



October 2016 NWIA Members' Newsletter

News & Events

- 16 Oct World Food Day
- 16 Oct Dictionary Day
- 31 Oct Halloween
- 7 Nov Hug-a-Bear Day
- 11 Nov Remembrance Day
- 17 Nov Home Made Bread Day
- 17 Nov Take a Hike Day
- 21 Nov World Hello Day
- 30 Nov Stay at Home Because You're Well Day

Upcoming Conferences

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October Floral Emblem : Calendula

PRESIDENT'S MESSAGE

Hello Members and Readers,

Having been 'encouraged' to rearrange (read clean up) my office I have re-discovered some older wellness publications that previously had resonated with me and formed a big part of my guiding force during my life's

wellness journey. Having re-surfaced they are now being re - read and re-enjoyed. Among those are works from Halbert Dunn, Jack Travis (NWIA Honorary member), Don Ardell (NWIA Honorary member), Fred Leafgren, Bill Hettler etc. The one re-discovery I wish to re-visit and share some of the content with you here is a 1995 book by Greg Anderson titled “The 22 (Non-Negotiable) Laws of Wellness” (Harper).

The author states “Wellness is one of the greatest and most powerful words in the English language. Unfortunately it is also one of the least understood”. Has anything changed? The author reiterates the thoughts and concepts of wellness writers decades before in statements such as “ Wellness is a choice” and ”Wellness is a process” and “Wellness is not a medical fix but a way of living” and “Wellness involves an all-inclusive paradigm shift” and “wellness seeks more than the absence of disease” etc.

So if all this book does is re-iterated what I had already known and was in fact delivering in Academic curriculum already at the time of purchasing and reading it, why is it that it resonated with me back then? Because, that is not all it does. For it describes in a simple set of ‘laws’ the “fundamental rules of the wellness pursuit”. While acknowledging ‘all the many wellness practitioners and academics’ who have gone before him, the book is written by a person without an M.D. or PhD who based his life around these laws for a decade before writing it, after being diagnosed with metastatic lung cancer and being told “I had 30 days to live”.

Following is the list of his laws, discussed in depth in the book:

- 1/ Esprit – the joy you feel is life
- 2/Personal Accountability – responsibility for our own wellness
- 3/ Unity – three distinct entities - body, mind and spirit – yet inseparable. One. Whole.
- 4/ Physical Activity – use it or lose it
- 5/Nutritional Frugality – A little with quiet is the only diet (Scottish proverb)
- 6/Minimal Medical Invasiveness – The art of medicine is generally a question of time (Ovid)
- 7/ Stress-Hardiness – It’s not what happens to you, it’s what you do about it (W.Mitchell)
- 8/ Emotional Choice – Learning to be aware of feelings is an essential skill (Joan Borysenko)
- 9/Developmental Motivation – Use what talents you possess: the woods would be very silent if no birds sang except those that sang best (Henry Van Dyke)
- 10/ Human Dignity – constant awareness of the worth and value of every person regardless of race, colour, age, gender or economic situation
- 11/ Win/Win – Do unto others as you would have others do unto you (The Golden Rule)
- 12/ Present-Moment Living – Be here now (Ram Dass)
- 13/ Mindfulness – The mind is its own place, and in itself can make a heaven of Hell. A hell of Heaven (John Milton)
- 14/ Creativity – Imagination is the eye of the soul (Joseph Joubert)
- 15/ Lifetime Growth – We must always change, renew, rejuvenate ourselves; otherwise we harden (Goethe)
- 16/ Life Mission – He dies every day who lives a lingering life (Pierrard Poulet)
- 17/ Purpose Through Service – Try not to become a man of success, but rather try to become a man of value (Albert Einstein)
- 18/ Stewardship – If you want happiness for a lifetime – help the next generation (Chinese Proverb)

19/ Forgiveness – Forgiveness restores our hearts to the innocence that we knew – an innocence that allowed us the freedom to love (Robin Casarjian)

20/ Gratitude – our return for blessings and kindness received

21/ Personal Peace – Without inner peace, it is impossible to have world peace (The Dalai Lama)

22/ Unconditional Loving - unconditional, nonjudgmental loving is life's single highest and most rewarding pursuit

