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Research from the University of California, Irvine, suggests calm is especially effective in reducing your heart's response to pain.

- While there is evidence that positive emotions reduce the heart's response to stress, it is unknown what type of positive emotions are responsible for this effect and if this occurs across different contexts. Understanding these specific effects may inform interventions about how to reduce stress and improve health.

Stress researchers often distinguish between active and passive stressors. Active stressors are stressors that one can engage in while passive stressors are stressors that one must endure. A comparison between these two stressors is needed to best understand when positive emotions are most beneficial.

In this study, heart measures were recorded in a sample of 283 college students who were assigned to one of four mood-induction, writing conditions: calm, happy, excited and a neutral control. After writing about their assigned mood, each participant completed one passive and one active task. For the passive task, participants placed their hand in a bucket of cold water (about 39°F). For the active task, participants attempted to trace a star by only viewing the star's reflection in a mirror with their non-dominant hand.

Calm was most effective at reducing heart responses to the painful, passive task compared to the neutral condition while no positive emotion was particularly beneficial at reducing heart responses to the active task. This suggests that calm can be especially effective when one must endure the effects of pain. So the next time you must endure a brief pain, keep calm so you can carry on.



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Screen time decreases during adolescence, but increases during emerging adulthood.

- **Coral Gables, FL** – A sample of 3,705 adolescents from the National Longitudinal Study of Adolescent to Adult Health self-reported their screen time in 1994-95, 1996, 2001, and 2008. In particular, they indicated how many hours per week they spent watching television and videos, and playing video or computer games. We used this data to examine change in screen time and its predictors during adolescence (age 13 to 18) and emerging adulthood (age 19 to 23).

We found that adolescents spent about 25 hours per week in screen time at age 13 and more than 14 hours per week until age 23. Screen time decreased from age 13 to 18 but increased from age 19 to 23. Decrease in screen time during adolescence was associated with reporting feeling safe in one's neighborhood, having parental limits on screen time, and being Asian American. During emerging adulthood, a lower increase in screen time was associated with more physical activity. However, emerging adults who were only in school or neither in school nor working had a greater increase in screen time than those who were only working.

Our findings suggest that screen time decreased during adolescence, but increased during emerging adulthood. The high levels of screen time during both developmental periods, however, underscore the need for effective interventions to reduce sedentary time. Modifiable predictors of change in screen time identified, such as physical activity, could be targeted in such interventions.



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Brief Stress Management Decreases Leukocyte Nuclear NFkB DNA Binding in Distressed Breast Cancer Patients Undergoing Primary Treatment

- CAPSULE: A randomized trial showed that brief stress management delivered in the weeks after breast cancer surgery appeared to prevent an increase in inflammation, a key pathway relevant for breast cancer, as measured by expression of Nuclear Factor Kappa-B (NF-kB) nuclear protein, a complex that controls DNA transcription, cytokine production and cell survival, and is one of the chief mediators of inflammatory signaling in immune cells.

FULL DESCRIPTION: Breast cancer patients experience heightened distress during primary treatment. Previously we previously showed that breast cancer patients assigned to 10 weeks of group-based Cognitive Behavioral Stress Management (CBSM) after surgery have reductions in negative affect, cancer specific distress and leukocyte pro-inflammatory gene expression over the 12 months of primary treatment. They also showed greater 11yr Disease Free Survival (DFS), and greater reductions in leukocyte pro-inflammatory gene expression over 12 months of primary treatment predicted greater 11yr DFS.

We also found in a separate trial that even 5-wk interventions featuring CBSM components—cognitive behavioral therapy (CBT) or relaxation training (RT)—improve negative affect and distress during breast cancer treatment compared to a time-matched attention control receiving health education (HE). In this new study we tested in whether these brief approaches are sufficient to bring about changes in inflammatory signaling as measured by NF-kB DNA binding in the cell nuclei of circulating immune cells.

For the present study, psychological data and peripheral blood mononuclear cells (PBMCs) from 49 women were obtained at baseline (4 – 8 wks post-surgery and before adjuvant therapy) and 12-month follow-up. We extracted the nuclear protein from their PBMCs and determined NF-kB DNA binding by electrophoretic mobility shift assay and compared them over time in each condition. Repeated measures tests revealed a significant difference in the NF-kB changes such that women in the HE control condition showed significant increases in NF-kB DNA binding over the 12-months while those in CBT or RT showed no change over this period. Women with lower levels of cancer-specific distress at 12-months showed less NF-kB.

Brief stress management delivered in the weeks after breast cancer surgery may prevent increases in expression of the NF-kB transcription factor, a chief mediator of inflammatory signaling in immune cells. These results suggest a molecular framework for understanding the biological and potential clinical impact of psychological adaptation to the highly adverse life circumstance of breast cancer. Changes in leukocyte inflammatory signaling may relate to future long-term outcomes. We are now following this cohort over the long term to correlate initial 12-month changes in psychological and inflammatory signaling with future health outcomes (disease-free interval and survival time), beginning at their 7-yr follow-up.

Funding: Florida Breast Cancer Foundation and NIH R01CA064710.



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University-based mindfulness interventions can help student teachers to stay positive and deal with difficult emotions

- Educator stress is not only the cause for health impairments, such as burnout, it also affects teachers' educational performance. Therefore, it is important to equip young teachers with effective stress-management strategies. The Mindfulness-based stress reduction approach by Kabat-Zinn has gained increasing popularity since it has been shown to effectively decrease stress and anxiety. Being mindful essentially means to purposely and non-judgmentally pay attention to the present moment. A mindfulness training teaches individuals to promote a state of mindfulness through daily meditation practices as well as theoretical input on how to deal with stress in everyday life. The current study adapted a mindfulness-based stress reduction course to the context of a university seminar. Teacher students received biweekly mindfulness classes and were instructed to practice daily meditation exercises. To make sure that the effects observed, can specifically be attributed to mindfulness training, another group received a different form of training. Here the students reflected on their consciousness in the present moment without practicing meditation. Finally a third group of students received no training at all. At the end of the semester, the mindfulness group showed less negative affect compared to the other groups. Furthermore, they engaged in healthier strategies to deal with difficult emotions. Thus, the present study suggests that teacher students benefited from a university-based mindfulness training. It helped them to stay positive, even when facing the pressure of the "end of term exams". Such strategies may become helpful during the transition into school placements, which is perceived as extremely challenging by many young teachers.



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Does your body incite you to binge drink?

- Sophie Betka is French neuropsychologist doing a PhD in Neuroscience at the Brighton and Sussex Medical School (UK) in the team of the professor Hugo Critchley. Her interests and works focus on how emotions impact alcohol consumption. In her recent work, she was particularly interested in Alexithymia. Alexithymia is an emotional disorder in which a person struggles to identify and describe their own emotions correctly. People suffering from alexithymia are known to be more vulnerable to the development of risky behaviours such as addictions. However, a recent theory suggests alexithymia could be due to a general issue with body awareness. Defined as interoception, the sense of feeling of one's own body and senses (heartbeat, hunger, thirst, breathing), would usually guides a person towards the correct interpretation of their physiological condition and, it has now been suggested, their psychological condition. Sophie is wondering if interoception and feelings play a role in social alcohol misuse such as binge drinking. She designed an online survey and showed that binge drinkers were abnormally feeling their bodily sensations. Moreover, she also found that inaccurate body awareness was a cause of alexithymia which was predicting the severity of binge drinking. These results highlight the importance of interoception in the field of addiction and could help the development of therapies targeting body awareness, in order to reduce harmful alcohol consumption.



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Can your body lay down the law about feelings?

- Sophie Betka is French neuropsychologist doing a PhD in Neuroscience at the Brighton and Sussex Medical School (UK) in the team of the professor Hugo Critchley. Her interests and works focus on emotions. Sophie is particularly curious about Alexithymia which is an emotional disorder, very common in psychiatric disorders. Alexithymic person struggles to identify and describe their own emotions correctly. A recent theory suggests alexithymia could be due to a general issue with body awareness. Defined as interoception, the sense of feeling of one's own body and senses (heartbeat, hunger, thirst, breathing), would usually guides a person towards the correct interpretation of their physiological condition and, it has now been suggested, their psychological condition. The representation of body sensations are emerging very deep in the brain, in a part of the cortex called Insula. In her recent work, Sophie was particularly interested in the insula activation in Alexithymia and used neuroimaging technics allowing her to measure functional activity and tissue composition of the brain. Her preliminary results confirmed the deficit of body awareness in alexithymia. Indeed, the more subjects were alexithymic, the more their insula was activated during emotional pictures presentation. Sophie also showed increased glutamate levels (e.g. main excitatory neurotransmitter of the central nervous system) played a role in the aberrant activation of the insula in alexithymia. Sophie is now working on pharmacological manipulation in order to try to modulate brain activation and restore good emotional regulation in alexithymia.



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Daily Diary Study Finds Daily Variation in Post Traumatic Stress Symptoms

- Post-traumatic Stress Disorder (PTSD) can cause psychological distress and impairment in functioning. However, little is known about how post traumatic stress symptoms change over time. The Daily Diary Study examined whether post traumatic stress symptoms change throughout the week in individuals with and without PTSD. Forty participants (21 with PTSD, 19 without PTSD) completed brief symptom assessments four times a day during their normal daily routine for 15 consecutive days. This method of symptom assessment, called ecological momentary assessment, is thought to provide the most current, reliable, and detailed information about symptoms. Repeated assessment of post traumatic stress symptoms was well tolerated and many participants reported personal benefits from completing the assessments. Our analyses tested how symptoms varied across the seven days of the week within each PTSD group. Among those with PTSD, post traumatic stress symptoms varied across the week; symptom levels were lower on Saturday than Monday through Thursday. Among those without PTSD, symptom levels did not vary across the week. These findings suggest that post traumatic stress symptoms are related to daily events and routines. Interventions may be targeted to days/times when symptoms are most critical. Further study in this area may help improve assessment and treatment of individuals with PTSD.



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Pain Impacts Cognitive Processing in Older and Younger Adults

- Research from the University of Kentucky suggests that experiencing acute pain can influence cognitive processing.

Sevilla, Spain- Research from the University of Kentucky suggests that older and younger adults use similar cognitive strategies to cope with acute pain. Other studies have found that older adults are more motivated and successful than younger adults at maintaining positive emotions and minimizing negative ones. This is also true in the context of pain, despite older adults having more intense and frequent pain. This study intended to test whether these age differences in emotional wellbeing following pain could be explained by older adults using different cognitive strategies than younger adults when presented with pain.

