Achieving Long-term Benefits of Physical Activity

A few years ago, Viv and Bob retired and relocated to Florida. Bob opened a business there and Viv filled her days with bridge, lunches, golf outings, and social causes. She even started going to Tai Chi with a friend. She was active and feeling great!

It is not a secret that physical activity positively impacts overall health and well-being. It reduces the risk of heart disease, cancer, high blood pressure, diabetes, and other diseases. There are several reasons why people are motivated to be physically active:

- Expected physical outcomes such as weight loss and better fitness,
- Social engagement, and
- One’s belief in personal capability to be more active.

Unfortunately, the benefits of physical activity are short lived. To achieve lasting health benefits, physical activity maintenance is necessary. And, that is where the challenge lies. Who hasn’t made a New Year’s Resolution to lose weight or exercise more at some point? At least fifty percent of those who make such a resolution will relapse within six months.

Research shows that physical activity declines with age, and maintaining a lifestyle that includes regular physical activity is a greater challenge for older adults. There are identified barriers that prevent this age group from sustaining their activity level. They have a history of being inactive, and are prone to personal challenges, such as illness, injury, and personal loss.

Take the case of Bob and Viv. One year after their move to Florida, Bob had a stroke. Viv’s time on the golf course was reallocated to doctor appointments, and Tai Chi was replaced with rehab. Her commitment to caring for her husband outweighed her desire for physical activity.

Dr. Steve Amireault, Assistant Professor in Health and Kinesiology and CALC Faculty Associate, is conducting research with a goal to increase the rate of physical activity maintenance among older adults.

Adapted from Sallis & Hovell, 1990

Continued on page 2
activity maintenance among older adults. He hopes to identify those interventions that will turn a New Year’s Resolution into a way of life instead of a distant memory.

According to Dr. Amireault, few studies have considered key influential factors simultaneously. He recognizes that no behavioral program can address all possible influential factors; however, Dr. Amireault believes it is essential to identify factors that are strongly associated with the maintenance of physical activity while taking into account the influence of all other key factors.

To maintain physical activity, Amireault contends that the following factors are important, and his project will examine them in greater detail.

- Perceived capability to successfully cope with barriers and maintain physical activity
- Perceived capability to recover from a period of inactivity and start again
- Satisfaction with the experience afforded by physical activity
- Social support
- Safety of the individual
- Access to facilities/equipment

He will conduct his research in four sites that are used by the senior population for fitness activities: two YMCA locations; Westminster Village, a continuing care retirement community in West Lafayette; and the Ismail Center at Purdue University. By identifying and implementing the right strategies and techniques, he hopes that a larger group of his study participants will maintain their physical activity over time, which could delay functional decline and enhance quality of life, preserving mobility and independent living.

“Exercise is nature’s medicine.”
- A.H. Ismail

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**2016-2017 STEERING COMMITTEE**

**Gregory Arling, PhD**
Professor of Nursing

**Regan Bailey, PhD**
Associate Professor of Nutrition Science

**Sherylyn Briller, PhD**
Associate Professor of Anthropology

**Kenneth Ferraro, PhD, Chair**
Director, Center on Aging and the Life Course
Distinguished Professor of Sociology

**Elliot Friedman, PhD**
William and Sally Berner Hanley Associate Professor of Gerontology

**Hyun Joo Kwon, PhD**
Assistant Professor of Interior Design

**Mary Marshall, MS**
Graduate Student Representative
Human Development and Family Studies

**Traci Robison, BS**
Assistant Director, Center on Aging and the Life Course

**J. Jill Suitor, PhD**
Professor of Sociology

**David Waters, PhD, DVM**
Executive Director, Gerald P. Murphy Cancer Foundation

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**CALC by the numbers**

1996
Awarded first graduate minor

81
Alumni

2006
First dual-title PhD awarded

20
Purdue departments

50
More than Faculty Associates
Shawn Bauldry, PhD  
*Assistant Professor, Sociology*

Dr. Bauldry received his PhD from the University of North Carolina-Chapel Hill. His scholarly interests focus on applied social statistics and health disparities. His research on health disparities has analyzed multigenerational processes linking socioeconomic resources and health. He is currently examining how adult children’s resources may influence parent’s mortality, racial differences in health lifestyles and how these relate to early cardiovascular disease, and a generalization for longitudinal structural equation models that permit greater flexibility in modeling social processes unfolding over time.

