

*It's important to have
a twinkle in your wrinkle.*

—Unknown

aging news

NEWSLETTER OF THE INSTITUTE ON AGING (IOA) | UNIVERSITY OF WISCONSIN-MADISON



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Supporting Research Partnerships that Advance Healthy Aging

IOA Affiliate **Jane Mahoney** (Prof., Geriatrics, UW-Madison) oversees CAARN, the Community Academic Aging Research Network. CAARN facilitates partnerships between UW researchers and community agencies, who come together to test new interventions to promote healthy aging. CAARN nurtures each project from the development of the necessary relationships, to writing grant proposals, to initial pilot studies, to the testing of interventions. CAARN also promotes effective interventions throughout Wisconsin and nationally via the Wisconsin Institute for Healthy Aging. CAARN has projects currently funded or being planned in over 30 Wisconsin counties, including, for example, improving older adults' ability to communicate with pharmacists and increasing their well-being through journaling.

on *The Importance of Reducing Sedentary Behavior in Older Adults*. Her presentation pointed out that the greater part of some peoples' days consist of sedentary behaviors (done while seated or lying down), such as driving, eating, reading, socializing, computer work, hobbies, TV watching, and sleeping. Too much sitting

CAARN's Prevention Summit included a presentation on sedentary behavior in older adults. Too much sitting can contribute to poor health even among those who get adequate exercise.



is associated with higher mortality rates, cancer, diabetes, and obesity. Importantly, sedentary behavior contributes to poor health even among people who are getting adequate exercise. Suggestions to modify sedentary behavior included standing up during TV commercials, standing or walking while talking on the phone, or using a higher computer desk that lets you stand while typing. If future

interventions demonstrate that simply not sitting as often has similar effects as exercising more, this could have a potentially huge impact on the health of older adults.

CAARN also supports the annual Prevention Summit, a two-day event that brings together people interested in the latest evidence-based prevention programs. IOA Affiliate **Lisa Colbert** (Assoc. Prof., Kinesiology, UW-Madison) gave a presentation at the 2012 Summit in Neenah, WI,

Information about the Prevention Summit is at: wihealthyaging.org/save-the-date. For information about CAARN, see: wihealthyaging.org/about-caarn

institute on aging

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You can live
to be a hundred
if you give up
all the things
that make you
want to live
to be a hundred.

— Woody Allen

High salt intake
is associated
with high blood
pressure. Results
from the BOSS
study showed
that those who
perceive salt as
having a stronger
taste add less of
it to their food.



BOSS Study Continues Exploring Age-Related Sensory Changes

The UW-Madison EpiSense Research Group, led by IOA Affiliate **Karen Cruickshanks** (Prof., Ophthalmology & Visual Sciences, UW-Madison), is in the process of wrapping up the 5-year follow up phase of the Beaver Dam Offspring Study (BOSS). More than 2500 participants from a wide range of ages will have contributed data to this study phase since 2010. BOSS investigates sensory health, including audiology (hearing), ophthalmology (vision), and the chemical senses (smell and taste), in children of participants of previous studies in Beaver Dam, Wisconsin (the Beaver Dam Eye Study & Epidemiology of Hearing Loss Study, which date back to 1987).

The EpiSense team has also been reporting findings from the initial wave of the study in 2005-2008. IOA Affiliates **Karen Cruickshanks**, and **Barbara and Ronald Klein** (Prof., Ophthalmology & Visual Sciences, UW-Madison) were among the authors of a recent BOSS article that explored the relationship between perceived intensity of salt taste, how often salt is added to food, and hypertension (high blood pressure). Diets high in salt are believed to contribute to high blood pressure, but previous studies on smaller groups have shown inconsistent results about associations between perceptions of saltiness and hypertension.

Participants in this study tasted a paper disk that had been saturated with a high concentration of salt (1.0 M sodium chloride) and rated the intensity of the taste on a scale from 0-100, with 0 being “no sensation” and 100 being the “strongest imaginable sensation of any kind.” Scores 17-34 were considered moderate, 35-52 were strong, and 53-100 very strong. Of the 2,371 participants, aged 21-84, 32% rated the disk’s taste as weak or non-existent (under 17), while 10% rated it as very strong or stronger (over 52).