In the study, younger (Mean age = 19.06) and older (Mean age = 73.44) adults who were not experiencing pain in their daily lives were asked to view positive, negative, and neutral pictures before and after experiencing pain (from submerging their hands in ice water) and not experiencing pain (submerging their hands in room temperature water.) Older and younger adults were then compared on how well they were able to remember, recognize, and quickly respond to each of the three types of pictures. Results revealed that pain caused both younger and older people to remember fewer pictures and to respond more quickly to them. Older adults remembered fewer negative pictures than younger adults. Pain also led to people recognizing more negative rather than positive pictures. These findings suggest that pain disrupts

memory and makes people more alert and responsive to potential threat. The research was presented at the Annual Meeting of the American Psychosomatic Society.

Ian Boggero, the lead researcher on the study, said, “Pain seems to have similar consequences for cognitive processing in younger and older adults. This is important because older adults experience pain more frequently and intensely than younger adults.” Continuing to study the effects of pain on information processing might be particularly important for older adults because their mental responses to pain have been shown to protect against future health declines.

The investigative team included Boggero and scientists from the University of Kentucky Department of Psychology. The research was funded by the National Institute on Aging.



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Change in Adiposity Following Long-term Treatment with Selective Serotonin Reuptake Inhibitors in Adolescents and Young Adults

Major depressive disorder (i.e., depression) and widely used antidepressants called SSRIs (e.g., Prozac) can cause changes in weight and body fat. However, this has not been well studied in older adolescents and young adults.

Therefore, we enrolled 264 medically-healthy participants, aged 15 to 20 years old, who were unmedicated or within one month of starting an SSRI and followed them for an average 1.51 years. They were thoroughly assessed for their psychiatric symptoms and their use of SSRIs was documented, using pharmacy records to confirm treatment adherence. Body mass index (BMI) was measured every four months. Every eight months, a whole-body dual-energy x-ray absorptiometry scan was obtained to measure body fat and muscle mass as well as visceral fat mass. Visceral fat is the fat around the intestines, kidneys, and internal organs. It is particularly harmful with regard to cardiovascular risk.

After accounting for variables that might affect weight and body fat, such as physical activity and dietary intake, depression severity was associated with lower BMI, and fat and lean mass. In contrast, longer treatment and higher doses of SSRIs were associated with higher BMI, fat and lean mass, and visceral fat.

Importantly, citalopram/escitalopram were the most strongly associated with the increase in all body composition measures, while the associations with fluoxetine were somewhat weaker. Sertraline was not different from no SSRI treatment.

In sum, weight and body fat should be monitored during SSRI treatment, particularly for citalopram/escitalopram.



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Neuroticism and Reduced Reward-sensitivity Associated with Increased Peripheral Inflammation among Young Adults

- Substantial research suggests that the personality trait of neuroticism is associated with a variety of physical and mental illnesses. However, it is unclear how these associations emerge.

To address this, a Northwestern University-UCLA study is currently assessing the developmental trajectories of the brain, personality, and health among 193 young adults in the Chicago and Los Angeles areas over three years. The researchers predicted that neuroticism is associated with adverse health outcomes through chronic inflammation, which plays an important role in the onset and progression of a wide range of diseases, according to earlier research.

The study administered questionnaires on neuroticism and state emotions. Blood samples were then collected to extract pro-inflammatory markers. Results suggest that young adults high on neuroticism are associated with greater inflammation. This association may be partially explained by higher intensity of fear reported at the blood draw.

Furthermore, the study examined trait reward-sensitivity, which guides decision-making and learning behaviors, in these associations. Evidence revealed, as expected, low reward-sensitivity and high neuroticism predicts the most fear, which, in turn, is associated with higher inflammation.

This is the first study to examine the extent to which state emotions are involved in the prediction of elevated inflammation by neuroticism. High neuroticism and low reward-sensitivity may enhance vulnerability to negative health outcomes via more intense subjective experience of fear. Identifying high neuroticism and low reward-sensitivity individuals and providing early interventions in regulating emotions may prevent adverse health outcomes.



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Neighborhood can impact one's weight

SUMMARY: Rice University researchers balanced behavioral and biological statistics from a study of Texas City to show that how people perceive their neighborhoods influences their chances of becoming obese.

Rice University
Office of Public Affairs / News & Media Relations

Editor's note: A link to a high-resolution image for download appears at the end of this release.

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Neighborhood can impact one's weight

Rice University researchers link perceptions about community, inflammation and body mass

HOUSTON – (March 15, 2017) – Where you live and how you feel about it can impact what you weigh, according to Rice University researchers.

A Rice team analyzed data from a diverse and extensive "social epidemiological" survey of [Texas City](#), a mid-sized community along the Gulf Coast, and found that peoples' perceptions of their own neighborhoods influenced both the behavioral and biological pathways that led to obesity.

These pathways – respectively, psychological stress and inflammation -- span race and ethnicity as predictors of obesity, said Rice postdoctoral fellow Diana Chirinos, lead author of the study.

Chirinos will present the findings at the annual [American Psychosomatic Society](#) scientific meeting in Sevilla, Spain, this week.

Earlier studies had associated perceptions about one's neighborhood with measurable psychological distress, distress with inflammation and inflammation with weight gain among middle-aged and older adults. The Texas City data offered researchers a way to connect the dots, she said.

"People had looked at all of these in isolation, but nobody had done a comprehensive assessment of the multiple pathways by which neighborhood characteristics impact obesity," Chirinos said.

"We looked at four specific things in the neighborhoods represented by the data," she said. "These were the sense of community within a neighborhood; satisfaction with the neighborhood; one's perception of the level of crime in the neighborhood, and social embeddedness. That refers to how cohesive your neighborhood is. Are people supportive? Do you meet your neighbors? Are they there to help you?"

"These are all subjective perceptions, but they all add meaning," she said.

They found that weight assessed using body mass index is associated with psychological distress (and associated habits like overeating, smoking and lack of exercise) and inflammation in the 48 neighborhoods studied. Among participants, nearly 32 percent were categorized as overweight and 48 percent as obese.

Chirinos, Christopher Fagundes, an assistant professor of psychology, and their colleagues collaborated with the University of Texas Medical Branch at Galveston to analyze data from its 2004 [Texas City Health and Stress Study](#). The same study led the Rice group to conclude last year that patients' [self-rated health is a better long-term predictor](#) of illness and death than some standard medical evaluators like blood tests.

The extensive data from 1,112 non-Hispanic white, non-Hispanic black and Hispanic adults offered a unique opportunity to see if psychological distress was associated with perceived negative neighborhood conditions could be directly linked obesity. The previous studies seemed to show that neighborhood characteristics, distress, inflammation and obesity varied significantly by race/ethnicity. Chirinos said the Texas City data showed that to be false.

She said inflammation, which can be measured through [protein markers in blood](#), offers an accurate look at one's immune system. "It tells us when the immune system is fighting something," she said. "When inflammation is chronically activated, it can lead to obesity, heart disease and other conditions."

When combined with behavioral data, "We found both pathways play a part in the association between neighborhood and obesity, and results held true for all of the survey's subjects, whether male or female and across ethnicities," she said.

Chirinos noted the study was limited by data from a single point in time and said a longer span would help show if interventions that target psychosocial distress or inflammation could reduce the impact of less-favorable neighborhood characteristics.

"We know from theory that neighborhood characteristics lead to obesity, and not vice versa," she said. "That's obvious, because obesity's not likely going to determine where you live".

"So we infer all of these behavioral and biological relationships from theory. But if we had multiple data points -- let's say an assessment in 2001, one in 2005, one in 2010 and one in 2015 -- we would be really confident in looking at temporal causation."

Co-authors of the study are postdoctoral fellows Luz Garcini, Annina Seiler and Kyle Murdock of Rice; Professor Kristen Peek of the University of Texas Medical Branch and Raymond Stowe of Microgen Laboratories, La Marque, Texas. Fagundes is also an assistant professor at the University of Texas MD Anderson Cancer Center and an adjunct assistant professor at Baylor College of Medicine.

The National Cancer Institute and the National Heart, Lung and Blood Institute supported the research.

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Located on a 300-acre forested campus in Houston, Rice University is consistently ranked among the nation's top 20 universities by U.S. News & World Report. Rice has highly respected schools of Architecture, Business, Continuing Studies, Engineering, Humanities, Music, Natural Sciences and Social Sciences and is home to the Baker Institute for Public Policy. With 3,879 undergraduates and 2,861 graduate students, Rice's undergraduate student-to-faculty ratio is 6-to-1. Its residential college system builds close-knit communities and lifelong friendships, just one reason why Rice is ranked No. 1 for happiest students and for lots of race/class interaction by the Princeton Review. Rice is also rated as a best value among private universities by Kiplinger's Personal Finance. To read "What they're saying about Rice," go to <http://tinyurl.com/RiceUniversityoverview>.



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People with severe mental illness are more likely to die prematurely

A King's College London study of 18,200 people has found that individuals with severe mental illness are more likely to die prematurely compared to the general population.

In their study, published in *The Lancet Psychiatry* and presented at the Annual Meeting of the American Psychosomatic Society, the researchers found that people with severe mental illness were four times more likely to die prematurely from respiratory disorders and cardiovascular disease, and between four to ten times more likely to die by suicide.

Within the group of people with severe mental illness, the researchers found that Black African, Black Caribbean and South Asian groups had a lower risk of excess deaths compared to the White British group. This concurs with a US study which found reduced mortality in Black Non-Hispanic & Hispanic groups with schizophrenia, when compared to White Non-Hispanic Americans with schizophrenia.

Dr Jayati Das-Munshi from the Institute of Psychiatry, Psychology & Neuroscience (IoPPN) at King's College London, said: "Our study highlights an urgent need to address causes for preventable mortality in people with severe mental illnesses. The reduced mortality in Black African, Black Caribbean, and South Asian groups, relative to the White British group, is a surprising result which demands further investigation."



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Latino Youth Have High Rates of Obesity and Disordered Eating

- Psychological factors such as depression, anxiety, disordered eating (DE), and body image discrepancies (ideal vs. actual) have been associated with less physical activity, unhealthy eating, and obesity, but few studies have examined these associations in a national sample of Latino youth. The Hispanic Community Health Study/Study of Latino Youth enrolled 1,466 Latino youth (728 boys and 738 girls, 8-16 years) from four cities in the United States (Miami, San Diego, Chicago, Bronx). The investigators used self-report scales to measure depression, anxiety, DE, and body image discrepancy in the youths; 24-hour dietary recalls were used to measure daily servings of fruits and vegetables and sweetened beverages; 7-day accelerometry measured moderate-to-vigorous physical activity; and height and weight was measured to obtain body mass index (BMI) %iles. The investigators then examined rates of obesity and psychological problems, and the relationships of psychological factors to physical activity, food intake, and BMI.