Noll Campbell, PharmD  
*Research Assistant Professor, Pharmacy Practice*  
*Research Scientist, Regenstrief Institute, Inc.*  
*Center Scientist, Indiana University Center for Aging Research*

Dr. Campbell received his PharmD from Butler University. His research interests focus on medication management of older adults with cognitive impairment. He is most interested in the impact medications may have on the development or progression of cognitive dysfunction. Additionally, he is interested in improving both appropriateness of and adherence to medication use in older adults.

Steve Wilson, PhD  
*Professor, Brian Lamb School of Communication*

Dr. Wilson received his PhD from Purdue University. His scholarly interests include parent-child communication influence and identity-management in personal and professional relationships, difficult family conversations, and intergroup (including intergenerational) communication. Through his work, he makes theoretical and practical contributions and has applied and extended multiple-goals theories, theories of politeness and relational communication, attachment theory, and models of family resiliency.

Dongjuan (Donna) Xu, PhD  
*Assistant Professor, Nursing*

Dr. Xu received her PhD in Health Services Research, Policy and Administration from University of Minnesota. Dr. Xu’s research is focused on aging and long-term care, health outcomes and policy, quality of care, quality of life, and prevention and management of chronic conditions. Her teaching interests include gerontology, biostatistics and evidence-based practice.
This past September, the Center on Aging and the Life Course welcomed alumni, Faculty Associates, colleagues, and the community to campus to celebrate 20 years of gerontology studies at Purdue University. The theme for the affair was *Time Horizons and Optimal Aging*, and it was a time of celebration, friendship renewal, and intellectual exchange.

**Alumni**

Thirteen CALC alumni returned to campus for the anniversary events. Alumni shared their research in a “Thesis-in-Three” format, which allowed them time to field questions from the audience. The wide array of subjects presented, such as predicting weight gain, sibling tension, and quality of life for nursing home residents, reinforced the vast application of gerontology studies. (See complete list on page 5.) In a separate event, alumni shared career advice and their personal experiences with current PhD students who will enter the job market in the next few years.

**Art of Aging**

Art of Aging was a hallmark event held in the Sagamore Room of the Purdue Memorial Union. Designed as a juried art exhibit co-sponsored by Westminster Village West Lafayette, the event featured the works of those over the age of 55 or whose work best reflected the theme, *Time Horizons and Optimal Aging*. Forty pieces of artwork were selected, showcasing pieces created by professional artists, hobbyists and beginners – some who have taken to art to deal with a personal loss. The artwork incorporated a variety of mediums: acrylics, oils, color photography, pastel and dye resist. More than 150 people came to appreciate the talents of the senior artists.

**CALC Alumni** *(graduation year)*

Clockwise from Top Left:
- Markus Schafer (2011)
- Megan Gilligan (2013)
- Christine Keller (2016)
- Mari Plikuhn (2010)
- Lindsay Wilkinson (2014)
- Seoyoun Kim (2015)
- Marwa Noureldin (2015)
- Nick Turiano (2012)
- Amber Seidel (2012)
- Tetyana Shippee (2008)
- Heidi IgleyReger (2006)
- Kim Hurley (2005)
- Min-Ah Lee (2007)
Alumni Thesis-in-Three Presentations

Sibling Tension and Psychological Well-Being in Midlife
Megan Gilligan, PhD
Assistant Professor of Human Development and Family Studies, Iowa State University

Individual and Family Differences between Emerging and Older Adults Regarding Family Involvement and Health Outcomes
Amber Seidel, PhD
Assistant Professor of Human Development and Family Studies, Penn State York

Racial/Ethnic Differences in Quality of Life for Nursing Home Residents
Tetyana P. Shippee, PhD
Assistant Professor in the School of Public Health, University of Minnesota

Can We Predict Who Will Succeed in a Weight Loss Program?
Heidi IglayReger, PhD
Research Area Specialist Lead, University of Michigan Medical School

Social Networks and Health in Later Life: What’s the Role of Environmental Context?
Markus Schafer, PhD
Associate Professor of Sociology, University of Toronto

Does Your Personality Predict Your Weight Gain over 20 Years?
Nicholas A. Turiano, PhD
Assistant Professor of Life-span Developmental Psychology, West Virginia University

Optimal Learning for Life: How CALC Influenced My Career
Mari Plikuhn, PhD
Associate Professor of Sociology, University of Evansville

Subjective Evaluation of the Physical Self and Abilities: Links with Mental Health among Mature Adults
Kimberly S. Hurley, PhD
Assistant Professor of Physical Education, Ball State University

Financial Strain and CRP among Black, White, and Hispanic Older Adults
Lindsay R. Wilkinson, PhD
Assistant Professor of Sociology, Baylor University
Symposium

CALC’s annual symposium took place during the anniversary weekend and featured presentations from scholars Laura Carstensen and David Ekerdt. The symposium was co-sponsored by Purdue College of Liberal Arts, Purdue College of Health and Human Sciences, and Purdue University Retirees Association.