Participants were considered to have high blood pressure if they reported currently using blood pressure medi-



cations or had a resting systolic blood pressure of 140 mmHg or greater or a diastolic pressure of 90 mmHg or greater. Results showed that there were no statistically significant associations between strength of salt taste and high blood pressure. However, strength of salt taste was significantly related to how

often participants used added salt. Those who thought salt tasted stronger added it to their food less often. Among subjects who rated the salt disk as strong or very strong tasting, 31% reported never adding salt to their food, vs. 24% in the moderate or less intense tasting group.

Other studies have shown that eating foods low in salt leads to an increase in perceptions of saltiness and a preference for low salt foods after a period of a few months, in contrast to high salt diets, which leads to a preference for saltier foods. Gaining further understanding about the effects of salt taste on discretionary salt use is important in the campaign to help people reduce salt in their diets and lower risks of high blood pressure.

The EpiSense team has also been reporting other study results at scientific meetings across the country. Topics have included smoking and the risk of diminished hearing, exercise and lowering the risk of smelling impairment, sensory impairment and quality of life, and generational differences in questionnaire responses. The EpiSense group will continue to share findings with researchers from around the world at more conferences in 2013. Results from BOSS, combined with data from the parent studies, will provide researchers an opportunity to investigate generational, genetic, and environmental factors that are associated with age-related sensory changes. Each study phase will provide more information about our aging population.

Source: Fischer, M.E., Cruickshanks, K.J., Pinto, A., Schubert, C.R., Klein, B.E.K., Klein, R., ... Keating BJ. (2012). Intensity of salt taste and prevalence of hypertension are not related in the Beaver Dam Offspring Study. *Chemosensory Perception*, 5(2), 139-145. doi: 10.1007/s12078-012-9118-8

Another Successful IOA Colloquium on Aging

See resources at: aging.wisc.edu/outreach/colloquium.php

ON-LINE EVENT RESOURCES



VIEW PDFs of PRESENTATIONS:

- *Lessons About the Biology of Aging from Japan* Christopher L. Coe, PhD
- *Aging & Eating Enjoyment: Sustainability & Rehabilitation* JoAnne Robbins, PhD
- *The Importance of Neighborhoods for Health & Wellbeing at Older Ages* Stephanie A. Robert, PhD
- *Celebrating Human Resilience* Carol D. Ryff, PhD



FIND LOCAL AGING ORGANIZATIONS:

Information on 50 local organizations offering resources for positive aging.



VIEW AGING RESEARCH POSTERS:

See the "Highlighted Posters" section on our home page for posters from the event.

The 25th annual Colloquium on Aging will be held in Madison, WI on

Tues., Sept. 17, 2013

Registration fills up fast! If you are not on our mailing list to receive event news, join via our website, or contact: aging@ssc.wisc.edu • (608) 262-1818

NEW INVESTIGATOR AWARD WINNERS

Given to UW–Madison students or advanced trainees, these awards recognize outstanding achievement by new investigators in aging research:

In BIOMEDICAL Aging Research:

Aadhavi Sridharan

Poster: *Effect of Aging & Calorie Restriction on Corpus Callosum Integrity in Rhesus Macaques: a Fiber Tractography Study*



In CLINICAL/APPLIED Aging Research:

Ju Young Yoon

Poster: *Longitudinal Health Outcomes: Are Green House Homes Really Better?*



In PSYCHOSOCIAL Aging Research:

Rachel Ann Roiland

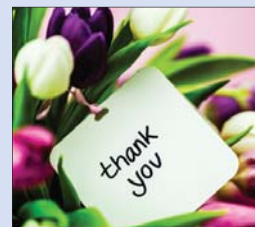
Poster: *Biopsychosocial Profiles of Non-Frail, Pre-Frail, and Frail Older Adults*



We send our thanks to the following, whose donations helped us continue to offer this event for free to its 550 attendees:

Sharon Anderson
Lois Busby
Betsy Haimson
Peggy Hendrickson
Ron & Mary Kausch

John Koch
Nell Mally
Fred & Audrey Meurer
Patricia Mueller
Emilie Shields
Kay Smith
Rochelle Stillman
Ruth Tsotsis
Lucy Wall
Sam Wilson
Ellen Wood



Donations can be made via our website any time during the year.

DONATION THANK YOUS

SAVE THE DATE

affiliate news

For more information on the work of IOA Affiliated Faculty and Researchers at UW-Madison, see: www.aging.wisc.edu/research/affilindex.php

AGING NEWS

FALL/WINTER 2012

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AGING NEWS

EDITING & LAYOUT

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New Methods for Preventing Colds & Flu?

