Five questions for Patricia Heyn[1]

Bodies and brains change as we age, but as we enjoy longer lives, we strive to fend off some of the debilitating diseases that diminish our mobility and mental acuity.

Patricia Heyn, an associate professor in the CU School of Medicine at the Anschutz Medical Campus, has spent years studying how physical and cognitive activities affect cognitive function, especially for people with Alzheimer's.

In 2004, she was conducting cutting-edge research on the effects of exercise on cognition and Alzheimer's during a post-doctoral fellowship at the University of Texas Medical Branch. She received an invitation to join the geriatric medicine division at the CU School of Medicine to develop and establish her area of research with the IMAGE Research Group, which conducts investigations in metabolism, aging, gender and exercise. Some of her research included a study investigating the effects of exercise versus pioglitazone treatment on the cognitive function of older people.

In 2008, she joined the Physical Medicine and Rehabilitation Department to work on research projects with the Assistive Technology Partners and continues to assist the center with "unique research related to assistive technologies for individuals with cognitive impairments."

Heyn last month presented research results at the Gerontological Society of America annual meeting in New Orleans, where she also was awarded with her second fellow designation award. The first award came from the American Congress of Rehabilitation.

Heyn also is working with the Center for Gait and Movement Analysis on a longitudinal research health outcome study evaluating the effects of aging on disability for people with cerebral palsy.

"When these individuals reach adulthood, they usually are underserved and neglected and do not receive proper health care services due to the lack of knowledge from adult health care professionals about their disability and health needs. Therefore, our study is evaluating health outcomes after transition to adulthood," she said. Pediatric care is quite specialized and a foundation exists to properly treat children with disabilities.

She also works with Rocky Mountain Alzheimer's Disease Center? (RMADC) investigators. Currently, she is working with Tim Boyd on evaluating neurotrophic brain markers and cognitive function in individuals with cerebral palsy.

"My work is multidisciplinary, and to be successful in this line of research, you need to work collaboratively and effectively with the disciplines involved in advacing the science of Alzheimer's disease for individuals with complex disabilities."

1. How did you choose this profession? Was there a person or event that influenced your decisions?

Growing up in Brazil exposed me to a broad range of social issues, diversity and inequality. In Brazil in the 1980s, individuals with disabilities were significantly underserved and neglected. Their health needs were so blaring that when I was a college student, I volunteered with nonprofit organizations to assist with the needs of the underserved population.

In 1988, when I was an exercise physiology research intern at the Hypertension Lab from the Heart Institute of Sao Paulo, I was asked by one of the volunteering organizations, Project Agape, to develop physical therapies for neglected adults with intellectual and developmental disabilities. I understood well the importance and significance of what I was asked to do and I immediately accepted the challenge. This experience gave me the strength and creativity to investigate exercise-based approaches that could increase the well-being of these individuals, and, at the same time, decrease the burden of social neglect.

While all my lab peers, who were also interning at the Hypertension Lab, were investigating the cardiovascular responses to exercise training, I was developing a new passion and career path by investigating novel exercise approaches as a potential therapy for mental and cognitive enhancement. It was the birth of my research on physical and sensory-based cognitive therapies for adults with cognitive impairments. I integrated music, musical instruments, physical movements, storytelling and sensory objects to stimulate physical and mental engagement in individuals with severe cognitive impairments.

I moved to the United States in 1991 for my graduate studies and expanded my initial work to focus on aging and dementia. In 2001, I completed my doctoral studies investigating the effects of exercise training on Alzheimer's disease. I developed an exercise-based, multi-sensory cognitive therapy for individuals with severe Alzheimer's disease and I presented my study results at professional meetings and published the findings. Due to the innovation and originality of my work, I received several postdoc fellowship invitations and decided to join in 2002 the neurologic and cognitive rehabilitation postdoctoral fellowship program at the University of Texas Medical Branch. Under the mentorship of the renowned Dr. Kenneth Ottenbacher, I developed several approaches for cognitive enhancement, including a unique virtual reality program for individuals with stroke.

2. You mentioned using everything from music to movement to protect or enhance functions of an aging or diseased brain. What activities have been used to fend off brain issues and who should engage in these types of activities?

The past 20 years has been filled with abundant information about different approaches aimed to impact positively the brain health span. Although the evidence is still uncertain, exercise (especially endurance-type exercise like swimming, biking, walking) has been shown to be one of the most effective treatments for cognitive enhancement. Abundant evidence supports the benefit of exercise to ameliorate cognitive decline as well as to be protective against dementia development.

The Mediterranean Diet (rich in fresh vegetables, whole grains, seafood, nuts, olive oil, etc.) also shows promise for protective and enhancing benefits on cognition. Lately, and probably because of the explosion of mobile technologies and apps, the brain gaming training approach, which is a new science, also is showing potential to aid in the health span of cognitive function.

