pursued their personal life goals had lower levels of soluble IL-6 receptors, molecules that amplify the effects of IL-6 in the body. Even after the impact of age, health, use of medication, smoking, and alcohol consumption, the lower levels of IL-6 remained lower. This is one of the first studies to show that psychological well-being, and not just stress and depression, predicts levels of IL-6 in the blood. These results also suggest that psychological well-being might serve as a protective factor against rising IL-6 levels, and perhaps disease burden, in aging people.

Elliot Friedman, UW Robert Wood Johnson Health & Society Scholar **Population Health Sciences**

Source: “Psychological well-being and proinflammatory factors in a sample of aging women.” E. Friedman, M. Hayney, G. D. Love, B. H. Singer, C. D. Ryff (2005). Paper presented at the March 2005 American Psychosomatic Society Meeting, Vancouver, BC.

◆ **Well-Being and Biology: What are the Connections?**

Recent findings from a longitudinal study of older women show that having high levels of psychological well-being, such as being actively engaged in life and having good quality relations with others, correlates with having a better biological profile (i.e., lower cardiovascular risk, lower stress hormones throughout the day, lower levels of inflammatory markers, better sleep efficiency). Interestingly, the study also showed that reports of feeling good and contentment were not significantly linked with biological factors, suggesting that “purposeful engagement in living” may be more important for health than happiness. Whether these mind-body linkages are true for younger adults as well as men is an important question for future research. It is also unclear from these findings whether the positive life outlook influences the biology, or the biology influences the positive outlook, or both. Longitudinal data collected on the same sample will be examined to help answer that question.

Carol D. Ryff **Professor of Psychology** **Director, Institute on Aging**

Source: “Positive Health: Connecting Well-Being with Biology.” C.D. Ryff, B.H. Singer, & G.D. Love, Philosophical Transactions of the Royal Society of London B (2004), 359, 1383-1394.

Certificate Program Influences Student's Career Goals

The Specialist in Gerontology certificate is an important part of the Institute on Aging's (IOA) education goal and is designed to provide students with a broad overview of the field of aging. The certificate program supplements majors across campus to provide the multidisciplinary knowledge necessary for careers in aging.

Maggie Kengott, a student in the UW Department of Human Development and Family Studies, is enrolled in the certificate program in preparation for a career in aging. Ms. Kengott explains how the program complements her major course of study and work experience to prepare her for future endeavors.

"I am taking classes toward the UW Institute on Aging certificate in gerontology, in addition to pursuing my Bachelor's degree in Human Development and Family Studies. I work as a student hourly at the IOA where my duties include data entry, transcription, and data collection for the Later Life Resilience Study, under the direction of Dr. Carol Ryff. My participation in the certificate program and my employment with the IOA will help prepare me for a summer internship at the Senior Center in Madison. The knowledge gained from this internship,

my employment, and participation in the certificate program will help prepare me for a well-rounded career in the field of gerontology. Currently, my interest is in developing learning programs and activities for active senior citizens. Furthering my knowledge and work experience in the field of gerontology will

allow me to consider careers in many other settings such as health care facilities, including those that offer services in long-term care, home health agencies, and community agencies such as senior centers, retirement communities, and assisted living environments. I will pursue my master's degree in the field of aging, which will expand my career opportunities, such as working in a university setting, adult education site, or other areas that facilitate lifelong learning for senior citizens. I am grateful for the opportunity to complete the certificate program and to continue working at the IOA, which I feel will be stepping-stones toward a long-term career in gerontology."



◆ Well-Being, the Brain, and Health

People who report generally more positive and less negative emotions tend to show different patterns of brain circuitry (i.e., greater left than right prefrontal activation). Recent findings from a subsample of the Wisconsin Longitudinal Study also show that the left frontal region is more important among individuals showing high profiles of purposeful life engagement, positive self-regard, and good quality ties to their significant others. A related study with the same sample also found that greater right-sided EEG activation was linked with poorer immune function, measured in terms of a weaker antibody response to influenza vaccination. Together, these findings illustrate how UW-Madison research is mapping connections between reported levels of psychological well-being, brain activation patterns, and health outcomes.

