Realizing Wellness

Secrets to aging well
Risks of wearing high heels
Protection for those who protect us
Wellness is quality of life

Dear Alumni and Friends,

Ahhh, to be well. To feel safe, calm, and balanced. To breathe deeply, move freely, work productively. Rest nurtured and fulfilled. Enjoy the company of caring friends. And channel ample energy to explore our passions.

The older and wiser that I get, the more I prize wellness. The complex factors that affect well-being include wealth, employment, physical and mental health, education, built environment, leisure and recreation, and social belonging. Well-being is often stated in terms of quality of life. With everyone’s quality of life riding largely on wellness, it’s good to know that researchers at Iowa State University are taking great care to provide teaching, research, and outreach to dispel the myths and help everyone achieve optimum well-being.

Those of us affiliated with Iowa State and the College of Human Sciences are emphatic about improving quality of life for people of all ages. We know that, when it comes to improving wellness, there is no silver bullet. The factors that affect well-being are complex and multifaceted – and breakthroughs require great minds from a wide range of disciplines.

The more our scientists learn about diet, exercise, and lifestyle habits, the more we understand how the simple choices people make about how to eat, move, learn, and live all play crucial roles in determining how long they will live – and how healthy and happy they will be.

In the College of Human Sciences, we study multifarious aspects of people. From our intense research and understanding, we develop better interventions for those with afflictions and better ways to keep people well. We also design effective ways to educate people to embrace healthier habits. We view wellness as a holistic state of being – because it’s really about quality of life. And quality of life matters.

Sincerely,

Pamela J. White
Dean
Expert divulges secrets to aging well

By Michelle Rydell

Staying healthy in life’s later years can be a challenge, but close examinations of centenarians – people who have lived 100 years or more – have given Iowa State University researchers insight on what people can do to live a long and successful life.

A team of researchers led by Peter Martin, professor in human development and family studies and director of the gerontology program, have developed the concept of resilience, or the ability to adapt well under difficult circumstances.

Resilience is classified through a three-tiered model: personal resilience, cognitive resilience, and social/economic resilience. These factors play a critical role in determining whether a person lives to be an “exceptional survivor,” and each is important at different stages of life.

20s-30s: During these years, people should invest into their future by investing their dollars. While exercise is always encouraged, fitness is less important than economic resilience at this stage of life in relation to long-range survivorship.

30s-40s: These are the years to develop social resilience. Social groups offer support and a sense of community, Martin said. “If you don’t have a social group in your 30s, people aren’t going to flock to you when you are 80.”

60s-70s: As age begins to affect physical and mental health, it is more important than ever to increase mental activity through reading, writing, and participating in stimulating cognitive activities. Martin suggests trying challenging endeavors such as learning a foreign language or how to play a new instrument.

80s-100s: Physical fitness is vital at this stage in life, as the body may weaken. To compensate for the decline, Martin suggests dumbbells and daily physical activity.

“For older people, just getting out of a chair is difficult if you don’t have the arm strength,” he said. “Although it’s hard work, now is the time people need to exercise.”

While each component – cognitive, economic, social, and physical – is integral to optimal aging, the key may be personal resilience, which at its core is an individual’s personality. Highly resilient people tend to have low anxiety and are open to new experiences, which affects other aspects of life including physical and mental well-being.

“We think these types of personalities help people deal with tough situations,” Martin said. “If you can optimize these areas – stay physically healthy and fit, engage your mind, keep socially engaged, and keep track of your economic well-being, then you have a good chance of being an exceptional survivor.”

Gerontology expert Peter Martin, professor in human development and family studies, said exercise and strength training is essential between the ages of 80 and 100. Photo by Jaclyn Hansel.
Broaching health and wellness

Experts share gems of wisdom

By Cathy Curtis

Like a diamond, human wellness develops over time – and shines most brightly when its facets are finely honed by expert hands.

Faculty in the College of Human Sciences are masters at chiseling through murky, unexplored terrain to unearth sparkling nuggets of useful knowledge. They mine brilliant insights that help families hold up under intense pressure. And they polish teaching strategies that engage people in more healthful living.

In the outstretched palms of their students, professors place precious understanding of precursors to overall wellness: education, growth and development, foods, clothing, family, lifestyle, community, science, and technology. Students help others learn to optimize these elements and radiate well-being.

To clarify health and wellness, the editor picked the brains of faculty members.

Jennifer Margrett, an assistant professor in human development and family studies, studies adult development and aging, health and functioning, married couples, and problem solving.

Nancy Franz is associate dean for extension and outreach to families and 4-H youth development. Her research centers on transformative learning in intra-organizational partnerships, implementation of strategic plans, and program evaluation.

Gregory Welk, an associate professor in kinesiology, is director of clinical research and community outreach at the Nutrition and Wellness Research Center. He studies physical activity, public health, youth physical activity assessment, and health promotion.