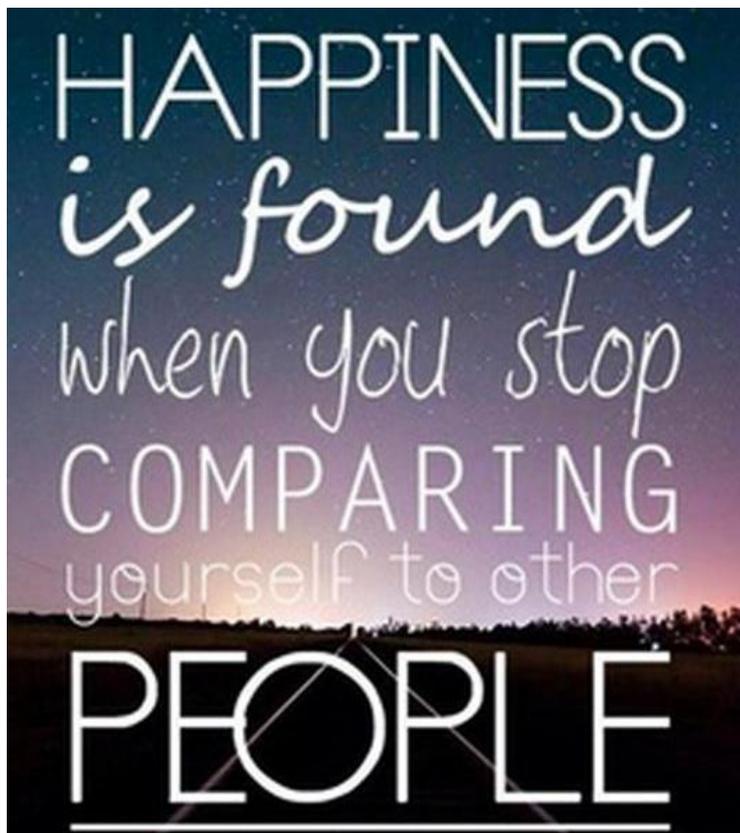
If one truly ponders on all 22 of the above laws, I believe there is something there for every wellness practitioner no matter what your focus area of wellness is. Yes, wellness concepts and language may have moved on in the 20 years since publication of this book through the engaging writing of 'new' authors as well as the evolving thoughts of long time authors. But I am a believer in knowing and understanding something of the past to ensure having the best grasp of what is 'now'. Only then can one progress with confidence to seek new knowledge and the on-going journey to paradigm change. Hence, my interest in re-reading this 'unearthed again' book and sharing information of it with you.

Ensure your spring wellness revival reaches full bloom with yourself and your clients.



Bob Boyd
NWIA PRESIDENT

Quote for the month



International Wellness Connections

This is the 42nd article of a series featuring information from International Wellness Practitioners about the state of Wellness in their country of residence. This and any following International Connections monthly article has appeared in the National Wellness Institute (USA) monthly newsletter, at least 12 months previous to it appearing in this publication.

NWIA extends a sincere thank you to the authors for their contributions to the NWIA newsletter.

[Seven Steps to Integrating Workplace Health, Safety and Wellbeing: Tasmanian Healthy Workplaces--Good Health is Good Business](#)

Posted By [Jennifer Mitchell](#), Tuesday, October 06, 2015

Updated: Tuesday, October 06, 2015

By Samantha Lawrence

The Tasmanian Healthy Workers program, heading into its final twelve months of funding has not slowed down and is continuing to fill the gaps and provide a key service to help Tasmanian (Australia) workplaces become healthier and safer.

http://worksafe.tas.gov.au/_data/assets/pdf_file/0006/288294/A_healthy_workplace_begins_with_healthy_advice.pdf

An earlier International Wellness Connection article authored by fellow Advisor Cameron Blight (March 2015) provided an update on how the Tasmanian Healthy Workers program had progressed over four years. With a mid-program shift from just focusing on one-on-one visits to individual workplaces to a more collaborative networking approach we have a better ability to reach large numbers of workplaces and have achieved a greater impact.

To ensure the Healthy Workers service was delivering and continued to deliver on the needs of Tasmanian workplaces we rolled out an evaluation survey to all our networks earlier in the year. With 401 people completing the survey we gained valuable information on what we were doing well and how we could shape our service for the remainder of its funded life span until June 2016. Some key results highlighted the importance of integrating Health, Safety and Wellbeing and that workplaces saw value in investing in specific training in Health and Wellbeing;

- 155 people responded to having good knowledge before attending networking events, with 248 then responding to have good knowledge after attending
- 157 people considered wellbeing and safety issues together as a result of attending networking sessions
- 158 people considered the impact of wellbeing on safety issues, such as fatigue and stress as important
- The top three topics respondents wanted covered at future networking events were:
 - Mental health and wellbeing (185)
 - Sleep and fatigue (155)
 - Sedentary behavior (146)
- 255/275 people/organizations saw value in Health and Wellbeing training

We have observed that best-practice workplaces are now integrating their current workplace health and safety practices with workplace health and wellbeing programs, directly capitalising on time producing productivity benefits. Cameron and I have been able to follow a simple, systematic approach (as below) to helping workplaces implement successful Health and Wellbeing Programs.

1. **Get the Ball Rolling**

It's important there is commitment and support from senior managers, and that they have a clear understanding of the program's aims and expectations. Identify a coordinator who is motivated and resourced to drive your program

2. **Organize your Program**

Include staff from all areas of your workplace to make up a working group. Their role is to help support the coordinator in planning and implementing the Program.

3. **Work Out What You Need**

Your workplace health and wellbeing program will only succeed if it meets the requirements of your employees. You may address this step through a formal survey or by having a discussion with staff at your next staff meeting.

4. **Develop an Action Plan**

Now you know what your employees want, you can begin to plan your program. Identify your goals and objectives based on key issues identified in your needs assessment. Within your plan there should be a mix of strategies that target people, places and policies as well as identify resources, facilities and expertise both within the workplace and within the community.

5. **Implement Your Action Plan**

For each strategy; identify what is going to take place, who within your working group is going to be responsible, when it will happen, how it will be monitored and evaluated and what resources it will require. You may need to develop a range of promotional strategies to get information to particular staff groups i.e. Outdoor workforce will need face to face information over office based staff who have access to email notifications

6. **Monitor and Evaluate Your Program**

Keeping track of what your program is doing is the only way to discover if it's actually working. Evaluating each strategy in the program will allow you to see if it is contributing towards your goals and objectives.