Heather Urry, Assistant Scientist, UW Department of Psychology

Sources:

"Making a Life Worth Living: Neural Correlates of Well-Being." H.L. Urry, J.B. Nitschke, I. Dolski, D.C. Jackson, K.M. Dalton, C.J. Mueller, M.A. Rosenkranz, C.D. Ryff, B.H. Singer, & R.J. Davidson, *Psychological Science*, 15, 367-372.

"Affective style and in vivo immune response: Neurobehavioral mechanisms." M.A. Rosenkranz, D.C. Jackson, K.M. Dalton, I. Dolski, C.D. Ryff, B.H. Singer, D. Muller, N.H. Kalin, & R.J. Davidson, *Proceedings of the National Academy of Science*, 100, 11148-11152.

"You don't stop laughing because you grow old; you grow old because you stop laughing."

Michael Pritchard

17th Annual Colloquium on Aging October 19, 2005

The 2005 Colloquium on Aging will be held on Wednesday, October 19, at the Monona Terrace Convention Center. In addition to the following speakers, the program will include a health fair, poster session, and luncheon.

◆ **Harry R. Moody, Ph.D.,** is Director of Academic Affairs for AARP and Senior Associate with the International Longevity Center, and he will be the guest speaker for the Tobias lecture. A graduate of Yale and a Ph.D. in philosophy from Columbia University, Dr. Moody is the author of more than 100 scholarly articles as well as a number of books, including *Abundance of Life: Human Development Policies for an Aging Society*, 1988; *Ethics in an Aging Society*, 1992; and *Aging: Concepts and Controversies* (4th Ed.), 2002. His most recent book, *The Five Stages of the Soul*, 1997, has been translated into seven languages worldwide. He served as the National Program Director of the Robert Wood Johnson Foundation's Faith in Action, Executive Director of the Brookdale Center at Hunter College, and Co-Director of the National Aging Policy Center at the National Council on Aging. Dr. Moody is also known nationally for his work in older adult education and recently served as Chairman of the Board of Elderhostel.

◆ **Steve Barczi, M.D.,** is an Associate Professor in the UW Department of Medicine (Geriatrics), who is recognized nationally for his expertise in sleep changes and sleep disorders in later life. He is fellowship trained with certification in geriatric medicine and sleep medicine. He serves as a clinician-educator within the UW Section of Geriatrics Medicine and the Madison V.A. Hospital Geriatric Research Education and Clinical Center (GRECC). Dr. Barczi has a clinical practice in geriatrics primary/ consultative care as well as adult and older adult sleep medicine. He also oversees geriatric education programming for the UW Medical School internal medicine residency and UW geriatric medicine fellowship. The title of his presentation is "Sleep Changes in Later Life: Causes and Consequences."

◆ **Tracy Schroepfer, Ph.D., MSW,** is an Assistant Professor in the School of Social Work at UW-Madison. Her research focuses on the physical, psychosocial, and spiritual factors that terminally ill elders feel contribute to a quality dying process. She is a recipient of the Hartford Geriatric Social Work Faculty Scholar Award, a national award that provides support for her current research—the development of an instrument to assess the psychosocial and spiritual needs of terminally ill

elders. Dr. Schroepfer utilizes her experiences as a hospice social worker in teaching her new course, "Death and Dying: Implications and Challenges for Practice."

◆ **Elliot Friedman, Ph.D.,** is a Robert Wood Johnson Health & Society Scholar in the Department of Population Health Sciences at UW-Madison. He received his Ph.D. in Behavioral Neuroscience from UW-Madison, and postdoctoral training in Neuroimmunology at the University of California, San Diego. Dr. Friedman's research has focused on immune function in rat models of depression, work that has been supported by the National Institutes of Health. Through the Robert Wood Johnson Health & Society Scholars Program, he has begun new research on psychological well-being and its impact on disease and biomarkers of disease in human populations, particularly aging individuals.