IOA Affiliates **Bruce Barrett** (Assoc. Prof., Family Medicine), **Mary Hayney** (Prof., School of Pharmacy), and **Chris Coe** (Prof., Psychology; all from UW-Madison) were among the investigators in a recent clinical trial studying two methods of preventing acute respiratory infections (ARI). ARI, or colds and flu, are among the most costly of human illnesses, resulting in numerous

medical visits and lost days of school and work, and in extreme cases, hospitalization, pandemics, and death. Currently available treatments are not very effective and preventive strategies, other than hand-washing, are limited and unproven.

Evidence has suggested that stress can compromise the immune system and that stressed people are more likely to experience colds and flu. Further, stress may accelerate aging and some immune processes decline with age. Both meditation and exercise can reduce stress, and exercise can stimulate the immune system. This study investigated whether meditation or exercise would result in fewer ARI episodes among 150 participants over the age of 50.

Participants were randomly assigned to either 8 weeks of meditation or exercise training, or to a control group who received

affiliate awards

IOA Affiliate **David Pagliarini** (Asst. Prof., Biochemistry, UW-Madison) has won the **2012 Shaw Scientist Award**, given by the Greater Milwaukee Foundation. Recipients are chosen by a panel of prominent scientists from around the country. Awards provide \$200,000 of unrestricted support to young scientists doing groundbreaking work in either genetics, cell biology, or cancer research. Prof. Pagliarini's work focuses on mitochondria (cellular structures that provide energy), the malfunctioning of which can contribute to such diseases as Alzheimer's, type II diabetes, and cancer. A better understanding of how mitochondria work could lead to treatments for these diseases.



IOA Affiliate **JoAnne Robbins** (Prof., Dept. Medicine, UW-Madison & Assoc. Dir. for Research, VA GRECC) was awarded the **Honors of the American Speech-Language-Hearing Association (ASHA)**. The Honors is ASHA's most prestigious award, given to members whose work has changed the course of their profession. Prof. Robbins is the founder and Director of the UW/VA Swallowing, Speech, And Dining Enhancement program (SSWAL-ADE), and is known nationally and internationally as a leader in the area of dysphagia, or swallowing disorders. Declines in swallowing ability are associated with normal aging, as well as with aging-related diseases such as stroke. In her work, Dr. Robbins has developed innovative diagnostic and therapeutic interventions to prevent and treat these age-related swallowing problems.

	Episodes of Cold & Flu (ARI)	Total Days of Illness	Mean Severity of Illnesses	Days of Work Missed Due to ARI	ARI-Related Health Care Visits
Meditation Group	27	257	144	16	10
Exercise Group	26	241	248	32	15
Control Group	40	453	358	67	16



neither. Those not in the control group got 2.5 hours of training a week and engaged in 45 minutes of daily practice. Mindfulness meditation training sought to create a state of nonjudgmental awareness, attentiveness to one's thoughts and emotions, and heightened sensitivity to bodily sensation, based on the idea that this increased awareness may lead to a healthier mind-body response to stress. Those in the exercise group engaged in moderate intensity sustained exercise, such as jogging, biking, fast walking, swimming, or using stationary bikes or treadmills.

Participants also reported frequency of ARI episodes, and completed a telephone survey assessing severity of their symptoms, including presence of headaches, body aches, fever, runny nose, sneezing, etc. Data on health-care visits and missed work days was also collected.

Results showed substantial reductions in ARI among those in the exercise group and even greater benefits for those who received meditation training. The incidence, duration, and severity of ARI were 29%, 43%, & 31% less in the exercise group, respectively, and 33%, 43%, & 60% less in the meditation

group, as compared to the control group (see above chart). Although not all the results attained statistical significance, the magnitude of reduction of ARI episodes was believed to be clinically significant. There were also 48% fewer work days missed in the exercise group and 76% fewer in the meditation group for ARI-related absences, indicating that if these results are confirmed in future studies, they may have important implications for the work place, as well as for health-related policy.