Ruth MacDonald is professor and chair of food science and human nutrition. Her research identifies factors in foods that reduce the incidence or progression of cancer.

What is wellness?

Margrett: Wellness is a comprehensive indicator of a person’s well-being, including his or her physical health, mental health, cognitive abilities, and social functioning.

MacDonald: Wellness is more nebulous than health, but it is still associated with being healthy and free from illness or disease. Note, however, that people can strive for wellness even with a chronic disease.

Welk: Wellness is the product or result of healthy lifestyles. People understand the concept that fitness is the product or result of physical activity. The product of wellness...
is more difficult to measure since it is impacted by many lifestyles.

**How are they related?**

**Margrett**: People usually consider only physical health, ignoring mental, cognitive, and social health. Wellness considers the whole person.

**Welk**: Health contributes to wellness but is not sufficient for attaining good wellness.

**Why are health and wellness paramount?**

**MacDonald**: The individual wants to be well and healthy so that they can enjoy life; we are curious about the technical components that promote health from a scientific perspective.

**Welk**: Without health, quality of life is greatly reduced. Without wellness, life is too stressful and burdensome.

**What misconceptions would you like to dispel?**

**Franz**: Each person, organism, organization has its own best health indicators. One size does not fit all.

**Margrett**: Physical functioning or status is only one aspect of wellness. If we only focus on physical functioning, we may neglect other influences on well-being and miss out on potential avenues of prevention and intervention.

**Welk**: Healthy lifestyles are more important than weight status for health and wellness. By adopting healthy lifestyles, like physical activity and healthy eating, it is possible to reduce the health consequences of being overweight. Overweight people who are active are at lower risk for health problems than normal weight people that are inactive.

**MacDonald**: Common misconceptions? That organic food equals healthy food, that local food from the farmers market must have more health benefits that the food sold in Hy-Vee, ... that a healthy lifestyle can be obtained in pill form, that processed food is bad for you, that irradiated meat is not safe to eat. I have plenty!

**How is Iowa State improving wellness?**

**Welk**: Faculty and staff in Human Sciences contribute to the science of health and wellness and also provide valuable health and wellness services at the local, state and national level.

**Franz**: We are providing Extension education programs and positive youth development through 4-H, family life, financial management, and nutrition and wellness to improve the economic, environmental, and social conditions of Iowans.

**MacDonald**: Our research, teaching, and outreach educate people about these concepts to dispel the misinformation – based on science.

**Margrett**: Faculty and staff in the College of Human Sciences take multidisciplinary and multi-level approaches to the promotion of health and wellness, focusing on individuals, families, and community contexts. Research and teaching within our college addresses vital aspects of well-being including physical functioning, life-span development, cognition and learning, social relationships, creativity, economic status, and access to resources. We train our students for practical positions working with people and communities, to address real-world problems.

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**Senior educates peers on sex, alcohol, health**

By Michelle Rydell

Talking about sex, alcohol abuse, and mental health issues to your peers is rarely easy, but senior Sarah Pattee does it all the time.

As a peer educator in the “Students 2 Students” (S2S) program, Pattee earns course credit for providing health outreach to Iowa State students.

Pattee educates others on sexual health. She believes students are more receptive to messages from their peers. The group’s diversity – students cover a spectrum of majors, races, sexual orientations, and ages – helps it relate to a larger campus population, Pattee said.

Pattee plans to become a physician’s assistant. Prior to joining S2S, she had experience as a certified nursing assistant. She has also served as an undergraduate research fellow, investigating relationships between heart rate variability and exercise affect, with researchers at Des Moines University’s medical school and Iowa State.

Approaching healthcare from a holistic perspective, Pattee appreciates the comprehensive nature of Iowa State’s kinesiology and health program. Pattee said classes such as exercise psychology (KIN 366), which focus on the impact exercise can have on psychological concerns such as stress, helped her better understand the mind-body connection.

“Exercise psychology highlighted exactly why I am a kinesiology major,” Pattee said. “I am a science girl at heart, but feel it is important to emphasize both physical and psychological aspects of health. This philosophy really carries over into S2S. We offer comprehensive health education, and give the campus information from all angles when we talk about health concerns.”
In 2001, the U.S. Department of Health and Human Services indicated that about one in five children and adolescents experience signs and symptoms of a mental health adjustment problem in the course of any year. Figure that into the nearly 50 million students in U.S. schools, and dealing with the issue of mental health problems is no small task. For the nearly one million youth and adolescents diagnosed with depression and other mental health conditions, including developmental issues such as autism and attention deficit-hyperactivity disorder, the classroom can pose the opportunity for improvement, provided there is a teacher who thoroughly understands the situation at hand.