7. **Update Your Health and Wellbeing Program**

Review your program goals and objectives on an annual basis; this is also a good time to run another staff survey or discussion to gather feedback about your HWB program. Take on board any changes in staff health needs and challenges to refocus your program and set new goals and objectives.

These steps are covered in more detail in 'Your Simple Guide to Workplace Health and Wellbeing'

http://www.worksafe.tas.gov.au/safety/health_and_wellbeing/simple_guide_resources

The following link is a useful checklist to help you keep track of the steps to implementing a successful HWB program in your workplace.

http://www.worksafe.tas.gov.au/_data/assets/pdf_file/0003/291639/Summary_checklist.pdf

This year the Healthy Workers team have continued to collaborate with organizations to deliver networking opportunities. In May the team partnered with Skills Tasmania (Department of State Growth) to deliver a conference based on 'Fostering the Right Environment for Investment & Growth' including investigating the way skills, health, safety and wellbeing play a role in workplace productivity. Reaching over 350 workplaces over two days with key health and wellbeing messages, including a Mental Health workshop and Integrating Health, Safety and Wellbeing workshop, was a fantastic outcome of the Conference for us.

In August the Healthy Workers team were able to collaborate with Employer of Choice, OzHelp and Leading Teams to deliver three networking sessions in three regions in Tasmania. Geoff Pearman from Partners in Change was the keynote speaker delivering messages all the way from New Zealand around managing an ageing workforce. Following the keynote were free workshops provided by OzHelp - *Identifying & Supporting Mental Health & Wellbeing in the workplace* and Leading teams - *Leading a High Performing Culture*. Reaching 346 people and 230 organisations over three days is a great example of how networking events can have a wide reach and enormous impact.

Heading into October and WorkSafe month, the Advisory team is offering more opportunities to gain knowledge in the key areas of Mental Health and Fit for Work, which were identified by evaluation survey respondents. These opportunities include:

The risk of not addressing mental health and wellbeing in your workplace - Safe Work Australia has named Mental Disorders as the second disorder it is focusing on in its National strategy, highlighting the need for workplaces to take a proactive approach to creating a mentally healthy workplace. A great free resource is the Beyond Blue and Healthy Workplace Alliance 'Heads up Action Plan' (<https://www.headsup.org.au/>)

Fit for Life, Fit for Work forums will further explore the link between being a healthier worker and a safer worker. Keynote speaker Paul Taylor will cover WHS Leadership, neuroscience and workplace culture with a case study by Retirements Benefits Fund on how they successfully managed change by investing in Health and Wellbeing and its people.

The need for Coordinator Health and Wellbeing training was identified in the evaluation survey. The Healthy Workers Team is working with the Tasmanian Training Consortium to deliver in November a day and a half Health and Wellbeing Coordinators training course designed by Cameron and Carl Cazaly (previous Healthy Workers Coordinator and International Wellness Connection author – May 2013).

There is a lot happening in the Tasmanian Healthy Workers space, heading into the last twelve months of its funded service. It is full steam ahead with Cameron and Sam striving to continue to make a positive impact in helping Tasmanian workplaces to become happier and safer.

Samantha Lawrence has always been passionate about health and fitness and this led her to study a Bachelor of Exercise Science at the Australian Catholic University in Melbourne and to pursue hockey at an elite level. Sam's entry into the Community Health and Fitness industry commenced as Manager of the Devonport Recreation Centre, Gym and Aquatic Centre in her role as Devonport City Council's Sport and Leisure Officer. A passion to influence people's lifestyle choices in a more holistic fashion led to her current role with WorkSafe Tasmania, Department of Premier and Cabinet as a Workplace Health and Wellbeing Advisor. A dream role where she is inspired everyday by the workplaces she visits.



Life After Fitbit: Appealing To Those Who Feel Guilty Vs. Free

Personal tracking tools — technologies that meticulously count our daily steps, map our runs, and account for each purchase – fall in and out of favour in users' lives.

People abandon self-tracking for different reasons, University of Washington researchers have found. Some don't like what their Fitbit or financial tracking tools reveal, others find collecting data a hassle, don't quite know how to use the information or simply learn what they need to know about their habits and move on.

“We got curious about what it's like for people after they stop using self-tracking tools,” said [Sean Munson](#), a UW assistant professor of human centered design and engineering. “Do they feel great, do they feel guilty, do they feel like they've gotten everything they need?”

In research [presented earlier this year](#) that surveyed 193 people who had abandoned personal informatics tracking, the team found many people experienced no real difference in their lives. Other emotions, however, ranged from guilt over not being able to keep it up to relief from the tyranny of self-tracking.

Now, in a [paper](#) to be presented Sept. 15 at the Association for Computing Machinery's [2016 International Joint Conference on Pervasive and Ubiquitous Computing](#) (UbiComp 2016), the researchers explore how different design approaches may better support people who have lapsed in their Fitbit use.

“People feel more guilt when it comes to abandoning health tracking, as compared to something like location tracking, which is more of a fun thing that people do for a while and move on from,” said lead author [Daniel Epstein](#), a UW doctoral student in computer science and engineering.

“We definitely don't think that everyone should be tracking forever, but we wanted to see if there are design opportunities to better support people who have had different experiences using Fitbit.”

The research team surveyed 141 people who had lapsed in using Fitbit. They showed the subjects seven different visual representations and ways of framing previously collected data, to see if the data could offer additional support and encouragement to be healthy if portrayed in new and interesting ways.