My suggestion is to do them all: combine endurance exercise, including complex physical activities like dance with the goal to increase sensory activity, with the Mediterranean Diet, cognitive training (gaming, or learning a new language or how to play a musical instrument) and have an engaging full and rich social life. All these approaches together will most likely increase your chances for good health, wellness and vital cognitive function for lifetime.

Also, try to learn something new every day with the goal of stimulating new memories and brain proteins to enhance brain activity. Exposing the brain to new information is similar to what exercise does for muscle tissue.

3. Does it matter at what age you begin these activities? Do young people, who constantly use gaming technology, have an advantage later in life?

I always say that "one" is better than "zero," and that means any stimulation, be it physical or mental, is better than none. You must use it or you will lose it, and the earlier you start with physical and mental training, the better are your chances to benefit from them.

Regarding the use of the brain gaming approach and its longitudinal effects, this knowledge most likely will emerge in the coming years. I believe the next 10 years will provide us with ample scientific information about the effects of brain gaming technologies on health, including whether too much of a good thing is a bad thing.

There are several questions that need to be answered in regard to the brain gaming technology science, such as what type of gaming context and type of exposure (like training dose) is appropriate? Who are the best candidates for this approach (stroke patients, children, etc.), and what are the side effects involved in its chronic use? Will it induce more

sedentary behavior, or visual or postural problems?

This is a growing field, especially for neuroscience, and in the upcoming years, we hopefully will have some of the important answers to this new cognitive enhancer approach. It will be a challenge since the technology is always changing. To be effective in this field of study, cognitive scientists will need to work closely with computer engineers and software developers in designing technologies that will have the proper usability features to positively impact human health span.

I am the chair of the Applied Cognition Task Force of the American Congress of Rehabilitation Medicine (ACRM). For the past two years, the task force has been evaluating the brain gaming technology evidence that has been published related to older adults with cognitive impairments in order to generate a guideline report and recommendations for future research. We just presented the results at the ACRM Annual Meeting in Chicago. Although we have not completed the evidence summaries, there seems to be a trend towards the possible positive effects of brain gaming on memory and attention of older individuals with mild cognitive impairment, including Alzheimer's type.

4. What other research/topics are you focusing on now?

My current research includes investigating the early timing of chronic disease development in individuals at risk for health decline due to the process of growing older with a disability. The question is, if someone has a disability (like a brain or spinal cord injury or Down syndrome), how early can we identify health risk factors associated with cardiovascular disease or Alzheimer's disease? Cardiovascular disease is associated with Alzheimer's disease; therefore, are individuals with a lifetime disability at higher risk for developing such conditions, and if so, why and when does the disease process start in these individuals?

This research has important health care implications as well as great potential for positive quality of life impact for patients with disabilities.

We don't know much about the development of Alzheimer's disease in individuals with disabilities. We need to understand and learn more about how Alzheimer's manifests in persons with disabilities to properly treat, manage and improve the person's quality of life.

Living a life with a disability can be quite challenging for the person and for their family. Developing chronic health conditions while the person with a disability is growing older can have detrimental effects on the person's lifespan, function and quality of life.

5. Do you follow your own advice and continue to be physically and mentally active every day?

Yes. I swim, walk, run, bike and love to dance. I also love to learn about world cultures, behaviors and languages. If a day was composed of 48 hours, I would be learning Latin, Italian and French – and how to play a Spanish guitar.

Changes to two systemwide policies now in effect[2]

The Office of Policy and Efficiency (OPE) has announced changes to two Administrative Policy Statements (APSs) from the human resources and administrative/general functional areas:
New 2027[3] – University Code of Conduct Revised 5019[4] – Parental Leave for Faculty and University Staff
These changes, presented at the Nov. 17 TEAM meeting and approved by President Bruce Benson, are now in effect.

For more detailed information, go to https://www.cu.edu/ope/policy/aps-changes[5].

For additional information on system policies, go to: http://www.cu.edu/ope[6].

Staff Council begins analyzing survey results[7]

After more than 2,700 staff members responded to the benefits and work survey developed by the University of Colorado Staff Council (UCSC), the raw data now will be dissected to determine which benefits are most important to employees and how those benefits are used.

“We feel this is a pretty good response and I think there will be good things that come out of the survey,” said Denise Thomas, UCSC chair.

Council members discussed the preliminary results of the survey, which closed Nov. 15, during their regular monthly meeting Nov. 17 at CU Boulder.

Thomas said council members, along with other university survey specialists, will sift through the answers and develop a formal report that ultimately will be shared with university administrators and the Board of Regents. Thomas hopes a preliminary report will be ready in February.

Council also will disseminate the report to campus administrators and individual campus staff councils with the intent of addressing issues important to staff members, in part through increased advocacy.