The teacher education program at Iowa State University is helping young educators better understand and work with students with varying degrees of mental health. Faculty members in the department also work with area education agencies’ behavioral support teams to provide in-service training to Iowa teachers, addressing issues related to behavioral disorders in the classroom.

“An educator who understands what children are going through and how to best work with them – as well as with the other students in the classroom – can be very powerful in helping these youth with mental health problems gain confidence and succeed,” said Carl Smith, professor and department chair in curriculum and instruction. “The connection between a concerned educator and a student goes far beyond just dealing with the issues at hand – it is much more significant to the student and is a sign of a teacher committed to positive student outcomes.”

Smith, who has long worked in the youth mental health field, recently published a book chapter detailing the kinds of behavioral supports students with significant mental health problems need. He focuses on public school classrooms, and the steps administrators, teachers, and parents can take to produce positive outcomes for children.

“Schools can be a hub for services to help youth,” Smith said. “To be successful, however, schools need to be much more competent in coordinating services with other providers, such as community mental health agencies.

“I think more schools are starting to realize that a good teacher can be critical in making the difference in the life of a young person facing these illnesses, truly expanding their potential for the future.”
‘Sticks and stones can break my bones, but words can kill’

By Laura Dillavou and Mike Ferlazzo

Schools are typically on guard against students who bully by inflicting violence repeatedly on other students. But technology has given rise to a relatively new form of bullying which inflicts emotional harm in a stealthy manner, working through websites, chat rooms, e-mail, cell phones, and instant messaging.

And according to a new national study by Iowa State University researchers, one out of every two lesbian, gay, bisexual, transgender (LGBT) and allied youths are regular victims of “cyberbullying,” which causes psychological and emotional distress to victims – producing thoughts of suicide in some who are victimized again and again.

In an online survey of 444 junior high, high school, and college students between the ages of 11 and 22 – including 350 self-identified non-heterosexual subjects – 54 percent of the LGBT and allied youth reported being victims of cyberbullying in the 30 days prior to the survey. Cyberbullying includes attacks such as electronic distribution of humiliating photos, dissemination of false or private information, or circulation of cruel online polls.

Among the non-heterosexual respondents, 45 percent reported feeling depressed as a result of being cyberbullied, 38 percent felt embarrassed, and 28 percent felt anxious about attending school. More than a quarter (26 percent) had suicidal thoughts.

“There’s a saying that we’ve now changed to read, ‘Sticks and stones can break my bones, but words can kill,’” said Warren Blumenfeld, an associate professor in curriculum and instruction and the study’s lead author. “And especially at this age – pre-adolescence through adolescence – this is a time when peer influences are paramount in a young person’s life. If one is ostracized and attacked, that can have devastating consequences – not only physically, but on their emotional health for the rest of their lives.”

Robyn Cooper, co-author and research and evaluation scientist at ISU’s Research Institute for Studies in Education, said the survey provided a mouthpiece for many LGBT students.

“One of the things we found is that the LGBT students really want to make a difference,” Cooper said. “They want their stories told. They want people to know what they’re going through, but they don’t want the repercussions of being bullied. So being able to respond to this survey was very helpful.”

The results underscore the frustration felt by the targets of cyberbullying. Forty percent of the non-heterosexual respondents indicated that their parents wouldn’t believe them if they were being bullied online, while 55 percent reported that their parents couldn’t do anything to stop it. Fifty-seven percent also indicated that they didn’t think a school official could do anything to stop it.

“I’ve in four of the LGBT and allied students responded that they needed to learn how to deal with cyberbullying by themselves. More than half also feared telling their parents about the cyberbullying because they might restrict their use of technology, which Blumenfeld says is often the “lifeline to the outside world” for many young LGBT students who have been ostracized by their peers at school.

The ISU study also proposes strategies for cyberbullying prevention. Eighty percent of the survey’s respondents indicated that their peers study participants felt that their peers must – and can – do more to stop the abuse.

“One of the strategies coming out of this study – since respondents expect and want their peers to step in more – is that we should find ways on our campuses to empower young people to speak up and act as allies.”

“I’ve one of the strategies coming out of this study – since respondents expect and want their peers to step in more – is that we should find ways on our campuses to empower young people to speak up and act as allies,” Blumenfeld said. “In bullying circles, it’s empowering the bystander to become the upstander to help eliminate the problem.”
NWRC targets translational research, obesity, community health

By Laura Dillavou

Investigators in Iowa State University’s Nutritional and Wellness Research Center (NWRC) are refocusing the group’s vision to ensure that their groundbreaking research translates smoothly into everyday practices that enhance quality of life.

Under the leadership of two new directors, Michael Spurlock and Greg Welk, the NWRC is aligning its vision to complement an integrative model endorsed by the National Institutes of Health (NIH) to transform nutrition and health-related research. Spurlock, the Virginia M. Gladney Professor in food science and human nutrition, will serve as director of integrative and translational research in the NWRC. Welk, an associate professor in kinesiology, will serve as NWRC director of clinical research and community outreach.