For more information, a video of a presentation on this subject by Prof. Barrett can be viewed at: aging.wisc.edu/outreach/2011_colloquium/regist_postevent.php

Source: Barrett, B., Hayney, M. S., Muller, D., Rakel, D., Ward, A., Obasi, C. N., . . . Coe, C. L. (2012). *Meditation or exercise for preventing acute respiratory infection: A randomized controlled trial. Annals of Family Medicine, 10(4), 337-346. doi:10.1370/afm.1376*

Meditation and exercise may help prevent colds and flu by reducing stress.



welcome new affiliate

Bjoern Buehring • Asst. Prof., Geriatrics

Prof. Buehring's research focuses on osteoporosis and sarcopenia (the loss of muscle strength associated with aging). He is interested in developing new methods to better assess muscle function, exploring treatments such as exercise and pharmaceutical interventions, and improving post-fracture osteoporosis care, with a goal of improving mobility and quality of life, while reducing falls, fractures & disability.

new findings from MIDUS

Funded by the National Institute on Aging
(P01 AG020166)

MIDUS
Midlife in the United States

MIDUS studies aging as a long-term journey involving multiple factors (psychological, social, biological). It began in 1995 with over 7000 participants, aged 25-74, and continues with follow-up studies at 10 year intervals. Over 435 publications have utilized MIDUS data. They are archived at: midus.wisc.edu/findings

Do the normally supportive, health-enhancing networks among African American families expose them to greater problems with family stress?

Racial Differences in Reactions to Family Stress

Few studies have examined the extent to which stressful family relationships differ by race. This MIDUS study compared family stress among European Americans from the national MIDUS sample to a subsample of African Americans from Milwaukee, Wisconsin. The supportive family networks often seen among African Americans are believed to buffer them from many types of stress. However, having stronger family ties and larger family networks may also make African Americans more vulnerable to the problems associated with stressful family events.

Participants in this study completed telephone interviews on eight consecutive evenings about different types of stressful experiences they had each day. Data on family stress was gathered through reports of arguments with family members, avoided arguments (choosing to avoid a family argument they could have had) and network events (being upset by something happening to a family member, such as a sister having marital difficulties.) Physical reactions to stress were measured through daily experiences of 25 physical symptoms (such as headaches, nausea, or cough). Emotional reactions were measured through daily reports of positive and negative affect (feeling e.g., cheerful or calm, vs. sad or angry, respectively).

Contrary to expectations, results showed no significant racial differences in frequency of family stress. Both races experienced family stress on only a small portion of days, reporting family arguments 5% of the time, avoided arguments 10%, and family network events 3%. However, because participants were asked to describe only

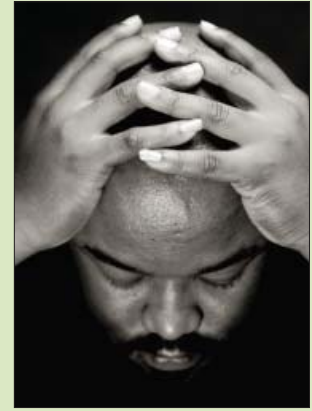
their most stressful experience each day, some instances of family stress may have gone unreported.

Results did show several significant associations in reactions to family stress. On days when family arguments occurred, both races reported increased negative affect and decreased positive affect. However, African Americans continued to have negative feelings into the next day. Both races reacted to family arguments with physical symptoms, but African Americans had more symptoms than European Americans, and their symptoms lasted into the next day. On days with avoided arguments, both races reported increased physical symptoms and negative affect, but African Americans also exhibited less positive affect. On days with family network events, both races reported increased negative affect, whereas only African Americans reported decreased positive affect.

Overall, findings provided more support for racial similarities than differences, indicating that family stress is likely universal. However, instances in which African Americans exhibited stronger reactions to family problems and reactions that lasted into the next day, may suggest that family stress takes a greater toll on their physical health than on the health of European Americans. This may account for some of the well-documented health disparities that show better overall health outcomes for European Americans than African Americans. Further studies could explore the mechanisms through which family stressors may contribute to these health disparities. For example, do stressful experiences lead to behaviors, such as smoking, that impair health?

Source: Cichy, K. E., Stawski, R. S., & Almeida, D. M. (2012). Racial differences in exposure and reactivity to daily family stressors. *Journal of Marriage & Family*, 74(3), 572-586. doi:10.1111/j.1741-3737.2012.00971.x





Stress & Cigarette Smoking Among Urban African Americans

Smoking continues to be the leading cause of preventable disease in the U.S. This MIDUS study examined whether higher levels of stress were associated with cigarette smoking among a subsample of African Americans, in Milwaukee, Wisconsin. Milwaukee is one of the most residentially segregated cities in the U.S., which may expose Blacks living there to more stressors, such as poverty and unsafe neighborhoods.