Half of these Fitbit users described feeling guilty about their lapsed Fitbit use, and nearly all of those said they would like to return to activity tracking. Twenty-one said they got no value out of tracking, found it annoying, or struggled to connect the data to behaviour change. Five participants felt they had learned enough about their habits, and 45 reported mixed feelings about abandoning their Fitbit.

The researchers found that lapsed users responded differently to seeing their old Fitbit data presented in new ways, depending on their personal tracking history.

Participants who had tracked their fitness levels for less than four months preferred visualizations that showed them which days of the week or time of day they were active, while those with a longer track record preferred visualizations that highlighted the length of their activity record.

Most people preferred social comparisons that made them look better than their peers, such as “you walked more than 70 percent of people,” over those that were framed negatively, such as “30 percent of people walked more than you” – even if the comparisons represented the same information.

The team also found that people who felt guilty about abandoning their Fitbit use were very receptive to recommendations that they return to tracking, while people who felt they had gotten what they had wanted out of self-tracking felt those same suggestions were judgmental and unhelpful.

The responses show, researchers say, that a one-size-fits-all design approach misses opportunities to support different types of users.

“Right now self-tracking apps tend to assume everyone will track forever, and that's clearly not the case,” said co-author [James Fogarty](#), a UW associate professor of computer science and engineering.

“Given that some people feel relief when they give it up, there may be better ways to help them get better value out of the data after they're done, or reconnect them to the app for weeklong check-ins or periodic tune-ups that don't presume they'll be doing this every day for the rest of their lives.”

Co-authors include Jennifer Kang, a recent bachelors graduate from the UW's department of computer science and engineering and the information school, and [Laura Pina](#), a postdoctoral researcher in computer science and engineering and human centered design and engineering.

The research was funded by the Intel Science and Technology Center for Pervasive Computing, Nokia Research, the Agency for Healthcare Research and Quality and the National Science Foundation.

<http://www.washington.edu/news/2016/09/08/life-after-fitbit-appealing-to-those-who-feel-guilty-vs-free/>



Early-Life Language Stimulation, Skills May Prevent Childhood Depression

Children with language deficits are significantly more likely to experience depression by third grade

Childhood depression can lead to social, emotional and academic setbacks during childhood and later in life. However, little is known about what contributes to children's developing depressive symptoms. Researchers from **University of Missouri** have determined that the level of language skills young children possess early in life can predict the likelihood they may experience depression.

Keith Herman, a professor in MU's College of Education, found that children who experience low levels of language learning stimulation beginning at three years of age are more likely to experience language delays by first grade and are three times more likely to develop depression by third grade.

"It is clear that the amount of language that children are exposed to early on is very important for their development," Herman said. "Whether it is through pre-school classes, interactions with parents and siblings or through consuming media such as television and books, exposure to greater amounts of language and vocabulary will help prepare children to succeed socially and academically when they begin school. If children already are experiencing language and subsequent social and academic deficits by the first grade, chances are they will continue to fall further behind in school each year, which can lead to negative self-perceptions and depressive symptoms by third grade."

Herman and a team of researchers examined data from 587 children and households in Hawaii. The data included children's language skills and exposure to language stimulation in the home beginning at age three. The children were tested on their language skills in the first grade and then tested for depressive symptoms in the third grade. The children who had higher language exposure and stimulation as three-year-olds were more likely to have adequate to better-than-average language skills in first grade. They also were much less likely to experience depression by the third grade. Children who did not receive adequate language stimulation early in life were much more likely to have poor language skills and ultimately experience depression.

"These findings are important because we have been able to identify key stages of child development that can help determine the mental health of children later in their academic careers," Herman said. "By understanding that the amount of language a child is exposed to early in life is important, we can create interventions and programs that can help parents and childcare providers improve language exposure during this critical development age. Also, we can identify first graders who may lack language skills and give them extra attention to help catch them up academically and socially before they develop depression."

The study, "Language Delays and Child Depressive Symptoms: The Role of Early Stimulation in the Home," was published in *Prevention Science*. The study was co-authored by Daniel Cohen, Sarah Owens, Tracey Latimore, Wendy M. Reinke, Lori Burrell, Elizabeth McFarlane and Anne Duggan. Keith Herman also is the co-director of the Missouri Prevention Center, which brings community members and researchers together to help schools and families apply techniques that promote social and academic success.

<http://munews.missouri.edu/news-releases/2016/0907-early-life-language-stimulation-skills-may-prevent-childhood-depression/>



Researchers Outline Barriers To Treating Fear And Anxiety

A misunderstanding of how the certain parts of the brain function has hampered the creation of pharmaceuticals to effectively address fear and anxiety disorders, a pair of researchers has concluded. Their analysis, which appears in the latest issue of the *American Journal of Psychiatry*, also offers new insights into neurological processes, with the aim of overcoming existing barriers to drug development.

"Progress has stalled in treatment development for mental disorders," write Joseph LeDoux, a professor in New York University's Center for Neural Science, and Daniel Pine, who leads the Section on Development and Affective Neuroscience at the National Institute of Mental Health's Intramural Research Program. "Promising new treatments either has not turned out to be useful when tested with patients or exhibit potential adverse effects that limit their applicability to severe disorders. We argue that this state of affairs reflects how fear and anxiety have been conceived, and we offer a new framework to address the problem."