The team has outlined three major goals for the NWRC. The first is to concentrate on translational research, in which laboratory findings get tested in human models and eventually in broader population research. Welk said translational research is particularly important for health, nutrition, and activity-related research because it ensures that new advances help improve quality of life among the greater population quickly and prudently.

“We have to think beyond conducting research for the pure purpose of learning something.”

The second goal is to develop a comprehensive approach to obesity-related research. With considerable expertise on the Iowa State campus, the NWRC is building interdisciplinary teams that can work together on innovative obesity-related research. Spurlock said the prevalence of obesity has made it a research priority in large funding institutions. Human research will be a major focus at the NWRC, and to facilitate more advanced studies and applications related to obesity, Spurlock said scientists will rely on animal models that mimic the human systems for early discovery and pre-clinical work.

“We know that pigs have a very similar metabolic system to humans,” Spurlock said. “And we also know that a better understanding of the human metabolic system will advance our approach to obesity-related research and development. We can take the initial findings from the pig studies and work with clinical investigators to test it in humans; it expedites the translational research and improves the competitive nature of our research.”

The third goal is to emphasize community-based participatory research paradigms. Under this model, citizens become more involved in the projects. Welk has been working with local coalitions and has established a group called the ISU Campus Community Partnership for Health to try to involve students in neighborhood-based work. The goal is to help build effective programs that can be sustained over time in schools, worksites, or communities.

“If the translation of research into practice is essential to create meaningful changes in public health,” Welk said. “Problems such as childhood obesity require an interdisciplinary approach so bringing faculty together will make our studies stronger and more competitive.”

As the new leadership team settles in, they’re confident about the vision they’ve laid out.

“The NWRC is an established center,” Spurlock said. “We’re well-equipped to handle a variety of studies. The NWRC is not a fee-for-service model, which is a fundamental difference between us and other facilities. We want to provide support for new, cross-campus, collaborative teams. We know it’s this kind of approach that will get studies funded and put us on the map as a major research institute.”
Researchers turn up the heat on protective clothing technology, performance

By Laura Dillavou

Amidst a blazing fire, firefighters shouldn’t have to worry about their boots, gloves, or clothing. But new evidence points to growing concerns about the performance of protective gear.

Young-A Lee and Jessica Barker, assistant professors of apparel, have teamed up with physiological conditioning experts and kinesiology professors Warren Franke and Rick Sharp to improve the effectiveness of gear.

Iowa State University is one of eight institutions (Cornell, Hawaii, Maryland, Minnesota, Missouri, Oklahoma State, UC-Davis) participating in the research, which is part of a U.S. Department of Agriculture research project, “Personal Protective Technologies for Current and Emerging Occupational Hazards.”

The ISU research team collected data on 10 firefighters to get feedback on their protective gear; 3-D body scans of the firefighters to better analyze how the gear fits the body in various “working” positions; and physiological impact testing in a high-temperature room to simulate the elements of an actual fire.

“We’ve seen a great response from local firefighters who are willing to participate and help us in whatever way possible,” Barker said. “Previous research has often focused on protective aspects, which are very important, but we’re learning that comfort – which impacts performance – is very important to the firefighters. It’s interesting to think of the conflicting roles a garment can have – and exciting to think of the ways we can work to improve it.”

Now that the first round of data collection is complete, Lee said, the research team has a clear idea of where the research is headed.

“Based on our findings, we know firefighters are looking for gear that is more lightweight (gear can weigh up to 50 pounds), material that functions well in high temperatures and can absorb sweat, and gear that is better fitted to the body, which will increase mobility and movement,” Lee said. “This shows that as a research team, we need to be thinking more about pattern development and the creation of material that fulfills these needs.”

The research team will apply for larger grants, which would allow them to conduct more experiments on clothing material, design, and application. According to Lee, they hope to develop a new prototype within the next few years.

The team members say this research goes a long way in making a dangerous profession more comfortable for the individuals who put their lives on the line daily.

“A big part of a firefighter’s job is protecting others – but they also need protection from the heat, ash, and hazards that come with their job,” Barker said.

Fitness fights flu

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Fitness fights flu

Apparently exercise pain does lead to gain when it comes to fighting off the severe effects of the flu. A recent study on mice infected with the flu virus suggests that a moderate workout per day may diminish the severity of the flu’s symptoms.

Researchers found that mice that regularly ran on a treadmill over a three-and-a-half month period developed less severe symptoms from the flu virus than those that were not subjected to exercise, and had less influenza virus in their lungs. The mice that regularly exercised showed lower levels of inflammatory factors in their lungs soon after being infected with the virus.