The results showed that 52% of youth were overweight or obese, and 12% and 14% of youth reported elevated depression and anxiety, respectively. Depression was associated with higher BMI, such that youth who reported more depression were heavier, and the effect of depression on BMI was stronger for older youth. Depression and anxiety were not related with physical activity and food intake; and anxiety was unrelated to BMI. Disordered eating was common: 50.9% reported dieting; 20.1% reported out of control eating; 15.4% reported being afraid they could not stop eating; and 5.1% purged. Youth who reported disordered eating were more likely to be overweight and to have more depression, anxiety, and body image discrepancy, but there were no associations of DE with physical activity and food intake. Greater body image discrepancy was reported by girls and was associated with higher BMI.

The results of this study showed that obesity and disordered eating are highly prevalent among Latino youth, and that depression, disordered eating, and body image discrepancy are associated with higher BMI. These psychological factors may be important targets to address in obesity interventions for this population.



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The Association of Resting Heart Rate Variability and False Memory: A Preliminary Study Focused on Emotion Based Memory

Research from The Ohio State University suggests that individuals with higher resting heart rate variability, a biological index of cognitive control, are better able to correctly identify both negative- and neutral-emotion memories.

Seville, Spain – Higher resting heart rate variability (HRV) is associated with better cognitive control, and specifically, control over memories. False memory occurs when an individual inaccurately recalls a memory that is inaccurate or not true. Research has shown that individuals with higher resting HRV are less likely to recall false memories. However, research had not yet linked resting HRV with the recall of false memories that vary in emotion (positive, negative, and neutral).

In the current study, we measured resting HRV in 32 individuals before their completion of a false memory task. In line with previous research, preliminary results showed that individuals with higher resting HRV were better able to correctly identify false memories. Adding to the literature, results show that this pattern held only for negative and neutral, but not positive, memories.

Implications of this study suggest that in real-life situations where individuals are to correctly reject false memories (e.g. in eyewitness testimony), resting HRV may serve as a proxy of such memory abilities, but perhaps not when such memories are positive. Overall, our preliminary data suggest that memory control abilities, as indexed by resting HRV, may only predicts the recall of false memories in the domain of neutral and negative emotion-based memories.



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Research from McGill University identifies which specific symptoms of depression are most strongly associated with the risk of type 2 diabetes

- Type 2 diabetes (T2D) is a major public health concern that affects approximately 12% of North Americans. Depression is a well-established risk factor for T2D, however not everyone with depression will develop T2D and there are inconsistencies in the strengths of the associations between depression and T2D reported in the scientific literature. Examining specific depressive symptoms has recently been proposed as a way to better understand heterogeneity in the associations between depression and health outcomes. For instance, specific depressive symptoms differ in their associations with functional impairment and inflammation. The present study extended this line of research to T2D, by examining the extent to which each of the nine diagnostic symptoms of depression were uniquely associated with the risk of developing diabetes over approximately 5 years in 2,521 adults without diabetes at baseline. Symptoms included sadness, anhedonia, sleep problems, fatigue, appetite changes, feelings of worthlessness or guilt, difficulty concentrating, moving or speaking slowly or feeling restless, and thoughts of death.

Results indicated that only the symptom of fatigue was *uniquely* associated with diabetes, after accounting for mutual overlap with other depressive symptoms. Participants who reported elevated fatigue at baseline had a 50% increased risk of developing T2D compared to participants who reported low levels of fatigue. These results suggest that, although the syndrome of depression is a risk factor for T2D, fatigue seems to independently contribute most to this association. A better understanding of which depressive symptoms contribute most to the depression-diabetes association can help identify who is at greatest risk and highlight which symptoms could be primary targets of preventive interventions.



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Depression, anxiety, and stress are not (always) bad for health

- It is quite often that we hear the message that depression, anxiety, and negative emotions are bad for our physical health. However, there are times when such feelings are common and appropriate, for instance after a loss of a loved one or a divorce. Does it then matter what causes negative emotions, or are they just bad for health in any case? This is what our international team of researchers set out to investigate. The project is still in progress, but our preliminary findings indicate that life context might indeed matter. We analyzed questionnaires sent to approximately 17,000 middle-aged employees of the French national gas and electricity company (the GAZEL cohort, www.gazel.inserm.fr). Consistent with previous research, we found that people who reported depression, anxiety, or stress some time in the past year were also more likely to suffer from a range of health problems within the same year. For example, depression, anxiety, and stress were associated with gastrointestinal disturbances and frequent common colds. However, these associations were considerably weaker if depression, anxiety, and stress happened in the context of multiple traumatic life events. These findings suggest that depression, anxiety, and stress should not be talked about as universal health risks. Rather, a more nuanced approach is needed, which takes into account when and why these feelings occur.



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Professor Stacey Doan Will Present on Childhood Stress at American Psychosomatic Society Annual Meeting

- **CLAREMONT, Calif.** – [Claremont McKenna College](#) announced today that [Stacey Doan](#), an Assistant Professor of Psychology, will deliver a presentation at the [American Psychosomatic Society](#)'s 75th annual meeting to be held March 15-18 in Sevilla, Spain.

Professor Doan's presentation ("Aggression and Chronic Physiological Stress: Externalizing Behaviors Buffers the Effect of Early Life Adversity on Allostatic Load") tests a counter-intuitive hypothesis: Externalizing behaviors such as aggression and conduct problems serve an important purpose — they are an effective form of stress regulation for children growing up in the context of poverty.

According to Doan, the accepted assumption has always been that poverty disrupts normative development leading to these maladaptive behaviors. However, evolutionary psychology models suggest that these behaviors may be adaptive.

"We demonstrate in the paper that externalizing behaviors serve an important function, specifically, they reduce the levels of chronic physiological stress on the body for children growing up in adverse contexts," she says. "In other words, while exposure to risk factors such as poverty, family conflict, and environmental pollution takes a toll on the body, leading to higher allostatic load — an indicator of chronic physiological stress — the relationship is attenuated for children who have high levels of externalizing behaviors. Aggression, acting out, seems to buffer the effects of chronic exposure to stress on physical health."

According to Doan, adolescents are often punished for these types of behaviors (e.g., acting out, getting into fights), but this presumes that these behaviors serve no important function, are disruptive, and thus need to be minimized. “Our work shows that for adolescents growing up in a high-risk context, these behaviors reduce stress on the body; are protective,” she says. “Thus, the goals of parents and educators are simply not to reduce these types of behaviors, but to equip teenagers with effective stress-coping skills.”

Doan says the study (in which she collaborated with Dr. Gary W. Evans from Cornell) was started when the adolescents were 9 years of age; they are about 24 now. The researchers used data from when they were from 9 to 17 years old.

“I am very interested in counter-intuitive ideas that, when looked at from a different angle, make perfect sense,” Doan says. “One of my core research interests is to think about how social experiences get ‘underneath the skin,’ so to speak, to influence health and well-being. Of late, I have been studying how the social environment shapes emotional experiences. As a culture, we highly emphasize happiness and positive emotions and often try to suppress or minimize our experience of negative emotions. I want to challenge this idea and to encourage thinking about the diversity of human emotional experience and the important functions that these emotional experiences serve.”

Doan earned a bachelor’s degree from Carleton College in Minnesota, and a doctorate in Developmental Psychology from Cornell University. She taught at Boston University before coming to CMC in the fall of 2015.

The American Psychosomatic Society’s mission is to advance and integrate the scientific study of biological, psychological, behavioral, and social factors in health and disease.

Claremont McKenna College, one of the nation’s top liberal arts colleges, prepares students to make a difference. The College educates students for thoughtful and productive lives and roles of responsible leadership through its strong, real-world [mission](#). [Admission](#) to the College is need-blind and emphasizes the demonstration of leadership accomplishments. The College attracts a student body that is broadly diverse and accomplished beyond the classroom.



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Study identifies link between fibromyalgia, dissociation and orthostatic intolerance

- A study by Dr Jessica Eccles and colleagues at Brighton and Sussex Medical School, UK, has found that orthostatic intolerance (symptoms when standing) may explain why people with fibromyalgia are more likely to experience dissociation.

Fibromyalgia is a relatively common chronic pain disorder, affecting approximately 5% of the population. Non-pain features of this disorder, including fatigue, cognitive dysfunction such as ‘brain fog’ and dissociation (detachment) are increasingly acknowledged and impact significantly on quality of life. For people with fibromyalgia, the combination of brain fog and dissociation is linked to higher pain intensity and decreased mental wellbeing. Fibromyalgia is also associated with abnormalities of the autonomic nervous system, which controls the bodily functions not consciously directed, such as breathing, the heartbeat and digestion. PoTS (Postural Tachycardia Syndrome) is an example of such an abnormality, with individuals becoming symptomatic (e.g. breathlessness, palpitations, chest pain) on standing (orthostasis).

Dr Eccles’ team investigated how symptoms suggestive of dysfunction of the involuntary nervous system on standing (orthostatic intolerance) relate to the experience of dissociation in fibromyalgia. Through measuring symptoms of dissociation and orthostatic intolerance in patients with fibromyalgia and controls, they found that the significant relationship between fibromyalgia and higher levels of dissociation was in fact mediated by symptoms of orthostatic intolerance. Dr Eccles said: “Although our study was small, it suggests the importance of screening for both symptoms of dissociation and orthostatic intolerance in fibromyalgia, and may suggest possibilities for treatment in the future.”



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Individuals with lower heart rate variability are more likely to engage in maladaptive thoughts

- Research from The Ohio State University suggests that individuals with lower heart rate variability, a biological index of stress vulnerability and overall health, are more likely to engage in maladaptive, but not adaptive, self-focused thought.

Columbus, OH – Recent research suggests perseverative cognition (repeated thoughts regarding stressful events) is one risk factor for psychological disorders such as depression and anxiety. Individuals with lower resting heart rate variability, or less variability in time between heartbeats, are more vulnerable to stress, and thus more likely to engage in perseverative cognition and experience subsequent negative mental health outcomes such as anxiety. Rumination is one of the core components of perseverative cognition, and specifically refers to self-focused repetitive thinking regarding one's emotions. There are 3 sub-types of rumination: depressive, brooding, and reflective. Depressive and brooding types of rumination are thought to be maladaptive, while reflective rumination is thought to be more adaptive.

In 203 individuals, we showed that only depressive and brooding sub-types of rumination were associated with HRV, while reflective rumination was not. Furthermore, these maladaptive, but not adaptive, subtypes of rumination mediated (carried) the relationship between lower HRV and higher trait anxiety. Overall, our results suggest that not all forms of perseverative cognition are harmful for the link between stress vulnerability, as indexed by resting HRV, and negative psychological states such as anxiety.