They observe that it has long been assumed advances in neuroscience would revolutionize treatment of psychiatric disorders. They note, for instance, that discoveries about how the brain detects and responds to threats has guided research aimed at improving treatments for disorders that involve alerted threat processing, especially fear and anxiety disorders.

However, they add, a misunderstanding of how the brain is wired with regard to both fear and anxiety has stymied the development of effective treatments. In short, these efforts have assumed that emotions such as fear give rise to both the experience of "fear" (the feeling of being afraid of being harmed) and to behavioural and physiological symptoms that also occur.

LeDoux and Pine posit that, contrary to existing views, the brain circuits that underlie conscious feelings are different from those that underlie behavioural and physiological responses. While both sets of symptoms--the conscious and the behavioural/psychological--must be understood and treated, they must be addressed differently.

"Failure to recognize this difference has impeded understanding of fear and anxiety and their treatment," they argue. "Going forward, recognition of this distinction should provide a more productive path for research and treatment."

LeDoux and Pine put forth a framework aimed at creating such a route--one that theorizes there are differences between processes that give rise to conscious feelings of fear or anxiety and the non-conscious processes that generate behaviour and physiological responses that often occur with these feelings.

This two-track nature, the authors continue, means that treatment must then move to a dual approach.

"Behavioural and physiological symptoms may be treatable with either medications or certain psychotherapies, such as cognitive behaviour therapy," they note, "while conscious feelings may have to be addressed with psychotherapeutic treatments that are specifically designed to change these."

Human research is essential for understanding conscious feelings in the brain, LeDoux and Pine continue, while animal research is important for understanding the brain mechanisms that underlie the non-conscious processes that control behavioural and physiological responses.

"Our ability to understand the brain is only as good as our understanding of the psychological processes involved," they conclude. "If we have misunderstood what fear and anxiety are, it is not surprising that efforts to use research

based on this misunderstanding to treat problems with fear and anxiety would have produced disappointing results."

LeDoux, the founder of the Emotional Brain Institute who also has an appointment in NYU's Department of Psychology, has worked on emotion and memory in the brain for more than 20 years. He is also a professor in the Departments of Psychiatry and Child and Adolescent Psychiatry at NYU Langone Medical Center. Pine has served as the chair of the Psychopharmacologic Drug Advisory Committee for the Food and Drug Administration and chair of the Child and Adolescent Diagnosis Group for the DSM-5 Task Force.

The work was supported by the National Institute of Mental Health Intramural Research Program Project (1ZIAMH002781). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

<http://www.nyu.edu/ebi/>



Pet Therapy Can Combat Homesickness

The expression dog is man's best friend might have more weight in the case of first-year university students suffering from homesickness, according to a new UBC study.

The study shows that animal-assisted therapy can help student's combat homesickness and could be a useful tool in lowering post-

secondary drop-out rates.

"Transitioning from high school to university can prove to be a challenge for many first-year students," says Assistant Professor John Tyler Binfet of UBC's Okanagan campus. "Given that students who experience homesickness are more likely than their non-homesick cohorts to drop out of university, universities have a vested interest in supporting students during their first-year transition."

In the study, 44 first-year university students who self-identified as homesick were given a survey to measure levels of homesickness, satisfaction with life and connectedness with campus. Half of the students completed eight weeks of dog therapy; while the other half were informed that their sessions would begin in eight weeks' time. Dog therapy included 45-minute weekly sessions involving small group interactions with the dogs and handlers, and engagement with other first-year students participating in the study.

Following the initial eight-week session, participants in both the treatment group and the non-treatment group completed the survey again.

Participants who completed the eight-week program experienced significant reductions in homesickness and a greater increase in satisfaction with life. Participants reported that sessions "felt like they were at home chatting with friends who brought their puppies." While the non-treatment group reported an increase in their feelings of homesickness.

According to a 2009 report conducted for B.C. Stats, students who left post-secondary happy were almost twice as likely to have felt a sense of belonging compared to students who left unhappy. Students who left university unhappy were almost twice as likely to say they did not feel a sense of belonging on campus.

A total of 29 per cent of students who dropped out cited more interactions and friendships with other students as a factor that would have influenced their decision to stay longer.

While further study is needed, a university's ability to influence campus connections could be a useful tool in lowering drop-out rates in first-year students, says Binfet.

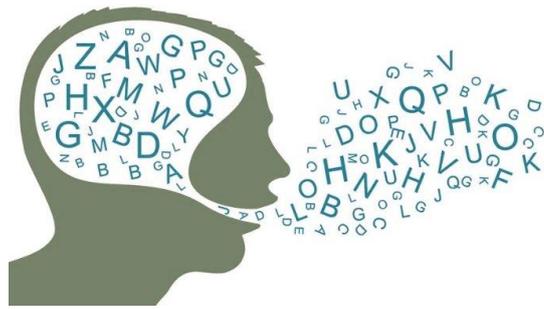
"Many first-year university students face the challenge of integrating into their new campus community," says Binfet. "Homesick students are three times more likely than those who manage their homesickness to disengage and

drop out of university."

"Moving to a new city, I did not know anyone at the university and became very homesick and depressed," says UBC Okanagan student Varenka Kim. "I was mainly secluded in my dorm room and did not feel like I belonged here. Coming to animal assisted therapy sessions every Friday gave me a sense of purpose and kept me enthusiastic about life."