If you are not already on the IOA mailing list but would like to receive information about the colloquium and other events, please call 608-262-1818 or e-mail aging@ssc.wisc.edu. A brochure with further details and registration information for the colloquium will be mailed in September.

It's Never Too Late to Learn

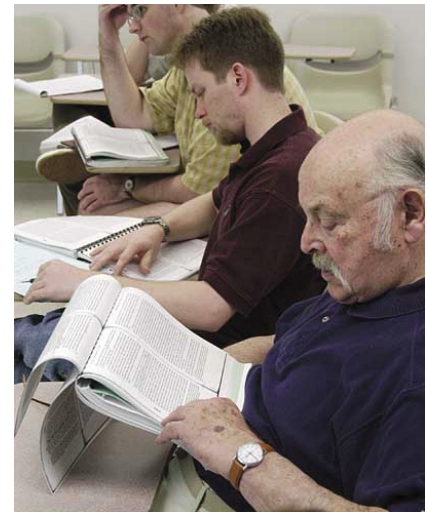
The Participatory Learning and Teaching Organization (PLATO) began in 1987 as Learning in Retirement program at the UW-Madison and is a senior education program in the Division of Continuing Studies. The organization is also affiliated with The Elderhostel Institute Network, a national organization of Institutes for Learning in Retirement.

PLATO members are diverse individuals with a variety of abilities, hobbies, and interests brought together by their dedication to lifelong learning. They exchange information, ideas and insights in a mutual search for knowledge and understanding, primarily through small-group discussion. Each session offers an opportunity to participate in ongoing classes and new offerings. The groups meet weekly each semester for 10 weeks on UW-Madison campus and off-campus locations such as Madison senior centers, banks, and libraries. Casual events are combined with lectures and other programs throughout the year. Discussion and study groups are formed by members who find common interest in specific subjects and choose coordinators to organize and lead the groups. Members share life experiences, study subjects they have always dreamed of exploring, or just come to listen. Popular topics include art, contemporary issues, current events, history, literature, music, philosophy, poetry, politics, religion, reminiscence writing and science. An open mind and a zest for learning are valued assets.

While most members have reached retirement, the organization is open to anyone close to

retirement. Wisconsin residents who are age 60 and older may also take advantage of the University's Guest Student Program, auditing regular University lecture courses cost free and without the stress of homework and examinations. For more information about this program, call 608-263-6960.

Membership in PLATO is \$50 per year, which covers group participation, lectures, meetings, social events, and newsletters. For information about joining PLATO, call 608-262-3309 or visit their office at 905 University Avenue.



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Information About Aging from the Web

Eldercare Locator www.eldercare.gov

Assistance in locating state and local area agencies on aging and community-based organizations that specifically serve the needs of older adults and their caregivers, no matter where they live in the U.S. Information can also be obtained by calling 1-800-677-8116.

Alzheimer's Association www.alz.org

An integrated network of information specialists and care consultants who provide personalized information, support, care consultation, and crisis intervention by telephone and electronically 24 hours a day, seven days a week, 365 days a year. Bilingual staff and translation services are available.

Osteoporosis: Not For Women Only

Neil Binkley, M.D and Diane Krueger, B.S., CCRC

Osteoporosis is a common, silent disease in which bone is lost with advancing age, to the extent that a fracture may occur during everyday activities. This disease has historically been viewed as a “woman’s disease,” which is not surprising, since a 50-year-old woman has about a 40-50% chance of having a fragility fracture (a broken bone from very little impact) in her lifetime. However, it is not well-known that this disease is also common in men. In fact, up to 25% of men will sustain osteoporotic fractures in their lifetime. Many of these will be hip fractures from which the mortality rate is approximately 30% within one year, and the likelihood of requiring institutionalization is higher for men than women. Clearly, osteoporosis is a major health problem among men, but it continues to be underappreciated by physicians and the lay public. Recognition of osteoporosis as a disease that does not discriminate by sex is necessary and must be followed by a timely diagnosis and appropriate treatment.