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A brief phone call may motivate first-time blood donors to volunteer again.

- A phone call to recent, first-time blood donors may motivate them to consider volunteering again, a new Ohio University-led study finds.

Psychology researchers assigned first-time donors to either a control group or a group that was interviewed by phone three to six weeks after their donation. The donors completed surveys before and after receiving the call from a member of the research team, who inquired about their motivations and goals for blood donation. The researchers found that while the donors in the two groups did not differ in their initial levels of motivation shortly after donating, those who completed the phone interview reported a larger increase in personal commitment to blood donation, according to a survey administered a few weeks later.

“The goal is to let them process their motivations for giving, for and against, and help them make the best personal decision moving forward,” explained lead author Christopher France, Ohio University Distinguished Professor of Psychology.

The ongoing study, funded by the National Institutes of Health and conducted in collaboration with New York Blood Center, is designed to understand the factors that detract first-time blood donors—who typically return at a rate of less than 50 percent—from making repeat donations. This project looks at how the human need for autonomy and the desire to control one’s own behavior could play a role, along with other important factors such as individual confidence as a donor and support from other blood donors.



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NEW RESEARCH MAY HELP THOSE WITH SICKLE CELL DISEASE

Santa Barbara, CA — Sickle cell disease affects over seven million individuals worldwide, often resulting in variable and unpredictable pain complications for those afflicted. New research by David Gray, a clinical psychology doctoral student at Fielding Graduate University, shows that treatment options targeting fear of movement may lessen the mental manifestations of pain that are experienced by patients with sickle cell disease.

Gray will present his research, “Disentangling the Relationships Amongst Somatization, Pain Severity and Kinesiophobia in Adults with Sickle Cell Disease,” at the Annual Meeting of the American Psychosomatic Society on Thursday, March 16 from 6:30 to 8:00 pm

Past research has found that individuals with sickle cell disease often experience somatization and fear of movement, which may ultimately lead to poor treatment outcomes. A patient with sickle cell disease may anticipate and/or associate greater pain with movement and ultimately restrict movement to avoid pain potentially worsening their health.

The purpose of Gray’s research was to clarify the role that fear of movement might play between pain severity and somatization in individuals with sickle cell disease. Data was collected from 98 patients as part of a five-year study of medical and psychosocial factors in a population of patients with sickle cell disease at the Duke Biofeedback and Pain Clinic.

“Fearing movement is all too common in chronic pain patients and understanding its role in a patient’s presentation is an important part of their treatment planning,” says Gray, who plans to work with chronic pain patients after graduating from Fielding in 2019. “Duke University is a world-renowned institution, and I sincerely thank my mentors and fellow researchers for introducing me to the chronic pain population as well as for this amazing opportunity to work and conduct research alongside them.”

[Fielding Graduate University](#) is an accredited nonprofit leader in transformative education, combining face-to-face and online learning. Our School of Leadership Studies and School of Psychology deliver a personalized graduate education that fosters individual development, community collaboration and societal engagement.

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Strain-reduction Intervention Effects in Dual-earner Healthcare Employees

- Romantic couples in which both individuals have full or part-time jobs (“dual-earner couples”) are increasingly common, and work hours continue to rise, making it difficult for employees to balance work and family responsibilities.

A collaborative study by doctoral candidates Leah R. Halper and Alex Woody, working with Ryan C. Johnson, Ph.D., of Ohio University, and Leslie B. Hammer, Ph.D., of Oregon Health & Science University, examined the effectiveness of an intervention aimed at reducing conflict between work and family and improving health. The intervention, part of the larger Work, Family, & Health Network study (<http://projects.iq.harvard.edu/wfhn>), focused on improving employees’ control over when and where they did their work and training supervisors to be more supportive of employees’ nonwork lives.

In previous studies, Hammer (as one of the Principal Investigators on the larger NIH-funded project) and Johnson demonstrated positive effects of the intervention in a sample of healthcare workers, and in the current study, lead author Halper explored how the intervention might be especially beneficial for healthcare employees with working partners. Halper found that the intervention was particularly beneficial for these employees in dual-earner couples, who reported greater reductions in work-family conflict compared to employees without a working partner. Dual-earners reported more feelings of burnout before and six months after the intervention compared to single-earners, however burnout was equivalent between the two groups one year after the intervention.

Halper's findings suggest that interventions targeting the psychosocial work environment might be most beneficial for those with more complicated home lives. Organizations may benefit from paying special attention to employee's nonwork lives when designing and implementing changes.



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Mothers with History of Chronic Obesity May Need Extra Help with Breastfeeding

- Women with a history of chronic extra weight may stop breastfeeding their babies sooner than other mothers, a study from Oklahoma State University finds.

Researchers surveyed mothers about breastfeeding their first biological child and found that mothers who reported a longer history of being overweight/obese breastfed their children for a shorter duration, especially compared to mothers who had never been overweight.

Pediatricians recommend that mothers exclusively breastfeed for the first 6 months of an infant's life with continued breastfeeding for 12 months. These recommendations are based on benefits for both mothers and infants. Breastfeeding mothers experience reduced risk of breast cancer, myocardial infarction, and diabetes while breastfed infants have lower risk of infections, diabetes, and sudden infant death syndrome.

On average, women without a history of extra weight or whose weight cycled up and down typically met the minimum requirement of 12 months total breastfeeding. Mothers who reported chronic overweight did not meet the minimum on average. Moreover – regardless of weight – mothers in the survey did not meet the exclusive breastfeeding recommendation of six months.

Previous research has linked obesity to shorter breastfeeding duration. This study is the first to suggest that timing of obesity and overweight may be an important consideration but does not suggest that developing overweight/obesity before or after puberty makes a difference.

“Breastfeeding can be stressful enough on new mothers, “said study lead author Dr. Misty Hawkins of Oklahoma State University.

“If we know that women with a history of extra weight are at higher risk for breastfeeding difficulties, then we can develop tailored interventions to help these moms succeed.”



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Sleep disturbance of depressive men with and without sleep-related breathing problems

- Sleep-related breathing problems and depression are both common diseases, often occur together and bring on heart problems. Patients with depression often feel exhausted and very sleepy during daytime. In addition, they have un-refreshing sleep, as well as other symptoms of depression. Because of this, they visit sleep clinics for suspected sleep-related breathing problems. However, the characteristics of depressive patients with sleep-related breathing problems were unclear. Thus, we have carried out this study to find out whether there are any differences among depression-suffering male patients with sleep-related breathing problems and those without. In this study, we interviewed 127 male patients suffering from depression who were suspected to have sleep-related breathing problems. The interviews were conducted before their standard sleep examinations in the clinic. As a result, 78 patients (41%) were diagnosed as having sleep-related breathing problems, and 49 patients (38%) did not. Depression-suffering male patients with sleep-related breathing problems were more obese and had less difficulty falling asleep at bedtime than those without. However, there was no statistically significant difference in daytime sleepiness or the severity of depression between them. We concluded that depression-suffering male patients with sleep-related breathing problems have less difficulty falling asleep at bedtime in addition to be overweight. Further research of other patients with depression should be carried out to confirm the predictive ability of less difficulty falling asleep at bedtime.



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Keep calm and exercise, drink moderately and don't smoke

- Amsterdam, 15 February 2017 – Imbalance of the autonomic nervous system (reflecting a high stress level), related to cardiovascular morbidity and mortality, can be improved by changing your lifestyle. These findings come from recent research on more than two-thousand participants in the Netherlands Study of Depression and Anxiety (NESDA).

‘We live in a society that pressures us to do more and be better, leading to more and more stress. Chronic stress is not only tedious but it can be very harmful in disturbing bodily systems, such as autonomic balance. Luckily, it seems that we ourselves can do things to restore this balance,’ says researcher Mandy Xian Hu from the VU University Medical Center Amsterdam.

The NESDA research shows that people who exercise frequently, drink moderately and don't smoke in daily life show a better autonomic balance (as seen in lower stress levels) than people who behave differently. The research also shows that improving one's lifestyle leads to noticeable changes: people who stop smoking and start exercising improve their cardiac autonomic balance in the years afterwards. A paper describing this research is published in volume 94, 2016 of the journal *Preventive Medicine*. A poster of this research will be presented on March 16th at the 75th Annual Scientific Meeting of the American Psychosomatic Society in Seville, Spain.



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Is your smartphone a digital security blanket?

- *Seville, Spain:* Have you ever wondered why people often turn to their smartphone when faced with a socially awkward situation? The answer may lie in the ability of a smartphone to reduce negative feelings associated with stressful encounters. Smartphones are continually becoming more pervasive in social interactions, and they are undoubtedly influencing the nature of those interactions. Researchers at the University of California, Irvine explored this by experimentally examining how the presence of a smartphone during a socially stressful situation may influence an individual's reaction.

141 undergraduates came into a laboratory and were purposefully excluded from a conversation during a short social interaction (which induced stress). Some participants had no phone access, some were encouraged to use their phones, and others had their phones but were restricted from using them. Participants in both phone-present conditions reported feeling less excluded compared to individuals who had no access to their phone. The body's stress response was also assessed by measuring an enzyme called salivary alpha-amylase, which increases with stress. Individuals who had their phones with them had lower alpha-amylase after exclusion. Interestingly, the group who had their phone with them but were not allowed to use it had the lowest levels of alpha-amylase! Taken together, these results suggest that the presence of a phone (not necessarily phone use) may reduce feelings of exclusion and reduce the stress response associated with social exclusion. In this way, a phone may symbolically serve as a "digital security blanket" that offers comfort in uncomfortable circumstances.



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Bright light therapy improves fatigue in cancer survivors

- CALGARY, AB, CANADA – Cancer-related fatigue is the most common symptom reported by cancer survivors and can lead to significant distress and difficulty completing daily activities. Though 30% of cancer survivors may experience fatigue in the months and years after they have completed cancer treatment, not many therapies are available to manage the fatigue or provide relief.

Researchers at the University of Calgary recently completed a study to determine whether bright light therapy, the same therapy used to treat seasonal affective disorder (or SAD), could also help improve the energy levels of cancer survivors who had finished their cancer treatments but were struggling with fatigue.

“This type of fatigue is different than the fatigue experienced by most people. It is unpredictable and is often not improved by rest or sleep” said Dr. Linda Carlson, a study team member in the Department of Psychosocial Resources.