"Hounds and Homesickness: The Effects of an Animal-Assisted Therapeutic Intervention for First-Year University Students" was recently published in the journal *Anthrozoos*. To find out more, visit: www.tandfonline.com/doi/abs/10.1080/08927936.2016.1181364

<https://news.ok.ubc.ca/2016/09/08/pet-therapy-can-combat-homesickness/>



A Nose By Any Other Name Would Sound The Same, Study Finds

In a study that shatters a cornerstone concept in linguistics, an analysis of nearly two-thirds of the world's languages shows that humans tend to use the same sounds for common objects and ideas, no matter what language they're speaking. Published today in the *Proceedings of the National Academy of Sciences*, the research demonstrates a robust statistical relationship between certain basic concepts -- from body parts to familial relationships and aspects of the natural world -- and the sounds humans around the world use to describe them.

"These sound symbolic patterns show up again and again across the world, independent of the geographical dispersal of humans and independent of language lineage," said Morten H. Christiansen, professor of psychology and director of Cornell's Cognitive Neuroscience Lab. "There does seem to be something about the human condition that leads to these patterns. We don't know what it is, but we know it's there."

For example, in most languages, the word for "nose" is likely to include the sounds "neh" or the "oo" sound, as in "ooze." The word for "tongue" is likely to have "l" (as in "langue" in French). "Leaf" is likely to include the sounds "b," "p" or "l." "Sand" will probably use the sound "s." The words for "red" and "round" are likely to include the "r" sound. "It doesn't mean all words have these sounds, but the relationship is much stronger than we'd expect by chance," Christiansen said.

The associations were particularly strong for words that described body parts. "We didn't quite expect that," he said. The team also found certain words are likely to avoid certain sounds. This was especially true for pronouns. For example, words for "I" are unlikely to include sounds involving u, p, b, t, s, r and l. "You" is unlikely to include sounds involving u, o, p, t, d, q, s, r and l.

Christiansen, a cognitive scientist who studies language, and a team of physicists, linguists and computer scientists from Argentina, Germany, the Netherlands and Switzerland analysed 40-100 basic vocabulary words in 62 percent of the world's more than 6,000 current languages and 85 percent of its linguistic lineages.

The words included pronouns, body parts and properties (small, full), verbs that describe motion and nouns that describe natural phenomena (star, fish).

They found a considerable proportion of the 100 basic vocabulary words have a strong association with specific kinds of human speech sounds. The study's results are conservative; the actual number of sound symbolism patterns may in fact be even greater, Christiansen said: "We wanted to show findings that we can really stand behind."

The findings challenge one of the most basic concepts in linguistics: the century-old idea that the relationship

between a sound of a word and its meaning is arbitrary.

In the past 20 years, language scientists have seen glimmers of evidence that arbitrariness isn't necessarily an iron-clad rule. For example, studies have shown words for small objects in a variety of languages are likely to contain high-pitched sounds.

But until now, the research has looked only at specific word/sound relationships or small sets of languages. "People haven't been able to show whether sound symbolism is really something more pervasive throughout languages all over the world," Christiansen said. "And this is the first time anyone has been able to show that at such a scale."

The researchers don't know why humans tend to use the same sounds across languages to describe basic objects and ideas. But Christiansen notes these concepts are important in all languages, and children are likely to learn these words early in life. "Perhaps these signals help nudge kids into acquiring language," Christiansen said. "Likely it has something to do with the human mind or brain, our ways of interacting, or signals we use when we learn or process language. That's a key question for future research."

The paper, "Sound-Meaning Association Biases Evidenced Across Thousands of Languages," was co-authored by Damian Blasi, University of Zurich; Soeren Wichmann, University of Leiden; Harald Hammarström, Max Planck Institute for the Science of Human History; and Peter Stadler, University of Leipzig.

Cornell University has television, ISDN and dedicated Skype/Google+ Hangout studios available for media interviews. For additional information, see this Cornell Chronicle story.

<http://mediarelations.cornell.edu/2016/09/13/a-nose-by-any-other-name-would-sound-the-same-study-finds/>



Reports Detail How To Help Older Adults Avoid Financial Fraud

As society ages, technology can provide protection when cognitive ability declines

The world's population of older adults is expected to double to 2 billion by 2050. With these unprecedented demographic changes, the potential for fraud associated with cognitive decline is becoming a pressing issue in the financial services industry. [Two reports published online today](#) by the World Economic Forum (WEF) found that new technologies can assist in protecting older adults from fraud, and that financial services organizations are uniquely positioned to capitalize on gains in longevity using technology. The reports will be formally released tomorrow during a WEF meeting in Kobe, Japan that coincides with the G7 Kobe Health Ministers' Meeting.

Over the past two years, the [WEF Global Agenda Council on Ageing](#) and the [Vitality Group](#) convened aging experts from around the world to determine ways to improve the lives of older adults and protect them from financial fraud. This group determined that new technologies will allow older adults to more easily and safely engage in banking and insurance activities. These include:

- Transactions via wearable technologies, with identification occurring through biometrics, such as voice and facial recognition.
- Geolocation information that can detect and prevent fraud by identifying consumers' locations.
- Bank cards with directional arrows, high-contrast colours, and chip-and-signature security features for users who are unable to recall passcodes.