“Perhaps the moderate stress from repeated exposure to moderate exercise might improve your ability to respond to other stresses, such as influenza,” said Marian Kohut, an associate professor of kinesiology.
By Laura Dillavou

Stilettos, wedges, pumps, and kitten heels may be all the rage in fashion, but a new study from Iowa State University is showing that the higher the heel, the higher the risk for joint damage later in life.

Danielle Barkema, a kinesiology graduate student, recently completed her thesis research studying the effects of high-heeled walking on forces acting on lower extremity joints, which may contribute to chronic conditions such as joint degeneration and knee osteoarthritis.

“Studies that look at the effect of high heels on joint problems have been around for a while,” Barkema said. “But today’s fashion trends have heels that are a lot higher than two inches, and because many women start wearing heels at a young age, this study extends previous research to now include higher heel heights and examines a population that is mostly young women who wear heels at least one or two days a week.”

Barkema selected three different heel heights – flat, two inches, and 3.5 inches – from a popular shoe company and had each of the 15 women in her study complete walking trials to measure the forces acting about the knee joint and the heelstrike-induced shock wave that travels up the body when walking in heels. Using sensors, accelerometers, and lab equipment such as a force platform and markers/cameras, she was able to capture motion and force data and translate them into results that could change the way millions of people select their footwear.

“We found that heel height changes walking characteristics such as slower speeds and shorter stride lengths,” Barkema said. “As the heels got higher, we also saw an increase in the compression on the inside – or medial side – of the knee. This means that prolonged wearing and walking in heels could, over time, contribute to joint degeneration and knee osteoarthritis.”

Barkema went on to say that in addition to lower extremity joint problems, wearing heels – especially those two inches and over – alters body posture by changing joint positions at the ankle, knee, hip, and trunk, which can create strain on the lower back. While human bodies improvise, such as altering stride or stooping posture to accommodate heels, Barkema, and her thesis adviser, kinesiology professor and department chair Phil Martin, said the study shows the serious implications this can have for heel-wearers worldwide.

“We’re seeing that continued exposure to high-heeled walking can contribute to many chronic conditions and joint problems,” Martin said. “People might think this is a ‘fluffy’ study, but when you look at how much of the population wears heels on a daily basis, it’s a significant portion of people. Hopefully this study at least encourages people to do so in moderation.”

Wearing higher heels increases compression on the inside of the knee, which over time might contribute to joint damage, according to preliminary results of a study by Danielle Barkema, a graduate student in kinesiology. Photo by Laura Dillavou.
“Pregnancy represents the first step in the prevention of chronic disease for the fetus but also an opportunity to influence the mother’s future health,” Campbell said. “The impact of food and activity choices during pregnancy may be far greater than we currently understand and/or recognize. We seek to better understand how prenatal exercise, in combination with a diet containing omega-3 fatty acids like those found in fish, can influence the nutrients a baby receives.”

Since starting data collection in May 2009, 67 women have had their blood tested for the presence of DHA, a nutrient that impacts babies’ neural development, visual acuity, and cognition. In early results, the median intake of DHA in participants was about 30 milligrams a day—far below the recommended daily intake of 200. The researcher said the results aren’t surprising.

“As compared to some coastal communities, we live in a low fish consumption area,” Campbell said. “In many ways, it’s not surprising to see lower levels of DHA, but in other ways, the average [in this area] is so far below the recommendation, there have to be other reasons behind that. We plan to start surveying women about reasons for consuming or avoiding fish to further investigate this disparity.”

The survey is on the docket for Campbell and her research team, as are plans to start a DHA and exercise intervention for expectant mothers.

“The ultimate goal of this project and future studies is to get women to consume more healthy fats and to move more,” Campbell said. “Better nutrition throughout the pregnancy means less chance of gestational diabetes in mothers and healthier babies.”

Researchers study mothers’ prenatal exercise, diet effects on babies

By Laura Dillavou

More than four million infants are born annually in the United States, according to the 2010 statistical abstract from the U.S. Census Bureau. And Christina Campbell, an associate professor in food science and human nutrition, is assessing the omega-3 fatty acid intake and physical activity habits of pregnant women.

As part of the Blossom Project, Campbell’s research team measures participants’ exercise frequencies and intensity levels, assesses diets, and obtains blood samples at weeks 18 and 35 of pregnancy. At delivery, researchers collect blood from the baby’s umbilical cord to test for key nutrients. The project is a step toward understanding how prenatal diet and exercise can influence a positive birth outcome, Campbell said.

“This study found that participants’ DHA levels were dramatically lower than the recommended daily intake. Photo by Laura Dillavou.

Barbara Forker lives on in eyes of students

Barbara Forker, a champion for equity in women’s physical education, died May 31, in Green Valley, Ariz., with family members at her side.