The Canadian Cancer Society funded study included 81 men and women who had completed cancer treatment and reported severe fatigue. The participants took home a portable light device and used it each morning for 30 minutes. After one month of using the device, the researchers found that participants who had used a device that produced bright white light reported less severe fatigue than those who had used a comparison device.

“Though more research is needed, we believe that light therapy may be another option to help manage fatigue in the months and years following cancer treatment,” said Dr. Jillian Johnson, the study coordinator.



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Positive and negative mood important for understanding biological stress responses in daily life

- UNIVERSITY PARK, PA – Daily stress and hassles can pile-up to negatively influence overall health and well-being. Researchers at the Pennsylvania State University present new insights about how stress and mood in daily life may influence health, according to results presented at the annual meeting of the American Psychosomatic Society in Seville, Spain.

In their study, a group of 115 working adults were given mobile devices to report their stress levels and mood six times a day as they went about their daily activities over three days. Levels of the stress hormone, cortisol, were also measured by asking participants to provide a small saliva sample at each report.

“This method allows us to examine, in real time as people go about their daily life, how stress and emotions are linked with stress biology” explains Dr. Joshua Smyth, who leads the research team conducting this work.

The results of the study showed that participant reports of how happy or sad they were, appeared more important for influencing stress hormones than how stressed out they were at any moment.

“We expected how stressed someone felt to have the largest impact on stress hormone levels, so it was particularly interesting to find out that instead it was how upset they were that played a pivotal role in activating the body’s biological stress response” says Dr. Jillian Johnson, who presented these findings at the conference. “Overall, this helps us understand how our regular day-to-day emotions may influence health.”



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Why do we get fatigued at work? Tank empty or grass greener?

- We all get fatigued at work. As the day goes on we feel increasingly tired, and less energetic and alert. As well as being unpleasant fatigue can lead to mistakes and omissions which could have serious consequences particularly in a demanding profession like nursing. Two theories have dominated thinking on the causes of fatigue for the last century. One, which fits well with common sense, is that we have a fixed amount of energy available, rather like fuel in the tank of a car, and it gets used up. An alternative view is that as we continue to do one task for a long time we become less and less motivated to continue and other activities become more and more desirable. So either the tank is emptying or the grass is getting greener.

We looked at this in 100 nurses working 12 hour shifts. We used direct physiological measures of how much energy nurses used during the shift and at the same time, nurses recorded how demanding they found their work and how they were feeling using smartphone like devices. Neither energy used nor the demands of work related to how fatigued they felt. This suggests that they were not using up a fixed amount of energy- the tank was not emptying.

Instead, we found that nurses became more fatigued if they felt stressed, experienced less control over their work and found the work less rewarding. These factors suggest that the primary reason for fatigue is not that workers have used up their resources, but that they are less engaged or motivated as they continue their work i.e. 'the grass becomes greener'. The practical implication is that, rather than reducing work demand to reduce fatigue, attention should be directed at increasing control and making work, and the work environment, more rewarding.



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Research suggests that African American emerging adults experience lower blood pressure during moments in which they feel a sense of pride about being African American

- African Americans tend to be disproportionately at risk for adverse health outcomes. It is important to better understand positive resources that are associated with lower risk in this population. We used an innovative research design to better understand resilience in the daily lives of African American emerging adults as it relates to their blood pressure.

Fifty-five healthy African American participants between the ages of 18 and 30 wore an ambulatory blood pressure monitor that automatically assessed their blood pressure hourly for 2 days and 2 nights. During this same 2-day period, participants also used a pre-programmed mobile phone to respond to a brief questionnaire that assessed their emotions, social interactions, thoughts, and health behaviors hourly. Racial pride was assessed in this hourly questionnaire as well, i.e., participants rated their level of agreement with the statement “Right now, I am proud to be Black”. We found that participant’s degree of racial pride fluctuated throughout the day, and that they experienced lower blood pressure during moments in which their racial pride was higher.

No other study has examined this relationship in this way. Healthy racial identity should continue to be explored as a positive resource that might be associated with better health outcomes amongst African Americans. We plan to conduct additional research to seek explanations for why racial pride is associated with lower blood pressure.



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Functional brain networks in irritable bowel syndrome

-Imaging studies have delineated brain networks consisting of discrete brain regions acting in synchrony. In the resting-state functional magnetic imaging (rs-fMRI) scan, the participants are asked to simply lie still and relax for several minutes. Even at rest, the brain's functional networks continue to harmonize along at their own distinguishable frequencies and phases.

Irritable bowel syndrome (IBS) is characterized by chronic abdominal pain or discomfort associated with change in bowel habit without any apparent organic cause. Most people with IBS find that their signs and symptoms are worse or more frequent during periods of increased stress. Therefore, brain activity has attract attention in patients with IBS.

The study includes sex and age matched 35 IBS patients and 35 controls. We aimed to characterize the global network of whole brain using mathematically quantifying method, so called graph theory as well as local network between the distinct regions. The global network measures by graph analysis were very similar between IBS and controls. However, local connectivity was different between IBS group and controls in the correlation between right amygdala and left precuneus. The amygdala is the key area considered to process emotion such as fear and the precuneus is thought to be associated with self-consciousness. Studies indicate that the people with stress-related disorders (anxiety disorders and/or depression) show strong rsfMRI connectivity between amygdala and precuneus. Stronger rs-fMRI connection in the stress-related areas may exist of the patients with IBS and contribute to their stress-induced symptom generation.



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What motivates people to meditate? An exploratory study

- Meditation has become increasingly popular both as a personal ritual and as a treatment approach for mental and physical health problems, but little is known about what actually motivates people to make the commitment to start and, later, to sustain, a serious meditation practice. We recruited 401 practitioners from U.S. and international meditation communities to tell us about their meditation practice and what has motivated them over time. We identified seven overarching motivations for practicing meditation: health improvement, emotion regulation, cognitive regulation, personal/spiritual development, benefiting others, outside influence, and curiosity. We found that mental health concerns – that is reducing symptoms like anxiety, depression and stress – were, by far, the most common motivations for beginning a meditation practice. However, personal growth and development motivations such as increasing one’s awareness and cultivating joy or positivity in one’s life were much more frequently identified as reasons for continuing. We also found that altruistic motivations for practicing meditation substantially increased from beginning to continuing motivations. These preliminary findings suggest that motivations for meditating change over time, and that addressing changing motivations may be an important way to keep people engaged in health interventions that include a meditation practice. The next step in this ongoing research will be to analyze collected data about the benefits and challenges people report encountering over the course of their meditation practice, and to explore how commonly perceived benefits and challenges impact motivation.



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Childhood bereavement and impaired stress resilience.

- Children exposed to death in the immediate family have lower stress resilience in late adolescence than unexposed children, according to new epidemiological research conducted at Örebro University and Karolinska Institutet in Sweden. This finding, presented at the Annual Meeting of the American Psychosomatic Society in Sevilla in March, 2017, suggests that exposure to severe psychological stress in childhood may negatively impact stress resilience development.

People react differently after exposure to severe psychological stress; while some recover and thrive, others will suffer and wither. It has been debated whether stressful exposures early in life entail stress sensitization or promote development of stress resilience, and the childhood determinants for stress resilience have not been fully investigated.

The investigators analyzed data on stress resilience assessed among Swedish men who had compulsory military enlistment examinations around 18 years of age. Linkage to nationwide registers allowed identification of men who had experienced deaths in the family during childhood.

The study results suggest that childhood bereavement is associated with stress sensitization and reduced stress resilience in late adolescence. Also, men who were teenagers when the loss occurred had higher risk for low stress resilience than those who were pre-school and school-age children.

The excess risk was observed for all causes of death, including suicide and unexpected deaths as well as deaths due to other illnesses. The link between childhood loss and stress resilience remained also after taking parental socioeconomic

circumstances and parental psychiatric diagnoses into account.

In addition to the emotional and social impact of childhood loss, the long-term consequences of bereavement may thus include stress sensitization and reduced stress resilience, potentially influencing adult somatic and psychiatric health.



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More women than men lose interest in sex after treatment for a (imminent) heart attack

- Women are more likely to lose interest in sex than men, while men are more dissatisfied after treatment for a (imminent) heart attack. Emotional distress plays an important role, negatively impacting all aspects of sexual functioning. That's the main conclusion from research by Tilburg University into what happens to patients' sexual satisfaction, confidence in their sexual relationship, and interest in sex during the first year after being treated for an acute or imminent heart attack. The study also showed that patients who are treated electively report poorer sexual functioning compared to acute patients.

Nina Kupper, of the Center of Research on Psychology in Somatic diseases (CoRPS), and colleagues analyzed data on 510 patients with coronary artery disease in the Netherlands. The patients were on average 66 years old, and 20% were women. A third of the patients received elective treatment by PCI (percutaneous coronary intervention).

Directly after PCI, 1 in 3 women (31%), and in comparison, nearly 1 in 8 men (13%) reported a substantial loss of interest in sex. After one year, still 1 in 4 women (24%) and 1 in 7 men (14.5%) reported such a loss of interest. Interest in sex was substantially reduced when patients experienced anxiety and/or depressive symptoms. Importantly, patients receiving an elective treatment tended to show a decline in interest, while acute patients' interest seemed to improve over the year post-PCI.

With respect to satisfaction with sexual functioning, 1 in 4 men (23%) as compared to 1 in 7 women (15%) were (very) dissatisfied with their sexual functioning at the time of the treatment. One year later, these percentages had remained stable. Patients

experiencing emotional distress, patients who also have diabetes, and patients receiving elective treatment felt more dissatisfied with their sexual functioning one year after PCI.

Although men and women were equally confident in their sexual relationship remaining as it was before right after treatment, a year later, men had become less optimistic, while women's confidence actually grew. Patients with low confidence in their sexual relationship were again characterized by emotional distress and having diabetes.

Clinically, these results should raise awareness to discuss sexual functioning with all patients in intervention cardiology outpatient clinics on a regular basis, taking gender differences into account



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How Slow Yoga Breathing Induces Calming Effect Upon the Heart

The paper “Low Frequency Heart Rate Variability Due to Slow Yoga Breathing is Vagally Mediated” by **Richard D. Lane, MD, PhD**, professor of psychiatry, psychology and neuroscience at the University of Arizona, shows how slow yoga breathing influences the heart and thereby contributes to its calming and health-promoting effects.

Previous research shows that heart rate slows down when we exhale and speeds up when we inhale. Yoga breathing takes advantage of this phenomenon, inducing a slower heart rate and generating a calming effect as people breathe slowly and spend more time exhaling than inhaling.