"Many of these technologies will help make financial transactions more secure for all consumers, but it is especially

important that we protect older adults who may be experiencing cognitive decline," said Derek Yach, the chair of the WEF Global Agenda Council on Ageing, an author of both reports, and the chief health officer of Vitality. "As the world's population ages, the issue of cognitive decline will only become more important and I urge financial institutions to address it in a meaningful way."

Aging experts also determined that professionals who interact with older adults can play a key role in identifying those who may be experiencing cognitive decline, and should receive specialized training. Specifically:

- Physicians should be trained to discuss cognitive decline with their patients, especially as it relates to their financial and personal affairs.
- Financial services employees should be trained to help their clients plan for the possibility of future cognitive impairment. They should also be trained to recognize signs that a client is beginning to experience cognitive decline.

"For many, health can be the difference between a long life filled with opportunity and independence, and one of worry and financial challenges," said Surya Kolluri, an advisor to WEF Global Agenda Council on Ageing and the managing director of Policy and Market Planning Global Wealth and Retirement Solutions at Bank of America Merrill Lynch. "We hope this report will encourage financial institutions to be more aware of cognitive decline in older adults, and to take steps to help prepare clients for the unexpected when planning for later life."

The reports' authors note that additional research is needed to determine the most effective interventions for cognitive decline, and to be able to better predict patterns of financial abuse in older adults. The reports were funded by the World Economic Forum and Discovery/Vitality.

About Vitality

The Vitality Group is a member of Discovery Ltd., a global financial services organization offering an incentive-based health and well-being program to employers as part of their benefits program. With a foundation based on actuarial science and behavioural economic theory, Vitality encourages changes in lifestyle that reduce health care costs, both in the short run and long term, by rewarding members for addressing their specific health issues. Vitality well-being programs serve companies in a wide range of sizes and industries, improving individuals' health and wellbeing as well as employers' bottom lines.

For more information, visit <http://www.thevitalitygroup.com>

The Vitality Institute is an evidence-driven, action-oriented research organization dedicated to building a culture of well-being by promoting health and preventing chronic diseases. The Institute aims to unite leaders in the public and private sectors to transform evidence into action and build a culture of health. The Institute was founded in 2013 by the South African insurer, Discovery Limited, as part of its commitment to health promotion and well-being programs that advance social good.

Follow the Institute on Twitter at <http://www.twitter.com/VitalityUSA> or on Facebook at <http://www.facebook.com/theVitalityInstitute>.

<https://www.weforum.org/communities/global-agenda-council-on-ageing>



Experts Urge A Defensive Stance In Efforts Against Antimicrobial Resistance

The global population of antimicrobial-susceptible microbes is a shared resource that is falling victim to the tragedy of the commons

In a Comment in *Nature*, CDDEP Director Ramanan Laxminarayan and other experts in antimicrobial resistance suggest that the United Nations should reframe global efforts against antimicrobial resistance by adopting a defensive stance. The suggested focus should be in building the resilience of society and maintaining diversity in the "global microbiome" -- only a fraction of which causes human or animal disease.

Referring to the 2015 Global Action Plan on Antimicrobial Resistance, a tripartite effort between the World Health Organization (WHO), United Nations Food and Agricultural Organization (FAO), and the World Organisation for Animal Health (OIE), the authors suggest, "it does not go far enough in recognizing the life support we receive from the global microbiome."

Investments in antimicrobial research and development have focused on creating drugs and diagnostics -- innovations that mainly benefit wealthy nations' industries and populations. These antibiotics will ultimately lead to further resistance not only among pathogens but in all parts of the microbiome, including in animals and the environment. The authors suggest, "In any case, waging war on microbes is not tenable--our bodies and planet depend on them."

Key steps in the effort against antimicrobial resistance and worldwide lack of knowledge about it include widespread community education, engagement across nations and industries, formation of civil society coalitions, and recognition of the problem's urgency.

On September 21st, heads of state will meet for the United Nations General Assembly High-Level Meeting on Antimicrobial Resistance, presenting an opportunity to coordinate global action to ensure a future where bacterial infections remain treatable and the global microbiome is respected.

According to Laxminarayan, "The UN meeting is the best opportunity there's ever been to set hard global targets and develop a structure to ensure accountability toward sustainable access to effective antimicrobials for the world's population."

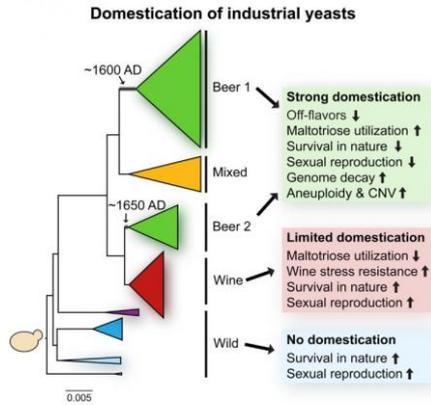
Laxminarayan has previously authored comments related to the upcoming United Nations General Assembly High-Level Meeting on Antimicrobial Resistance.