Many people think that osteoporosis is part of the aging process, but this is not the case. While it is common to lose bone with advancing age, this loss can be prevented by nutrition, exercise and, if needed, medications. Osteoporosis should be considered a silent disease, much like high blood pressure or high cholesterol, rather than simply part of aging. Osteoporosis prevention in men, as in women, begins with optimal calcium and vitamin D intake. Calcium is a well-known preventative; calcium intakes



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of 1000-1500 mg/day are essential. However, adequate vitamin D is necessary to assure optimal calcium absorption. Unfortunately, low vitamin D levels are extremely common in men and women. Though the currently recommended daily intake of vitamin D is 400-600 IU, intakes in the range of 1000 IU are often recommended by osteoporosis experts. It is probable that simply ensuring adequate calcium and/or vitamin D levels would reduce fractures in men. Exercise is widely recognized as being beneficial in preserving bone mass and maintaining muscle strength. A regular routine of walking and other weight-bearing activities are recommended to preserve bone mass.

The timing for adding medications to a regimen of nutrition and exercise is based on a person’s risk for fracture and measurement of bone density. Bone density is measured by DXA, a low-dose radiation test, and the World Health Organization criteria are used to determine fracture risk. If a male or female bone density score (T-score) is -2.5 or lower, medications are commonly suggested. Importantly, men should be aware that certain medications such as prednisone or many of the therapies used to treat prostate cancer cause bone loss. Men who are receiving these drugs should have their bone density

measured. Men should also have a bone density measurement if they have sustained a fracture with less than major trauma. The International Society for Clinical Densitometry recommends routine bone density measurement, or screening, in men over age 70 regardless of medical history, as is common practice in women over 65. Unfortunately, this is not widely being done because many insurance providers and Medicare do not consider this screening as necessary and do not cover its cost for men.

Effective medications to treat osteoporosis in men include bisphosphonates such as alendronate (Fosamax®), testosterone, and teraperitide (Forteo®). The appropriate medication must be decided on an individual basis.

It is important to recognize that osteoporosis is common in men and women and that it is not an inevitable part of the aging process. Men and women should make an effort to preserve bone by taking adequate calcium and vitamin D and exercising. Bone density measurement is also necessary for men who have had a fracture and those taking certain medications. Hopefully, screening bone density measurement will soon become a reality for men as well as women.

New Pilot Studies Launched in Cancer and Aging

The Aging Program at the University of Wisconsin Comprehensive Cancer Center (UWCCC) has completed the first pilot study competition, resulting in six proposals that will be funded beginning in March 2005. The pilot studies are largely funded by the NCI and NIA grant to establish the Aging Program. Additional funds for the pilot projects were provided by the Medical School, the Department of Medicine and the UWCCC. These new pilot studies focus on scientific issues at the interface of aging and cancer, with a main goal being to expand these studies into R01 grants or similar peer-reviewed research awards. Another pilot study competition will be held in the fall of 2005.

◆ Physical Activity, Pain & Function in Cancer Survivors

Lisa Colbert, Assistant Professor, Kinesiology

This study will evaluate physical activity and pain levels in relation to physical function in older colorectal cancer survivors who were diagnosed 5-10 years earlier. Phase 1 of the study involves surveying colorectal cancer survivors in Wisconsin (65 years and older) to assess physical activity levels, pain, and physical function. Local respondents will be invited to participate in Phase 2 of the study in which their physical function will be tested directly. In addition, inflammatory markers in blood will be measured to evaluate how inflammation may explain the relationship between activity, pain, and function.

◆ Aging and Cancer in the MIDUS National Study

**Carol D. Ryff, Professor of Psychology
Director, Institute on Aging**

Elliott M. Friedman, Postdoctoral Fellow, UW Robert Wood Johnson, Population Health Sciences

This study will launch new analyses on links between aging and cancer in the MIDUS (Midlife in the U.S.) national survey. Cancer was one of many health outcomes assessed in the original 1995 survey of nearly 7,000 Americans, and it is a focus in the longitudinal follow-up.