A leader of the movement to offer coeducational physical education programs, Forker is credited with changing the way society views the entire field of physical education.

She served Iowa State University as chair of physical education, now kinesiology. The academic department is housed in the building that has carried her name since 1997.

Forker began her professional career at Iowa State in 1948 and was named head of women’s physical education in 1958. In 1974, when Iowa State became one of the first large universities to merge men’s and women’s physical education programs, she served at the combined department’s helm. She continued to lead until she retired, as a distinguished professor, in 1986.

From 1980 until 1984, she served on the executive board of the United States Olympic Committee. Appointed by President Gerald Ford to the Commission on Olympic Sports, she helped devise a structure for coordinating the nation’s amateur sport programs.

She served as president of the American Alliance for Health, Physical Education, Recreation and Dance and received that organization’s highest honor, the Luther Halsey Gulick Medal for distinguished service to the profession.

Throughout her tenure at Iowa State, Forker emphasized the importance of serving the needs of students.

“Barbara had a special relationship with so many students,” said Betty Toman, a distinguished professor emerita. “The students and their development were so meaningful to her.”

Memorial contributions can be made payable to the ISU Foundation-Barbara Forker Memorial and directed to the address inside the magazine’s front cover.
4-H teen pushes for change

By Sarah Gonzalez

Anna Jo Cowan's efforts show that 4-H not only makes individual youth better citizens, it can empower teens to influence state and national leaders.

Cowan, a 4-H’er who graduated this spring from Lincoln High School in Council Bluffs, received the 2010 Youth Leadership Award on May 4. Mari Culver, the first lady of Iowa, presented the award at a Youth and Shelter Services conference in Ames.

“Anna Jo’s community has truly benefited from her endeavors, her efforts, and her advocacy and service,” Culver said.

Cowan has served as a 4-H club officer and on the West Pottawattamie 4-H youth committee council. She is most recognized for her efforts to pass legislation in Nebraska with the help of other 4-H youth and Sen. Tom Carlson.

After a drunk driver killed her father in May 2009, Cowan made it her mission to pass a dram shop bill in Nebraska. A dram shop law holds a liquor establishment responsible for over-serving alcohol to a patron who caused injury to any person or property while intoxicated. The drunk driver who killed Joe Cowan had spent the day drinking in an Omaha bar. Nebraska is one of eight states that do not have a dram shop law applied to people over age 21. Cowan believes the law would encourage bar owners to limit their customers’ drinking and potentially save lives.

Cowan contacted her fellow 4-H’ers in Nebraska to encourage their senators to pass the bill.

“My 4-H experience really helped me to stay on task and look at the big picture. Losing my father was the most devastating experience that I have ever gone through,” she said. “I wanted to turn my pain into something productive and help other families avoid this sort of tragedy. My 4-H experience helped me to reach out to others for help.”

The dram shop bill was introduced to the judiciary committee by Carlson in February 2010, but did not proceed further due to time restrictions. It will be reintroduced in early 2011.

Cowan credits her Iowa 4-H experience for giving her the confidence to pursue the legalization. She developed her leadership and communication skills by serving as a club officer and presenting at county and state fairs.

“Probably the most confidence and experience occurred when I met with the judges during fair time,” she said, “I always enjoyed the experience and would learn new things every year.”

Jennifer Vincent, West Pottawattamie County youth coordinator, says Cowan sets an example of perseverance.

“I have seen her leadership, citizenship, and communication skills grow exponentially from the time she first joined 4-H,” Vincent said. “She proves that no matter your age, you can make a positive change and make a difference in someone’s life.”
Researchers are identifying age, ethnic factors in safe food handling practices

By Laura Dillavou

Telling an employee how to safely handle food in a restaurant is one thing. Actually getting them to practice food safety procedures consistently is a completely different challenge. And that challenge may vary according to the employee’s age and ethnicity.

Susan W. Arendt, an assistant professor in apparel, educational studies, and hospitality management (AESHM), is leading a new U.S. Department of Agriculture study to examine the key motivators and barriers contributing to the safe food knowledge and behavior gap among foodservice employees.

“Each generation is motivated by different factors to follow food safety behaviors.”

With collected data, Arendt, along with Cathy Strohbehn in AESHM, Ana-Paula Correia in curriculum and instruction, and Mack Shelley in statistics, will develop, implement, and evaluate customized safe food handling training modules.

“Right now, there are different generations and ethnicities of employees in the workforce — people ages 16 to 65 from various [ethnic] backgrounds are working together, but they have different work styles and ways of learning that impact their behavior and performance,” Arendt said. “Each generation is motivated by different factors to follow food safety behaviors. It’s our charge to identify these factors and develop training tools for use in restaurants and other foodservice operations.”