The study recruited healthy subjects and tested the heart’s response to yoga breathing at different rates. Using esmolol, the researchers blocked the “sympathetic” nerves that act like a gas pedal, speeding up the heart. Using glycopyrrolate, they blocked the “parasympathetic” or “vagus” nerve that acts like a brake, slowing the heart down. By using these drugs the researchers could tell which pathway mediated the effects of yoga breathing on the heart.

The results were clear: slow yoga breathing at a rate of 5 breaths per minute or above alters heart function exclusively through the vagus nerve. Only at the slowest breathing rates of 4 or 4.5 breaths per minute did the sympathetic nervous system have any effect.

An implication of the results is that the braking action of slow yoga breathing may be useful in patients with heart disease, particularly during episodes of stress or other conditions involving higher levels of emotional arousal.



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Researchers Discover Link Between Everyday Emotion and Heart Health

The paper “Cracking the code: Everyday emotion alters ventricular repolarization duration in coronary artery disease” by **Richard D. Lane, MD, PhD**, professor of psychiatry, psychology and neuroscience at the University of Arizona, shows how everyday emotion in people with heart disease can contribute to risk for abnormal life-threatening heart rhythms.

Dr. Lane’s previous research showed that everyday emotion abnormally alters the QT interval in patients with the genetic disorder Long QT Syndrome, known as LQTS. The QT interval is the time the heart takes to recharge and refill with blood between beats before the next contraction. Too long or too short QT intervals can be life-threatening. In LQTS, the heart muscles take longer than normal to recharge between beats, increasing risk for abnormal heart rhythms and sudden death.

For three days healthy participants and patients with coronary heart disease (CAD) had QT intervals tracked through Holter monitors and everyday emotions tracked ten times per day with smartphones. The study assessed whether everyday emotions altered QT intervals as they did in LQTS patients.

In the CAD group, abnormally longer and shorter QT intervals were detected during everyday emotions. The emotions of the healthy subjects were similar to those with CAD but their QT intervals were normal.

Results showed that everyday emotion can alter the QT interval in patients with CAD, as it does in patients with LQTS, increasing risk for abnormal heart rhythms and sudden death. Results suggest that emotion regulation strategies could be protective in those at risk.



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From bacteria to earth's biosphere, scientists unveil an ecological roadmap charting a course for medicine through the microbiome (r)evolution

- Scientists from Salisbury University and the University of Minnesota Medical School outline a novel vision for the future of medicine that applies ecological theory – that all life on earth is interconnected – to understanding the human microbiome, and health in general. The vision extends the widely adopted biopsychosocial model of health to provide an integrative guide for biomedical research at a time when potentially revolutionary discoveries on the human microbiome are occurring alongside growing economic and environmental pressures that may ultimately impact the microbiome and general health. An ecological direction in medicine strives to optimize our health by supporting healthy behavioral, environmental, and social systems. This may be more effective in preventing and treating many diseases on the rise – and those yet unknown - than any currently available medical treatments. And, the economic dividends of optimizing health in this way may be just as great.

Prior to publishing their work later this year, authors Karl Maier, Ph.D. and Mustafa al'Absi, Ph.D. will present their biopsychosocial ecological model at the Annual Scientific Meeting of the American Psychosomatic Society in Seville, Spain on March 16th. The American Psychosomatic Society was established in 1942 and is dedicated to advancing and integrating the scientific study of biological, psychological, behavioral and social factors in health and disease.



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Using Smartphones for Health Behavior Change: Population Perspectives

- UNIVERSITY PARK, Pa. – Most U.S. adults have a smartphone in their pocket, many loaded with consumer ‘apps’ claiming to improve health, reduce stress, and increase personal happiness and productivity. Yet, despite their prevalence, there is very little evidence that these apps actually improve health. One explanation is that people are not willing to engage with health apps in meaningful, effective ways on their smartphone. Perhaps surprisingly, there is a lack of research that examines whether people are even open to, and accepting of, using their smartphones to enhance their health.

Researchers from Penn State University surveyed two demographic groups, rural women and urban college students, and asked them to answer questions regarding their willingness to use a smartphone as part of a health behavior change program. The results indicate that the majority of people in both groups believe that using a mobile device to participate in such an intervention would be useful, enjoyable, interesting, important, and efficient.

“These findings support the practice of using smartphone apps for delivering health behavior interventions to rural women and college students, two population groups that we know can benefit from behavior change programming,” said Frank Materia, a doctoral candidate in the department of Biobehavioral Health. The collaborative Penn State team who conducted the study notes that this work sets the stage for extending this research to other populations, and predicting specific factors that make individuals more or less likely to start – and continue – using smartphone apps to enhance healthy behaviors.



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Food insecurity common, linked to obesity and diabetes in migrants and deported individuals on the U.S.-Mexico border

- Food insecurity – the lack of access to basic nutritious food – is linked to higher risk for many chronic diseases, including obesity. Increasing access to healthy food is an innovative and less expensive way to address and prevent this public health problem. Jessica McCurley, a Ph.D. candidate at UC San Diego and San Diego State University, is raising awareness of high-risk, chronic diseases in migrants along the United States-Mexico border. As a visiting fellow at the UC San Diego Center for U.S.-Mexican Studies, McCurley is studying the connections between migration, mental health, and chronic diseases, with an emphasis on the particular health challenges of individuals deported from the U.S. to Mexico.

Though personal interviews conducted with hundreds of migrants and deportees in the San Diego-Tijuana mega region, McCurley investigates social factors that affect the health of the most vulnerable – homeless, recent deportees, and women. Migrants and other low-income individuals living near international borders are at risk for both food insecurity and chronic cardiovascular diseases due to poor access to medical care, disrupted employment, psychological stress, and lack of family and social support.

In a presentation at the American Psychosomatic Society conference in Seville, Spain, McCurley will present her research with low-income migrants and deportees in Tijuana. Severe food insecurity was common in the participants, and food insecurity was linked to higher rates of obesity, and in women – diabetes. Her study represents one of the largest to date to address risk factors for diabetes and obesity in deportees.



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The six-month stability of cardiovascular reactivity to cognitive affective states

- One of the core assumptions of behavioral medicine research is that human physiological responses to emotional states explain at least part of the observed relationships between mental health and physical health. Implicit in that assumption is the notion that physiological responses to emotions and stressful life events should be considered stable traits of individuals or features of an underlying psychiatric disorder. Some laboratory research has addressed the stability of these emotion-physiology connections. However, little is known about how stable physiological responses are in the real world. A better understanding of physiological reactivity, and cardiovascular reactivity more specifically, is important for studying and addressing cardiovascular disease outcomes.

The present study examined the stability of heart rate (HR) and blood pressure (BP) responses to a variety of cognitive-affective states by measuring HR and BP twice an hour for 24 hours in a large sample of working adults, and assessing their self-reported emotional state by smartphone diary at the time of each HR/BP reading. The strength of the association between each cognitive-affective variable was calculated and concurrent HR/BP was assessed. Most important for the present study, 160 participants were asked to return 6 months later for another identical 24 hour monitoring period. Over the course of 6-months, HR responses to cognitive-affective states were generally more stable than BP responses. Further, HR and BP responses to high arousal emotions (e.g., anger, anxiety) were more stable than lower arousal emotions (e.g., relaxation, exhaustion). These findings are important because they explicitly test the implicit assumption that cardiovascular reactivity to stress is stable over time and between individuals. Based on these findings, interventions aimed at reducing high-arousal negative emotions may be more fruitful than those aimed at increasing low arousal positive emotions for improving cardiovascular health.



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Study finds link between mood, physical activity, and nutrition in immigrant families

- Immigrants to the United States typically arrive healthier than the general population but after time spent in the United States they develop poorer health behaviors and health conditions, Mayo Clinic study finds. While previous studies show that negative mood leads to poorer health behaviors in the general population, this relationship is understudied in immigrant populations.

The study included 81 adolescents and 70 adults from immigrant families who completed a health behavior survey. Majority of the participants were Latino or Somali and were recruited through dedicated community and academic partners that form the Rochester Healthy Community Partnership. Data was collected for mood, nutrition, and physical activity. The study found that negative mood was associated with low physical activity level and poorer nutritional habits in both adolescent and adult immigrants.

“Our findings suggest that an intervention targeting both low mood and low intake of fruits and vegetables, and physical activity level could be efficacious, and perhaps more impactful than an intervention or campaign that does not address low mood”, says Mayo Clinic psychologist Eleshia Morrison, Ph.D, L.P., the lead author. “Preventive interventions targeting healthy nutrition, physical activity, and mood may not only yield benefits for healthy nutrition, weight management, and mood management, but also prevention of certain medical conditions such as hypertension and diabetes.”

The research, published in the Journal of Immigrant and Minority Health was supported by NIH grant No. R01 HL 111407 from the National Heart, Lung, and Blood Institute awarded to Principal Investigators: Drs. Irene Sia and Mark Wieland, and by CTSA grant No. UL1 TR000135 from the National Center for Advancing Translational Science (NCATS), a component of the National Institutes of Health (NIH).



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Online therapy uses biofeedback to reduce epileptic seizures

- A new study is testing a noninvasive epilepsy therapy, which teaches patients to use biofeedback to increase their alertness and calm their brain, reducing the incidence of seizures.

Neuroscientist and Wellcome Trust research fellow Dr Yoko Nagai, based at Brighton and Sussex Medical School, UK, is conducting the study on Autonomic Cognitive Rehabilitation Training (ACRT), which uses physiological and psychological approaches to develop skills to control seizures.

Dr Nagai said: “We may well be looking at the next generation intervention for epilepsy – one that emphasises non-invasiveness, minimal side effects, strong patient involvement and utilises growing health technology. We hope this scientific discovery will lead to an accessible therapy option that can be implemented globally.”

Dr Nagai’s earlier pioneering research into biofeedback therapy had demonstrated that teaching patients to increase their skin conductance, similar to the methods used in lie detector tests, decreased over excitability of the cortex, reducing seizures.

Two clinical trials run by Dr Nagai showed that one month of ACRT therapy reduced seizure frequency by an average of 40 to 50% in all patients, and 45% of patients showed more than 50% reduction.

Dr Nagai’s current study has found a reduction of seizures is linked to changes in the frontal-limbic network connectivity, which is responsible for emotional arousal and control of the motor cortex.

ACRT therapy is currently being digitized to increase access for people with drug-resistant epilepsy at home. The online version will be widely available later this year.



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Letting go of worries during pregnancy associated with healthier birth weight

- Attending to the present moment in an accepting way (mindfulness) during pregnancy may be beneficial for both mother and her baby, as mother's subsequent mood is better and baby's birth weight is healthier. That is the main conclusion of new research by Tilburg University.