We will investigate whether cancer is more prevalent among those with lower socioeconomic status, and from a life course perspective, whether it occurs earlier in the life course among the socioeconomically disadvantaged. We will also examine the extent to which psychosocial factors moderate risk of cancer outcomes, such as whether high psychological well-being and social support are associated with reduced cancer risk, or longer cancer survival, even among those at the low end of the socioeconomic hierarchy.

◆ Effects of Caloric Restriction on Prostate Lipogenesis

Kurt Saupe, Assistant Professor, Medicine

Restricting caloric intake to 50-65% of what is normal prevents development and growth of tumors. The reasons for this are unclear. There are specific molecules that make the fats that can cause tumor growth. This study will test whether restricting calories protects against tumors by downregulating these molecules. Recent pilot data has shown that these molecules increase with normal aging and are powerfully inhibited by caloric restriction. These data suggest there are age- and diet-associated changes in synthesis of fat as a possible link between aging, nutrition, and cancer. Our studies focus on the prostate because no other cancer rises in incidence and mortality rate with age as rapidly as prostate cancer.

◆ Cancer Patients' Preferences for Uncertain Outcomes

**Maureen A. Smith & David J. Vanness, Assistant Professors
Population Health Sciences**

Current guidelines for cancer treatment are typically based on average (mean or median) outcomes reported from clinical trials. Oncologists and other health professionals lack specific guidance for counseling cancer

patients who prefer to use additional information (beyond simply an average outcome) in their decision-making. The goal of this pilot project is to develop an understanding of how patients choose a treatment for their disease when the outcome is unknown, to learn what information is important to patients in making decisions about their treatment, and to develop scenarios that capture a wide range of patient preferences for treatment outcomes.

Did you know?

Cancer Surpasses Heart Disease as Leading Killer of Adults Under 85

A. Jemal, T. Murray, E. Ward, A. Samuels, R. Tiwari, A. Ghafoor, E. Feuer, M. Thun (2005). *Cancer 2005. CA Cancer J Clin* 2005;55:10-30

Pilot Studies (continued)

◆ Breast Cancer and Quality of Life Changes in Older Women

**Amy Trenttham-Dietz, Assistant Professor
Population Health Sciences**

This study will investigate the relationship between quality of life and breast cancer in a population of older women. Using data collected from a group of 2,500 women living in Beaver Dam, Wisconsin, and including about 100 women with breast cancer, the study will describe how quality of life before a breast cancer diagnosis is related to quality of life after diagnosis. It also will help to identify whether any factors can influence the impact that a breast cancer diagnosis has on a woman's quality of life. Factors include age, menopausal status, and other important health events such as a diagnosis of heart disease or diabetes. The study will present a rare opportunity to prospectively evaluate quality of life both before and after a breast cancer diagnosis.

◆ Online Narrative Interventions for Aging Cancer Patients

**Margaret Wise, Assistant Scientist, Center for
Health Systems Research and Analysis**

This pilot study will develop and assess an educational program to help early-stage aging cancer patients create a tangible life story product. The intervention includes an interview with a narrative medicine physician designed to enhance the person's dignity, life accomplishments, meaning and purpose; a digital edited interview transcript; and online narrative life review education using communication, editing and multi-media software along with a laptop computer. We will also pilot and assess instruments for subsequent research to evaluate the effects of this narrative intervention on coping, psychological well-being, and quality of life in aging cancer patients meaning and purpose; a digital edited interview transcript; and online narrative life review

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2005 Calendar of Events

September 22

Current Concepts in Nutrition & Aging Conference
Extension Family Living Education
(608) 265-9101 or 1-800-391-4255
elaine.barrett@uwex.edu
Co-sponsored by the UW Institute on Aging
and Nutritional Sciences Department

October 19

UW Institute on Aging
17th Annual Colloquium on Aging
Monona Terrace Convention Center
(608) 261-1493

Institute on Aging

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education using communication, editing and multi-media software along with a laptop computer. We will also pilot and assess instruments for subsequent research to evaluate the effects of this narrative intervention on coping, psychological well-being, and quality of life in aging cancer patients.