DR. LAURA CARSTENSEN
Taking Time Seriously in Life-Span Development

Laura Carstensen is a professor of psychology at Stanford University, the Fairleigh S. Dickinson Jr. Professor in Public Policy, and the founding director of the Stanford Center on Longevity. She has won numerous awards and has published more than 150 articles on life-span development. Her research has been supported by the National Institute on Aging for more than 20 years.

TRUE OR FALSE: Seniors are more depressed, anxious and lonely than younger people?

This may come as a surprise to the general population, and even to those who study gerontology, but the truth is that older adults are happier than both young and middle age people. Contrary to popular opinion, the hallmark of aging is not depression or loneliness.

Dr. Carstensen researches cognitive processing as related to time. What she has found is that people’s preferences and goals change over time, and the older population have honed in on what makes them happy.

Relationships. Older adults do not alter relationships with those they feel “very close” to; however, as they age, there is a shift in the number of peripheral relationships that they maintain. People prune their social networks over time and keep those members who are most meaningful, resulting in an improved emotional experience. This small, but significant, network provides better support than a widely diverse group of friends.

Goals and Priorities. Chronological age is often associated with time left in life, and goals change as people age. Those who are young, when time seems vast, are riskier in their approach. They want to expand their horizons, acquire knowledge, meet new people and take chances. With age, people want to live in the moment, know what’s important, invest in sure things, deepen relationships, and savor life.

The Positivity Effect.
People become more selective in the choices they make in day-to-day life and what they see, hear and remember. Research shows that as time goes on, there is a preference for positive information instead of negative information. Tested using a combination of positive and negative images, older people focus on the positive images and often cannot even recall the negative images they saw.

This country is on the verge of a society with more people over the age of 60 than under 15. What will this mean? Although many speculate about increasing dependency, the older population is more emotionally stable and more likely to feel grateful in day-to-day life. Because older adults have more lived experiences, they often favor an orientation for long-term benefits, which could be seen as “sustainability wisdom.” Motivating the engagement of older people in meaningful activities will create the best possible world for future generations. This is the opportunity at hand.

The graph shows that younger and older individuals are happier than those who are middle aged, and the oldest population’s life satisfaction surpasses that of even the younger age group.
Gerontology in Five Images, Plus Two More

David Ekerdt is a professor of sociology and the director of the Gerontology Center at the University of Kansas. Ekerdt has worked in both medical and academic settings. His research, which focuses on the transitions of later life, is supported by the National Institute on Aging. He is president-elect of the Gerontological Society of America.

The study of gerontology calls for an organized effort toward greater theoretical integration. Hoping to economize the disciplinary sprawl of gerontology, Dr. Ekerdt connects content by identifying images from which many topics can radiate. He shared his selection of images, most of which depicted the entire life course through imagery of movement and flows of time.

FIVE IMAGES

Life course. The drawings in this image form an arc to depict the cycle of life. With drawings of a woman from very young to old age, the concept is also symbolized by sands in an hourglass as well as the climbing and descending of stairs. The arc is iconic when considering a variety of gerontologic topics, and is the normal expectation as to how life should progress.

Senescence, development and interventions. Three panels each containing an arc anchor many topics in developmental aging. The direction of each arc demonstrates that everyone will succumb to biological aging; yet, individuals age differently. Culture (technology, resources, knowledge, and custom) can compensate and sustain functioning, but its efficacy decreases with age.

The long gestation of relative health and illness. Trend lines depict that aging involves an accumulation of wear and tear, flaws, disability, and disease. Although true, it is important to recognize that the lines do not exhaust the meaning of aging, and the study of gerontology is about much more than physical aging and health.