“While we’re very happy and pleased with the number of responses we received, we are hoping to determine why more people didn’t fill out the survey,” Thomas said. This was the first time council had conducted a survey; the group hopes to engage more of the 9,000-plus staff employees in any future surveys. More administrative staff members returned the survey than employees in other job categories and council hopes to determine a way to get more employees involved.

“We need to figure out a way to survey people who are in all types of job brackets, including those that might not have had an opportunity to respond,” Thomas said. “This is our first survey attempt and we know there will be some fine-tuning for any future surveys.”

Also during the meeting, council members heard from Ravinder Singh, chair of CU Faculty Council. The two councils hope to find common areas of interest in which they can combine forces. For instance, Faculty Council members are working on a potential bullying policy, which is something for which Staff Council has previously advocated. A resolution calling for the university to create a policy that addresses bullying and other disturbing behaviors that affect everyone – not just those who fall under the category of protected class – was unanimously passed by the UCSC in May 2015.

Thomas will attend meetings of the Faculty Council committee charged with researching bullying policies to share information she has about UCSC’s efforts. She also will meet periodically with Singh and Marcus Fotenos, Intercampus Student Forum Chair, to discuss other issues of interest common to staff, faculty and students.

“At least since I’ve been on UCSC, we haven’t had that opportunity to work closely with Faculty Council, and so I’m glad we’re trying to forge something together,” Thomas said.

In other business:
UCSC members heard a report from the council working group that is researching parental leave policy. System Staff Council completed some preliminary research on policies at other, similar educational entities around the country. The council’s working group will continue to gather data with the hope of proposing a leave policy to administration officials that would be equitable across all campuses for university staff and classified staff employees. Council members discussed the Service Excellence Awards that will be presented April 14, 2017, at a CU South Denver ceremony. The awards honor classified staff and professional exempt employees who provide outstanding volunteer service to their campus, community/civic/ professional activities, and the university as a whole. The award includes a $1,000 prize. Nominations will open Jan. 10, when nomination forms will be available at the Staff Council website.[8]

Deadline to enroll in CU's Health Savings Account nears[9]
[10]

Employees currently enrolled in the University of Colorado's Health Savings Account must select their 2017 contribution amounts by Dec. 9. If employees do not act, their enrollment will be waived effective Jan. 1, 2017.

During the enrollment period, current HSA enrollees can select how much money they would like to place into an HSA for 2017. The 2017 contribution limits are $3,400 for an individual and $6,750 for a family. Employees over age 55 may contribute an additional $1,000 per year.

This year-end enrollment is taking place for current enrollees because CU's HSA record keeper will change from Wells Fargo to Optum Bank on Jan. 1. As part of this transition, the university will change its HSA enrollment from a fiscal year (July 1 to June 30) to a calendar year (Jan. 1 to Dec. 31).

Employees who are currently enrolled and who do not enroll during this period may enroll in an HSA in 2017, but will not have HSA deductions taken from their January paychecks.

For employees who are not currently enrolled in an HSA but are enrolled in CU Health Plan – High Deductible, the option to enroll in CU's HSA is available at any time.

Employees with questions about the transition or who need assistance enrolling may call an Employee Services benefits professional at 303-860-4200, option 3, or email benefits@cu.edu[11].

For more information on the HSA enrollment period, visit this website[12].

End of calendar year brings to-do list for employees[13]

The countdown to 2017 has begun. With it come important changes and dates for all CU employees.

W-2s will be mailed by Jan. 31 and made available in the employee portal shortly afterward. To prevent delay in receiving your W-2, it is vital that you ensure your address is correct in your employee portal. If not, you will need to update it by Jan. 5.

If you legally changed your name this year, log into the portal to confirm that the name on your digital pay stub matches the one on your Social Security card.

Be sure to mark your calendars for these upcoming dates:
Mid-December: The IRS releases the 2017 version of the W-4. **Jan. 1:** Did you meet the Social Security maximum in 2017? If so, tax deductions will resume on this date. **Jan. 5:** Deadline for updating your address in the employee portal [14]. **Jan. 31:** W-2 forms will be mailed by this date, then posted in the portal shortly thereafter. **Feb. 6:** If you filed as tax exempt in 2016, you must complete your 2017 W-4 form by this date.
Know your numbers for the New Year with these notable changes to tax rates and contribution limits:
The Social Security wage base is increasing to $127,200. Maximum Social Security withholding is $7,787. Contribution limits for CU 401a and PERA have increased: The maximum contribution for the CU 401a is now $54,000 with a salary limit of $270,000. The employer contribution for PERA is 10.15 percent with an employee contribution of 8 percent.
If you need instructions on updating any of the items listed above, or would like more information regarding these important dates and changes, click here[15].

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