In contrast to other studies that have used measures of generalized stress to study smoking behavior, participants in this study reported on stress as experienced in 11 specific domains: psychological work stress (e.g., having too many demands made on you), physical work stress (e.g., risk of accidents), work-family conflict (e.g., stress at work makes you irritable at home), relationship stress (with friends, family, or spouse), neighborhood stress (e.g., not feeling safe), financial stress (e.g., difficulty paying monthly bills), perceived inequality (e.g., related to the chances of finding a good job), discrimination (major events such as being unfairly denied a promotion), childhood adversity (e.g., physical or emotional abuse), stressful events in adulthood (a standard inventory), and recent network problems (with respondent's spouse, parents, or children). A cumulative stress score was created by totaling the number of stress domains for which the participant had high scores (in the top 25%).

Results showed that among the urban Blacks in the study, more than a quarter (27.5%) were current smokers (defined as having at least a few cigarettes a day), compared to the national average of 20.6% for Blacks. Higher stress levels were associated with increased

Programs to help urban Blacks stop smoking should include methods to cope with stress, or should address the causes of stress— such as poverty and unsafe neighborhoods.

odds of current smoking for 7 of the 11 domains (psychological work stress, perceived inequality, relationship stress, neighborhood stress, financial stress, stressful events in adulthood, and childhood adversity), as well as for the cumulative stress score, when compared to those who never smoked. Those who scored high on 3 or 4 stress domains, and on 5 or more, were, respectively, nearly 3 and 4 times more likely to smoke than those with no high scores. 30% of current smokers scored high on five or more stress domains, while only 11% of people who had never smoked and only 17% of former smokers had similar high scores.

Consequently, this study suggests that programs to help urban African Americans stop smoking should include techniques to cope with stress, particularly the types identified in the seven domains shown to be associated with smoking. It may also be beneficial to create programs that reduce the causes of stress, such as increasing neighborhood safety or building financial safety nets for those in poverty. Further study of what prevents urban Black smokers from quitting is important, because research has shown that substantial health gains occur when people stop smoking, even at advanced ages.

Source: *Slopen, N., Dutra, L. M., Williams, D. R., Mujahid, M. S., Lewis, T. T., Bennett, G. G., . . . Albert, M. A. (2012). Psychosocial stressors and cigarette smoking among African American adults in midlife. Nicotine & Tobacco Research, 14(10), 1161-1169. doi:10.1093/ntr/nts011*

The number one factor in aging is burdens. Your burdens, and how you carry them, make you old.

—Scarlett Bene



Can Older Adults Live Well with Multiple Chronic Conditions?

As people age, they often develop chronic health conditions (such as heart disease, arthritis, or diabetes). Since more people are living longer lives, it is also becoming normal to live with more than one such condition. A recent MIDUS study asked whether poor health in older age must inevitably lead to poor quality of life.

Results from a study of 998 middle aged and older adults showed that negative feelings did increase (e.g., feeling “afraid” or “irritable”), and reports of being satisfied with life did decrease, among those with more chronic conditions. However, neither positive feelings (e.g., being “enthusiastic” or “proud”), nor purpose in life (e.g., “I enjoy making plans for the future), nor reports of positive relations with others (e.g., “I know I can trust my friends”), were diminished by poorer health.

Further, at similar numbers of chronic conditions, those with higher levels of positive feelings, purpose in life, and positive relations with others, had lower levels of inflammation (as measured by interleukin-6

and acute phase C-reactive protein), in spite of the fact that increased inflammation is often associated with poor health. In turn, lower levels of inflammation also predict better health outcomes for those with chronic illnesses.



Older adults report having a strong sense of purpose and fulfilling personal relationships, in spite of living with multiple illnesses.

Absence of physical illness is included in one of the most currently influential definitions of successful aging. This study supported an alternative definition— that positive aging is the ability to remain actively engaged in life even in the face of age-related illnesses. Results showed that even people with high numbers of chronic conditions were not prevented from having a strong sense of purpose, good relationships, and positive emotions, showing that older adults can successfully face the challenges of living well despite declines in health as they age.

Source: Friedman, E. M., & Ryff, C. D. (2012). Living well with medical comorbidities: A biopsychosocial perspective. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 67(5), 535-544. doi:10.1093/geronb/gbr152

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*In a dream you
are never eighty.*

— Anne Sexton