The succession of cohorts and social change. The image of a population pyramid shows the age structure of a particular population. The shape of the pyramid and how various pyramids look from different communities incite questions around prevailing conditions, social change, and the dynamics of the life span.

Preparing for and managing the uncertainties of later life. This is a graph outlining income sources for seniors by quintile. A picture of economic disparity prompts students to consider the lifetimes that generated the results: behavioral choices, governmental policies and social structures, and how those affect future decisions.

PLUS TWO MORE

Still learning. A chalk drawing by Francisco de Goya titled “Aun aprendo” depicts an old man leaning on two sticks, trudging onward, but with sparkling eyes showing resilience.

Growing and formative change. The tree is a symbol of life and represents the general process of individual change. A tree starts in straight line, then branches off successively. Some branches continue to grow. Some stop. The same process occurs with humans. With the passage of time, individuals become more complex, more unique, and more individualized. Life, whether biologically, socially or psychologically specified, moves from simple to complex. Teaching and the presentation of gerontology can be more coherent by concentrating on a limited number of focal images – images that encompass the vast complexity of the aging process.

Continued on page 8
Dr. Wayne Campbell, PhD, was awarded the Research Excellence Award. Dr. Campbell is a CALC Faculty Associate, Professor of Nutrition Science at Purdue University, and Director of the Indiana Clinical Research Center Bionutrition Core.

Dr. Campbell holds degrees in Nutritional Sciences from University of Delaware (BS), University of Maryland (MS), and Tufts University (PhD). He completed a post-doctoral fellowship in Nutrition and Exercise Physiology at The Pennsylvania State University.

Dr. Campbell’s research is dedicated to evaluating and understanding how nutrition and exercise can be used as effective tools to positively affect the metabolism, health, and functional well-being of people as they progress through the lifespan.

Primary research interests include basic and clinical human nutrition and exercise studies on protein, carbohydrate, and energy metabolism, dietary protein and energy requirements, obesity and body composition, muscle strength, and muscle function. Other areas of interest include how nutrition, exercise, and aging impact appetite and ingestive behavior, the potential importance of the physical form of food on appetite, and the effectiveness of compounds that are promoted to have ergogenic properties.

His research has shown that adding eggs to a raw vegetable salad may increase the nutritional value of the vegetables in the salad because it increases carotenoid absorption. Carotenoid absorption has been associated with a longer life span, fewer chronic illnesses, and reduced cancer risk. Dr. Campbell was also one of 14 scientists who served on the Dietary Guidelines Advisory Committee from 2013 until 2015 at which time new guidelines were released with an overall goal to help people improve what they eat and how they can obtain healthy food.

Dr. Campbell has received grants from National Institutes of Health, US Whey Consortium, National Pork Board, American Egg Board, and United States Department of Agriculture.

Dr. Campbell is a member of The Obesity Society, American Society for Nutrition, and American College of Sports Medicine.

Welcome New CALC Students

Chuyi Cui
Health & Kinesiology

Shinyoung Jun
Nutrition Science

Jordan Meyer
Sociology

Lizzi Stremke
Nutrition Science

Callie Zaborenko
Sociology
We are extremely grateful for our 2016 donors. It is with your continued support that we are able to advance discoveries about the aging process and train a new generation of scholars focused on optimal aging.

Wayne CAMPBELL
Bruce COOKE
Kenneth & Linda FERRARO
Erica HEGLAND
Cathleen LAYDEN
Min-Ah LEE
Yunqing LI
Mick & Jennifer MURRAY
Dan OLSON
Andrew & Traci ROBISON
C. Joy STEELE-MORRIS
Nicholas TURIANO
Lindsay WILKINSON
Kathleen Abrahamson (Faculty Associate) was promoted to Associate Professor of Nursing at Purdue University.

Jason Cannon (Faculty Associate) was promoted to Associate Professor of Health Sciences and Toxicology at Purdue University.

Aleda Hess Chen (Dual-title PhD, 2011) is now Assistant Dean at Cedarville University School of Pharmacy.

Rong Fu (Dual-title PhD, 2016) is Assistant Professor of Sociology at Siena College.

Min-Ah Lee (Minor, 2007) was promoted to Associate Professor of Sociology at Chung-Ang University.

Ranjini Mohan (Dual-title PhD, 2016) is a Speech Language Pathologist – Clinical Fellow for Trilogy Health.

Patricia Morton (Dual-title PhD, 2016) is the Children’s Environmental Health Initiative Postdoctoral Research Fellow in the Departments of Statistics and Sociology at Rice University.