Anxiety and depression during pregnancy have been previously linked to a larger probability of low birth weight of the child, although the mechanism is largely unknown. Mindfulness, attention to the present moment in an accepting way, has been shown to be able to reduce worrying and feelings of anxiety and depression. Ivan Nyklicek, PhD and colleagues of Tilburg University linked the two and investigated the question if mindfulness during pregnancy would also be associated with a healthier birth weight of the baby.

In this study, 905 pregnant women participated, who completed questionnaires on facets of mindfulness and mood at 22 and 32 weeks during pregnancy and at 1 week after delivery. Medical records provided information on birth data of the baby.

Higher mindfulness at 22 weeks turned out to be associated with lower depressive and higher positive mood later in pregnancy. Even more importantly, while mood was not associated with birth outcomes, higher scores on the mindful facet of letting go of worries at 22 weeks was linked to a higher birth weight and a 12% smaller chance of delivering an underweight child.

These results suggest that it seems worthwhile to examine the potentially favorable effects of a mindfulness training for pregnant women.



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Alexithymic families? Higher levels of alexithymia in adolescents with Inflammatory Bowel Disease VS adolescents with Cystic Fibrosis

- The Inflammatory Bowel Disease (IBD) has been considered a psychosomatic disease in which specific patterns of personality such as alexithymia, symbolic poorness, negative affectivity and tendency to perfectionism have a specific role in its pathogenesis. Some trigger events, associated with certain personality characteristics, could cause a difficulty of symbolic processing and the activation of neurophysiological circuits that produce a worsening of the intestinal inflammation. In our research we have recruited adolescent patients (14-18 years), diagnosed with IBD, both Crohn's disease and Ulcerative Colitis, and their parents and we have compared their levels of alexithymia with a control group of adolescent patients with cystic fibrosis (CF) and their parents, matched for age and gender. We have also measured the use of coping strategies to cope the stressful impact of chronic disease. We have collected meaningful clinical data of the patients such as PCDAI (Pediatric of Crohn's Disease Activity Index) PUCAI (Pediatric Ulcerative Colitis Activity Index), ongoing therapy, treatments performed, complications, comorbidities, BFQ-1 (Big Five questionnaire-1), CISS (Coping Inventory for stressful Situations), PSI (Parenting Stress Index) and TSIA (Toronto Structured Interview for Alexithymia). We have enrolled a total of 232 subjects so divided: for the sample group, 41 patients with IBD diagnosis and 78 parents, and 39 patients with CF and 74 parents. We have found higher levels of alexithymia in IBD patients and in their parents. In the two groups there are not significant differences in the use of coping strategies. These results indicate a strict link between alexithymia and IBD and suggest possible interventions both in patients and their parents in order to better recognize and to better manage stressful and emotional experiences.



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A puzzle to be solved: why does depression lead to weight gain?

- It is known that persons suffering from a depression can display a range of different symptoms. For example, while most persons tend to have less appetite and lose weight during a depression, there is a subgroup that experiences more appetite and weight gain. In the recent year, researchers confirmed that persons with a depression are more likely to be obese or to gain weight, compared to persons without a depression. However, it is not yet certain why.

Researchers from the VU University Medical Center in Amsterdam, The Netherlands, studied the relationship between depression and weight gain. The data of 1658 persons between 18 and 65 years old came from the Netherlands Study of Depression and Anxiety. The researchers not only studied if the persons with depressive disorders gained more weight over four years as compared to persons without a depression, but also examined which factors influenced this relationship. For this purpose, they included twenty-one psychological (e.g. rumination), lifestyle (e.g. smoking), and biological (e.g. cortisol levels) factors in their analyses.

The results showed that the persons with a depression indeed gained more weight over four years as compared to those without a depression. However, none of the psychological, lifestyle and biological factors could explain why the depressed persons gained more weight, with the exception of decreased alcohol intake which led to an increase in weight. Future research should study whether other factors like genes or food intake do play a role in the depression - weight gain link. Solving this puzzle can have huge impact on the prevention of weight gain, and subsequent weight-related diseases and disorders, in persons with depression.



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Characterizing Inflammatory Profiles Among the General U.S. Population of Older Adults

- Cytokines are molecules in the immune system that help cells communicate with each other and signal cells to move toward an infected or inflamed area. Researchers typically study the role of cytokines in individuals affected by disease, and therefore little is known about the levels of these inflammatory biomarkers and their health implications among healthy older adults. Another reason for this lack of knowledge is that cytokines are time-consuming and expensive to measure, making them infeasible for many general population studies.

The National Social Life, Health, and Aging Project (NSHAP) in 2010-2011 measured 18 cytokines using a small amount of whole-blood collected from a simple fingerprick in the homes of 2,745 healthy adults across the United States. The large number of cytokines and the many ways in which they may interact with each other means that studying their collective role in health is complex. Kristina L. Pagel, a Ph.D. candidate working with Dr. Martha K. McClintock, and a research team including M.D.'s, biostatisticians, and psychologists at The University of Chicago and NORC at the University of Chicago, have used the NSHAP data to describe the distribution of these cytokines in the general population and their association with individual characteristics. As expected, they found cytokine levels to be associated with the presence of an acute infection, as well as with immune-related health conditions including heart disease, diabetes, and depression. In addition, they found that cytokine levels differed substantially according to age, gender, and ethnicity. These results provide an important context within which to evaluate cytokine findings from clinical studies.



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A friend a day could keep poor health at bay: Social engagement and illness severity among patients with Chronic Obstructive Pulmonary Disease

- It is widely accepted that friends and family are “good medicine”. Social support and social engagement help patients maintain their sense of self-worth and emotional well-being as they cope with illness stressors. But how much support is enough? This is what researchers at The Graduate Center and Hunter College, City University of New York, in collaboration with researchers at Mount Sinai School of Medicine, examined in a study of 89 adults living with Chronic Obstructive Pulmonary Disease (COPD), a disease that worsens over time and makes breathing difficult. All participants had at least one informal (nonpaid) caregiver, usually a spouse or adult child.

“What was interesting was that engaging socially with friends, not family, was related to better lung function, specifically less breathlessness and overall illness severity,” notes Aliza Panjwani, the first author and an advanced doctoral student in the Health Psychology & Clinical Science program. An alternative explanation could be that greater illness severity leads to more isolation from friends. “We think that the relationship is likely bi-directional,” Ms. Panjwani states. “What we can conclude based on this and existing research is that it is probably not enough to have one family member caring for the patient. It is also important for the patient to engage with other members of their close social network.” Dr. Tracey Revenson, another author, adds, “The primary caregiver, like the spouse or adult child, experiences high stress and isolation as well, so they may not be able to meet all the patient’s needs.”



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Cancer Patients Show Symptom Improvements Using Web-based Collaborative Care Initiatives

- A pilot study at the University of Pittsburgh has shown that stepped-up collaborative care interventions, which included an interactive website, can improve symptom control and quality of life for advanced cancer patients.

The three most common and debilitating symptoms for advanced cancer patients are pain, fatigue and depression, according to National Institutes of Health (NIH). The study looked to reduce barriers to treatment and increase access to interventions to improve quality of life for cancer patients in the advanced stages of their disease.

Patients enrolled in the study were provided access to a web site that included written and audiovisual self-management strategies, a patient bulletin board and additional cancer-related resources. In addition, a care coordinator followed patients by phone and visited them during physician appointments and hospitalizations.

“Stepped collaborative care interventions seek to better target treatments for individual patient needs,” according to **Jennifer Steel, Ph.D., principal study investigator**. “We found that interventions with care coordinators along with the use of technology, in this case, a website, provided the ability for a larger number of patients to access and receive treatment for their symptoms.”

The study showed the interventions reduced symptoms of pain, fatigue, and depression and reduced inflammation in patients while improving survival by four months. Researchers also observed decreases in caregiver stress and depression with lowered risk for cardiovascular disease.

The pilot study has led to a larger trial, also funded by the National Cancer Institute, to determine if the investigators will continue to observe the same psychological and health benefits to patients and caregivers.

Jennifer L. Steel, Ph.D.

Associate Professor of Surgery, Psychiatry, and Psychology

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Treatment expectations of patients with an implantable cardioverter defibrillator (ICD) may play a role in depression

- Researchers asked 134 newly implanted ICD patients, who participated in the WEBCARE study, to complete a questionnaire at the time of implant and 12 months later. All patients received an ICD between April 2010 and February 2013 at one of 6 hospitals in the Netherlands.

The ICD is implanted in patients who have experienced a sudden cardiac arrest or who are considered at high risk. The ICD monitors the heart rhythm and will provide therapy (e.g. with a shock up to 840 volts), if the patient has a very fast and potentially life-threatening heart rhythm.

Patients were asked about both negative (e.g. *“the device will make me feel more anxious”*) and positive treatment expectations (e.g. *“the device will make me feel more confident”*) and also to rate their level of depression and their personality.

At the time of implant, 17% of patients were depressed, while 12% of patients were depressed at 12 months. Patients with negative treatment expectations were more likely to suffer from depression at 12 months. Positive treatment expectations were not associated with depression.

“We know that 1 in 5 patients with an ICD suffer from depression, and that depression is associated with poorer quality of life and premature death. However, we did not know that patients’ expectations towards treatment may have an impact on depression 12 months’ post implant that seems to be even greater than ICD shocks, symptomatic

heart failure, and personality”, said Susanne S Pedersen (PhD), one of the study’s authors and professor, Department of Psychology, University of Southern Denmark, and Department of Psychology, Odense University Hospital, Denmark.

“Evaluating patients’ treatment expectations in hospital at the time of implant provides an important window of opportunity for physicians and nurses to intervene to prevent depression in this patient group. In particular, patients expecting that their ICD would *make them do less exercise, reduce their sexual activity, and make them feel more dependent on others* seem to have a higher risk of being depressed”, said Susanne S Pedersen.

Co-authors are: Johan Denollet (PhD), Barbara van Veen (MSc), and Mirela Habibovic (PhD).



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Early Markers of Stress in The Venezuelan Populations

- Research on socio-political conflicts has focused on the association between violence, psychological stress and health. Markers to distinguish persons at high risk of disease, especially cardiovascular disease, linked to stress, are needed.. Therefore, Jose Regino Pena M.D, Ph.D Professor of the Department of Medicine at the University of Carabobo and of Postgraduate at the University of Los Andes and The University Autonoma of Madrid and his team evaluated these parameters in Venezuela, a country recently declared by Human Rights Watch and The Organization of American States as suffering a Humanitarian Crisis due to scarcity of food, medicines, clean water and electricity, as well as disruption of education and increased street violence, The lowest socioeconomic class is the most affected. To document stress and provide free medical support Pena and his colleagues studied 117 healthy voluntary individuals from Valencia, Venezuela (53 men and 64 women aged 30-70), performing clinical examination, electrocardiogram and routine laboratory tests plus psychosocial testing. They also determined the level of blood antibodies to Heat Shock Protein 60, a stress protein linked to heart disease. In the 44% of women and 40% of men who showed high psychological stress test scores Pena found twice the Heat Shock Protein 60 antibody level as in individuals with low psychological stress scores. This suggests that a simple blood antibody test may be an early marker linking psychological stress to increased risk for cardiovascular disease in a population under complex stress.