Arendt went on to explain that because consumers are eating about half their meals away from home, it is imperative that foodservice employees know — and follow — proper food safety steps. Often the “last line of defense” in food preparation, an employee’s safe behaviors, such as washing hands, wearing gloves, and keeping prep areas clean, can stop the spread of foodborne illness, and in some cases, prevent death.

And while most employees know, or have been told to practice these behaviors, factors such as age and ethnic language present challenges for employers. Arendt said creating training modules that are targeted to a learner’s age and native language is a relatively new phenomenon.

After employers have had time to use the modules the research team will go back and observe the behaviors of the newly-retrained employees.

On the food forefront

Lawrence Johnson, professor in food science and human nutrition, received the Alton E. Bailey Award research contributions to the science and technology of lipids, from the United States section of the American Oil Chemists’ Society.

Catherine Strohbehn, Extension specialist in hospitality management, received the Food Safety Leadership Award for Education, from the National Sanitation Foundation.

Help recognize remarkable alumni

Do you know a College of Human Sciences alum who is making a difference within their profession or community? The College of Human Sciences invites you to nominate outstanding alums for awards. Whether it’s their dedication to student success or the discovery of a breakthrough scientific formula, we know our alums are making a difference in the world and improving the lives of others.

For more information or to submit your nomination form, visit www.hs.iastate.edu/hsmatters.
2010 Student Sensations
By Laura Dillavou

Each year, there are students who go above and beyond in their efforts to enrich student activities, boost service learning, and create a dynamic campus environment. They are, in a term, “student sensations.” Equipped with high-caliber internships, extensive trips abroad, and dedication to their student organizations, these young professionals are well on their way to making an impact in their communities and work places.

Honorees demonstrate multiple ways Iowa State University transforms young minds into business leaders, educators, designers, and more. Their journeys are inspiring, and tell of their devotion to making the most of their college careers. The College of Human Sciences is proud to recognize these 11 outstanding young adults for their contributions to expanding human potential and improving people’s lives.

Hillary Rodgers
Elementary education
Although her official job title will soon be “teacher,” Hillary Rodgers has assumed the roles of educator, mentor, and trainer for more than five years. Through her work as a peer mentor for the George Washington Carver scholars group, as well as the elementary education learning community, Rodgers has played a pivotal role in the lives of nearly 100 incoming students, preparing them for life at Iowa State. Rodgers anticipates focusing her graduate school research on her passion – improving equity in the foundational institutions of America.

Allison Todd
Apparel, merchandising, and design
As a prospective student, Allison Todd visited the Iowa State campus on two occasions and found her new “home” in the College of Human Sciences. For the past year, she has welcomed future students as a STAR and Cyclone Aide. Recently, Todd took her zest for student recruitment beyond expectations as the new director of the “Behind the Scenes” committee, organizing the day-long visit for incoming apparel students and applying her skills in marketing and leadership to promote the Iowa State experience.

Darrin VanderPlas
Kinesiology and health
Passionate about global health and development, Darrin VanderPlas has embraced study abroad and service learning opportunities at Iowa State to work in developing nations, including Uganda, Ghana, and Ecuador, helping citizens grow their own food and protect food safety. His outreach experiences in sustainable agriculture have served as a springboard for independent and class-guided research projects, in which he analyzed agricultural systems and assessed student health. He plans to join the Peace Corps upon graduation.

Lydia Grote
Elementary education
With a clear idea of the classroom environment she wants to create, Lydia Grote is determined to incorporate learning experiences of diversity, youth leadership, and academics into her daily lessons. Grote has committed herself to leading – and teaching – by example. She belongs to six scholastic honor societies and serves in leadership roles within the Dance Marathon, Kappa Delta Pi honor society, Orchesis dance company, the elementary education learning community, and Destination Iowa State.
Stephanie Thode  
_Hospitality management_  
As one of 10 students in the country to receive the Clark E. DeHaven scholarship from the National Association of College and University Food Services, Stephanie Thode is applying campus employment and leadership activities to her career in the hospitality industry. Skilled in event planning, catering, and guest services, Thode has accumulated on-the-job training in places such as McDonalds and Iowa State University Dining that will serve her well in her future career. A leader of the newly-activated Eta Sigma Delta honor society, Thode eagerly shares her hospitality expertise with other students, creating an environment of learning for all.

Amanda Pudlik  
_Culinary science_  
When it comes to acquiring skills to advance her career, Amanda Pudlik has sought out internships, work experience, and student activities to gain a thorough understanding of culinary science. As one of the first culinary science students to complete an internship with a food company, Pudlik honed her skills in food science, nutrition, and product development with the Soyfoods Council by developing 10 innovative soy-based recipes. She reflects her knowledge to her peers through the culinary science club and the College of Human Sciences Student Council.