A comment in *Science* established a target for the global reduction of antibiotic consumption and recommended an oversight mechanism: <http://science.sciencemag.org/content/early/2016/08/17/science.aaf9286>

A comment in *The Lancet* calls on the UN General Assembly to establish a high-level coordinating mechanism to oversee transnational and multisectoral action against antimicrobial resistance:

[http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)31079-0/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)31079-0/fulltext)

The History Of Beer Yeast



Today's industrial yeast strains are used to make beer, wine, bread, biofuels, and more, but their evolutionary history is not well studied. In a *Cell* paper publishing September 8, researchers describe a family tree of these microbes with an emphasis on beer yeast. The resulting genetic relationships reveal clues as to when yeast was first domesticated, who the earliest beer brewers were, and how humans have shaped this organism's development.

"The flavour of the beer we drink largely depends on yeast," explains Kevin Verstrepen, a yeast geneticist at the University of Leuven and VIB in Belgium. "We're drinking the best beers now because ancient brewers were smart enough to start breeding yeast before they knew what they were doing. It was really an art."

With a team of bioinformaticians led by Steven Maere, a computational biologist at VIB and Ghent University, and beer scientists from White Labs in California, Verstrepen and his colleagues sequenced the genomes of 157 different strains of yeast used to make beer, wine, spirits, sake, bread, and bioethanol, as well as some used in research labs, to explore the species' evolutionary history. The researchers also experimentally tested traits such as stress tolerance to investigate the interaction between the genome and the yeast's behaviour.

According to the analysis, the industrial yeast used today came from only a few ancestral strains. Five large groups separated out genetically, with strains mainly clustered together according to their industrial purpose. Geographic boundaries further divided each category: in one grouping of beer yeast, for example, the strains from Belgium and Germany were closely related, but separate from those in the UK and US.

Brewers use the same yeast to make different types of beer, so beverages such as ales or stouts didn't generally have separate strains associated with them. However, a few distinct strains were associated with beers that have very specific traits, such as the smoky clove-like flavour of German Hefeweizen beer.

Using the genomic data, the researchers traced the common ancestor of the industrial beer and wild yeasts to the 1500s--before the formal discovery of microbes. "If early brewers had a very good fermentation, they were smart enough to harvest the yeast sediment and use it to inoculate the next batch, even if they didn't know what was floating around in it," explains Verstrepen. "Reusing the microbes to make beer completely separated them from nature. The yeasts were evolving in the brewery."

The research team uncovered a number of genetic patterns related to the domestication process. Wild yeast can sexually reproduce during times of starvation or stress, but today's beer yeasts have lost this ability--they only have functional genes for asexual reproduction, likely due to their cushier living conditions. "They essentially became sterile," says Verstrepen.

"Four centuries of domestication have also left marks in beer yeast genomes associated with traits that are useful in a brewing environment," says Maere. "In various beer yeast lineages, specific genes have been amplified, deleted, or altered to optimize growth in beer fermenters and beer taste."

In particular, the researchers found evidence for amplification of genes involved in metabolizing typical beer sugars and selection against production of 4VG, an undesirable flavour compound produced by most natural yeasts. "As far as we know, there's no selective advantage in suppressing the production of 4VG" says Verstrepen. "It must have been the brewers saying, 'This tastes good, we're going to reuse it.'" Wine yeasts also displayed a genetic resistance to copper, which is used to fight fungal infections in the vineyard and can end up in the grape juices.

Verstrepen's team is continuing research to breed new yeast strains with characteristics useful to industry, and will soon be adding a brewery to the lab to conduct further experiments. "It's a short jump from working with yeast to trying to make better beer yeast," he says.

This study was supported by VIB, the Agency for Innovation by Science and Technology, KU Leuven, the Human Frontier Science Program, the European Molecular Biology Organization, the Research Foundation (Flanders), Ghent University, and the European Research Council.

Cell, Gallone and Steensels et al.: "Domestication and divergence of *Saccharomyces cerevisiae* beer yeasts" [http://www.cell.com/cell/fulltext/S0092-8674\(16\)31071-6](http://www.cell.com/cell/fulltext/S0092-8674(16)31071-6)

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Recipe of the Month: Spinach Stuffed Sole

By Mayo Clinic Staff

Dietitian's tip:

Whether baking, broiling, grilling or poaching fish, cook for 8 to 10 minutes per 1 inch of thickness measured at the thickest point. Test for doneness at the

earliest time given, to prevent the fish from overcooking and losing its moist, tender texture.

Serves 2

Ingredients

- 1 teaspoon olive oil
- 2 cups fresh spinach leaves
- 2 teaspoons minced garlic
- Ground black pepper, to taste
- 2 sole (flounder) fillets, each 5 ounces
- 1/2 teaspoon butter, melted

Directions

Preheat the oven to 400 F. Lightly coat a baking dish with cooking spray.

In a skillet, heat the olive oil over medium heat. Add the spinach, garlic and pepper. Saute until the spinach starts to wilt, 2 to 3 minutes.

Place the sole fillets in the prepared baking dish. Place half of the spinach mixture in the middle of each fillet and roll up. Place the rolled fillets seam-side down. Brush with melted butter. Bake until the fish is opaque throughout when tested with the tip of a knife, 8 to 10 minutes. Transfer to individual plates and serve immediately.

Nutritional analysis per serving

Serving size :1 fillet

Total carbohydrate 1 g

Dietary fiber 1 g

Sodium 140 mg

Saturated fat 1 g

Total fat 5 g

Cholesterol 71 mg

Protein 27 g

Monounsaturated fat 2 g

Calories 157

<http://www.mayoclinic.org/healthy-lifestyle/recipes/spinachstuffed-sole/rcp-20049829>