Mari Plikuhn (Minor, 2010) was promoted to Associate Professor of Sociology and named the Associate Director of the Eykamp Center for Teaching Excellence at University of Evansville.

Karlis Pallone Pressler (Dual-title PhD, 2014) is Project Manager for Indiana Polypharmacy Reduction Project at Purdue University.

Markus Schafer (Dual-title PhD, 2011) was promoted to Associate Professor of Sociology at University of Toronto.

Minjung Seo (Dual-title PhD, 2007) was promoted to Associate Professor of Health Promotion and Wellness at State University of New York - Oswego.

April Stull (Minor, 2007) is an Associate Professor of Nutrition at University of Maryland Eastern Shore.

Anusha Sundararajan (Dual-title PhD, 2016) is a Speech Language Pathologist – Clinical Fellow in St. Louis, Mo.

Lisa Farley VanWormer (Minor, 2006) was promoted to Department Chair of the Psychology Department at University of West Florida.

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**TRANSITIONS**

**Your contribution helps us further our mission: optimal aging - for life.**

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Center on Aging and the Life Course
Purdue University
Bill and Sally Hanley Hall
1202 W State St
West Lafayette, IN 47907-2055
Kathleen Abrahamson (Faculty Associate) was named a fellow of the Gerontological Society of America.

Erika Carrillo (current Dual-title PhD student) was appointed CALC representative to the Purdue Interdisciplinary Graduate Program Student Advisory Board.

Ken Ferraro (Faculty Associate/Director) received the 2016 Provost’s Award for Outstanding Graduate Faculty Mentor.

Melissa Franks (Faculty Associate) was named a fellow of the Gerontological Society of America.

Jennifer Freeman (Faculty Associate) was recently named as a Purdue University Teaching Academy Fellow.

Rong Fu (Dual-title PhD, 2016) received a Teaching Academy Teaching Award from Purdue University.

Rong Fu (Dual-title PhD, 2016) and Mary Marshall (current Dual-title PhD student) earned Graduate Teacher Certificates from Purdue University.

Rong Fu (Dual-title PhD, 2016) received a Poster Award from the Gerontological Society of America for Early Parental Loss and Cognitive Impairment in Old Age: Is Participating in Leisure Activities a Pathway?

Blakelee Kemp (current Dual-title PhD student) was awarded the 2016-2017 Robert Eichorn Fellowship in Medical Sociology.

Mary Marshall (current Dual-title PhD student) was awarded the Center for Families Research Award for her work with Melissa Franks (Faculty Associate) on “Walking for Our Health: A Couple-focused Approach to Promote Physical Activity.”

Melanie Morgan (Faculty Associate) was recently named as a Purdue University Teaching Academy Fellow.

Patricia Morton (Dual-title PhD, 2016) received the 2016 Purdue University College of Liberal Arts Distinguished Dissertation Award.

Patricia Morton (Dual-title PhD, 2016) received the 2016 BSS Student Research Award – Dissertation Level from The Gerontological Society of America.

Nicholas Turiano (Dual-title PhD, 2012) was awarded a one-year $50,000 grant from the West Virginia Clinical & Translational Science Institute to study longitudinal associations between personality and substance use trajectories during the transition to college.

Tetyana Pylypiv Shippee (Dual-title PhD, 2008) was awarded a five-year, 1.8 million dollar R01 grant from NIH to study racial disparities in quality of life for nursing home residents.

April Stull (Minor, 2007) was honored as a diamond of the Department of Nutrition Science at the 110th anniversary gala celebration at Purdue University in May 2016.
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<tr>
<th>When &amp; Where</th>
<th>Featuring</th>
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<tr>
<td>January 20, 2017</td>
<td><strong>Jerrald Rector, PhD</strong></td>
<td><em>Biopsychosocial Interactions in Physical Activity and Aging</em></td>
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<td>12:30-1:25 pm</td>
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<td>February 10, 2017</td>
<td><strong>Kathy Abrahamson, PhD</strong></td>
<td><em>The Indiana State Department of Health Interdisciplinary Polypharmacy Reduction Project</em></td>
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<td>March 3, 2017</td>
<td><strong>Michele Forman, PhD</strong></td>
<td>Scholars in the Spotlight and Spring Luncheon</td>
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<td>10:00-1:30 pm</td>
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