Michelle Green  
_Kinesiology and health_  
On a campus of 28,000 students, Michelle Green strives to be an individual, paving the way for students of all backgrounds to stand out – and stand up – amongst the challenges of societal norms. As the first African-American, non-greek homecoming queen at Iowa State, Green has advanced her leadership skills around campus as a Cyclone Aide, a community advisor in the Department of Residence, and a lab assistant in the Department of Genetics, Development and Cell Biology. She has also participated in influential campus groups, including the Vice President for Student Affairs Advisory Board, to express her views to campus administrators and create a more fulfilling, inviting campus culture for all students.

Taylor Hoyt  
_Hospitality management_  
Taylor Hoyt took his interests in club management to heart when, as a sophomore, he single-handedly revived the Club Managers Association of America’s (CMAA) Cyclone student chapter, growing membership from zero students to 18 students. His leadership helped re-establish the club with the national chapter; Iowa State students are reaping rewards through high-caliber internships and the opportunity to co-host the 2010 World Conference in San Diego. Hoyt has also played a significant role in restructuring of the College of Human Sciences Student Council, helping to redefine the mission and purpose of the group.

Sarah Brekke  
_Culinary science_  
Before she entered Iowa State University, Sarah Brekke was completing the internship of a lifetime, working alongside researchers in Beijing, China, at the Chinese Academy of Agricultural Sciences, as a World Food Prize Borlaug-Ruan international intern. This experience spurred her into undergraduate research, studying Iowa-grown oregano, pawpaw processing techniques, and legume milk formulation. As the president and co-founder of the ISU Culinary Science club, Brekke increased student membership to 25 and fostered an active, involved campus group.

Chelsea Volpe  
_Apparel, merchandising, and design_  
A talented student leader of the ISU MODA fashion club, Trend magazine, ISU theatre department, and the Kappa Kappa Gamma sorority, Chelsea Volpe is developing professional skills through experiences in the apparel industry that will serve her well in the future. Accepted to study at the Lorenzo de’ Medici International Institute in Florence, Italy, Volpe will showcase her talents and knowledge alongside international peers there. Her involvement resonates throughout the campus community.

Danielle Sponder  
_Apparel, merchandising, and design_  
Danielle Sponder has infused the Iowa State University campus with her fashion expertise and flair as director of photography and styling for ISU’s Trend magazine. As the national winner of the $25,000 Geoffrey Beane Scholarship, Sponder impressed fashion experts by developing a sustainable clothing line. She plans to continue blazing her way into the fashion industry by attending graduate school abroad.

See students in action  
View video clips that feature students and activities at [www.hs.iastate.edu/hsmatters](http://www.hs.iastate.edu/hsmatters).
Alum, VP, researcher makes Campbell Soup products healthy

By Laura Dillavou

As a youngster, Julie Simonson wondered what would happen if you replaced baking soda with baking powder in a recipe. Fast forward to her junior year of high school, when she launched an independent research study to see what happened when sugar was replaced with high fructose corn syrup in muffins. Today, Simonson is leading a Campbell Soup Company research and development team, doing what she does best – experimenting with food.

Simonson (‘87 food science) is the vice president for research and development of soups, sauces, and beverages at Campbell’s. Now living in Camden, N.J., the Iowa native hasn’t forgotten her roots. An early start in 4-H gave this food scientist the tools to follow her investigative nature.

“I always liked experimenting with food, and I also liked the creative aspects of cooking and baking,” Simonson said. “During high school, my mom told me about the food science program at Iowa State University, and it put me on the right path to my career today.”

Twenty years later, she’s still passionate about food product development, namely the ever-changing nature of the industry. Meeting consumer demands, fulfilling agency regulations, keeping in sync with health and wellness trends, and all the while, making it taste good are just part of her everyday work life.

“When I started in the industry with Kraft Foods, I spent a lot of time trying to make fat-free salad dressing a better product,” Simonson said. “Today, we’re creating products that are more balanced in their nutrition, but also a good value for the money. I’m proud that Campbell’s has developed more than 100 items that meet the standards of a healthy food product.”

And to do that, Simonson said she’s constantly learning about new trends in nutritional health and wellness from industry publications, suppliers, government agencies, and her team members. Her training at Iowa State in sensory testing, fundamentals of food science, and product development play a critical role in the kitchen, lab, and boardroom.

“I know that my professors at Iowa State taught me the early skills I needed to go on and get a doctoral degree in the field,” Simonson said. “The leadership and teamwork skills the program helps you build are critical to future success [in the industry].

“The bottom line is we’re making foods that taste good and are good for the consumer. That’s why we’re food scientists — we’re committed to making food healthier for all.”

ISU students pour concoctions in the lab. Alum Julie Simonson, who oversees soups, sauces, and beverages at Campbell Soup Company, uses what she learned in Iowa State’s food product development course to make food healthy. Photo by Jaclyn Hansel.