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CHICAGO -- Participating in an online stress management group can decrease symptoms of depression among men with advanced prostate cancer who are undergoing hormone therapy, reports a new study led by Dr. Frank Penedo, Roswell Park Professor of Medical Social Sciences and Director of Cancer Survivorship, of the Northwestern University Feinberg School of Medicine.

- CHICAGO -- Participating in an online stress management group can decrease symptoms of depression among men with advanced prostate cancer who are undergoing hormone therapy, reports a new study led by Dr. Frank Penedo, Roswell Park Professor of Medical Social Sciences and Director of Cancer Survivorship, of the Northwestern University Feinberg School of Medicine.

Hormone therapy (i.e., androgen deprivation therapy) is often prescribed to slow down disease progression in men with advanced prostate cancer. Unfortunately, many men who receive hormone therapy experience chronic side effects, including depressive symptoms.

Studies have shown that in-person groups that teach stress management and cognitive behavioral therapy skills can help improve quality of life among men with early disease. Dr. Penedo's study is unique in that it delivered stress management and therapy skills online using a tablet in men with advanced prostate cancer. The online adaptation of the cognitive-behavioral stress management (CBSM) for prostate cancer allowed participants and a trained group leader to meet online once a week through video chat. The study is still in-progress, but so far 102 men have taken part. Of those 102 men, 51 took part in a 10-week CBSM group.

The other half also met with a trained group leader for 10 weeks, and received weekly lectures on topics generally related to health. The men who took part in the CBSM group reported a significant decrease in depression symptoms over six months, while men in the health promotion showed no changes. This suggests that online groups may be one effective way to decrease symptom burden among men with advanced prostate cancer undergoing hormone therapy.

This study was supported by a National Cancer Institute grant (R01CA157809) awarded to Dr. Frank Penedo. For more information please contact Dr. Penedo at frank.penedo@northwestern.edu.



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Stress may get under the skin through the cell's powerhouse

**- Columbia University, Division of Behavioral Medicine
University of California, San Francisco**

Chronic life stress speeds up how fast our cells age, turns on and off genes in our genome, and ultimately shortens lifespan. A study now sheds new light into how this might be happening inside the body, showing that chronic stress also decreases the activity of the cells' energy powerhouses – the mitochondria.

Each cell of the body contains hundreds of mitochondria. These organelles convert the oxygen we breathe and the food we eat into cellular energy - they keep the body alive and moving.

The study was led by Martin Picard at Columbia University Medical Center, New York and Elissa Epel at the University of California San Francisco.

The study compared the mitochondria of mothers of normally developing children to that of mothers who care for a child with a developmental disorder and report high level of stress. Maternal caregivers were previously shown by Dr. Epel's group to exhibit accelerated cellular aging, in relation to feelings of stress. Using a novel measure of mitochondrial health for blood cells, the investigators found that chronically stressed women had decreased mitochondrial energy production capacity.

“In addition, how women felt predicted their mitochondrial health a few days later, suggesting that our emotions somehow influence our mitochondria”, explains Dr. Picard. “This opens a lot of questions. Now we have a lot more work to do to understand how this happens, and what we can do to keep our mitochondria healthy.”



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Conflict between work and family life is bad for your health

- Researchers from University College London showed that having job demands which impact negatively on your family life or vice versa are linked to both psychological and biological stress. Although previous research has suggested that conflict between work and family life is associated with increased depressive symptoms, this is the first study to examine whether there is an impact on our biology.

The association between work-family conflict and psychological distress were associated even when the researchers took a number of factors such as alcohol dependence and smoking into account. However, these health behaviours did explain the association of work-family conflict with biological stress. Those who experience this type of conflict might participate in more negative health behaviours, such as consuming more alcohol as a way of coping.

To assess the conflict between work and family demands, the researchers asked over 8,000 participants of the Whitehall II study, which has been running for over 30 years, about how much their work interfered with their family life and if family commitments impacted on their work life. They also completed a General health questionnaire to check for symptoms of depression and anxiety and provided a blood sample from which two biological markers of stress; C-reactive protein and Interleukin-6 were measured.

The analysis is cross-sectional so further research will be conducted to examine the direction of this association. However, these findings should encourage employers to implement policies to minimise conflict between family life and work in order to reduce mental health problems in their workforce.



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Higher rates of stress-related emotional factors in women linked to heart attacks, study suggests

- SEVILLA, SPAIN - A recent study by researchers at the Rollins School of Public Health (RSPH) at Emory University suggests that among young survivors of heart attacks, women, more than men, have a higher vulnerability to emotional factors and are more likely to develop abnormal blood flow to the heart (ischemia) during stress.

The team, led by Viola Vaccarino, MD, PhD, professor and Wilton Looney Chair of Epidemiology at RSPH, performed myocardial perfusion imaging tests with mental stress and conventional (exercise/pharmacological) stress on 314 patients averaging 50 years of age who had survived a myocardial infarction (MI) in the previous 8 months. Patients' psychosocial characteristics were compared with those of 112 healthy community controls.

Results showed that, compared with control women, women with MI had twice the rate of major depression, more than four times the rate of posttraumatic stress disorder (PTSD), and reported more childhood adversities. Among men, these differences were negligible. These conditions were also more common in women with MI compared with men with MI.

The team also found that the rate of decreased blood flow to the heart during both stress conditions was twice as high in women with MI as in men with MI.

Results of the study will be presented at the Annual Meeting of the American Psychosomatic Society on March 16th in Seville, Spain.

“The findings from our study provide evidence that stress-related emotional factors are significantly linked to early-onset myocardial infarction among women” explains Vaccarino. “Women may be more vulnerable to stress as a trigger of heart attacks, or they may have a greater emotional response to the cardiac event itself.”



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Online Therapy Effective at Treating Depression and Anxiety

- **SEVILLE, Spain, March 16, 2017** – Doctors from the University of Pittsburgh showed that providing an online computerized cognitive behavioral therapy (CCBT) program both alone and in combination with Internet Support Groups (ISG) is a more effective treatment for anxiety and depression than doctors' usual primary care. The preliminary findings were highlighted today at the [annual scientific meeting](#) of the American Psychosomatic Society in Seville, Spain.

The [National Institutes of Mental Health](#)-funded randomized trial, led by [Bruce L. Rollman, M.D., M.P.H.](#), professor of medicine and director of the [Center for Behavioral Health and Smart Technology](#) at the University of Pittsburgh, enrolled 704 depressed and anxious patients from 26 UPMC-affiliated primary care offices across western Pennsylvania.

Patients 18 to 75 years old were referred into the trial by their [UPMC](#) primary care physician between August 2012 and September 2014. Eligible and consenting patients were then randomized to one of three groups: care manager-guided access to the eight-session [Beating the Blues](#) CCBT program; care manager-guided access to both the CCBT program and a password-protected ISG patients could access 24/7 via smartphone or desktop computer; or usual behavioral health care from their primary care physician.

Over the six-month intervention, 83 percent of patients randomized to CCBT started

the program, and they completed an average of 5.3 sessions. Seventy-seven percent of patients assigned to the ISG logged into the site at least once, and 46 percent provided one or more posts or comments.

Six months later, those patients randomized to CCBT reported significant improvements in their mood and anxiety symptoms and the more CCBT sessions patients completed, the greater the improvement in mood and anxiety symptoms.

Although patients randomized to both CCBT and ISG had similar overall improvements in mood and anxiety symptoms compared to patients randomized to only CCBT, secondary analysis revealed those who engaged more with the ISG tended to experience greater improvements in symptoms.

Several CCBT programs have proven as effective as face-to-face cognitive behavioral therapy at treating mood and anxiety disorders and are used by many patients outside the U.S., but CCBT remains largely unknown and underutilized within the U.S., Dr. Rollman said. ISG that enable individuals with similar conditions to access and exchange self-help information and emotional support have proliferated in recent years, but benefits have yet to be established in randomized trials.

“Our study findings have important implications for transforming the way mental health care is delivered,” Dr. Rollman said. “Providing depressed and anxious patients with access to these emerging technologies may be an ideal method to deliver effective mental health treatment, especially to those who live in areas with limited access to care resources or who have transportation difficulties or work/home obligations that make in-person counseling difficult to obtain. We hope that these findings will focus further attention on the emerging field of e-mental health by other U.S. investigators.”

Researchers included Dr. Rollman, Bea Herbeck Belnap, Ph.D., Scott D. Rothenberger, Ph.D., Kaleab Abebe, Ph.D., Armando J. Rotondi, Ph.D., Michael Spring, Ph.D., and Jordan F. Karp, M.D., all of the University of Pittsburgh.



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A possible link between a new mother's health and her satisfaction and level of conflict in her relationship with her partner

- Women who view their relationship with their partner as low in both conflict and satisfaction had higher cardio-metabolic risk one year after giving birth, UCLA psychologists report. This pattern persisted even after considering many other factors, such as the mother's age, household income, race/ethnicity, health behaviors and presence of other children in the home.

This type of partner relationship — low in both conflict and satisfaction — could indicate partner detachment or withdrawal, causing distress for new mothers caring for small children.

Pregnancy requires several changes in a woman's cardiovascular and metabolic systems; a return to baseline occurs after the birth of a child. How well this is managed has implications for a mother's future cardiovascular disease risk; thus it is important to understand what helps or hinders this recovery. The researchers found evidence that a mother's quality of relationship with her partner may play an important role.

A diverse group of 778 women in relationships rated their satisfaction and amount of conflict with their partner six months after giving birth. These new mothers had their cardio-metabolic risk indicators (blood pressure, cholesterol and waist and hip measures) assessed at six months and one year postpartum.

The researchers plan to analyze more closely the nature of these low conflict/low satisfaction relationships, and how they may additionally affect the health of the mother and child.



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Predictors of Treatment Outcome in Patients with Eating Disorders

- Dr. med. Marzio Sabbioni, Patrick Figlioli, Med. pract. Daniel Horat, Dr. med. Anne-Lise Jordi, Dr. med. Marcel Fürer.

Department of Psychosomatic and Psychotherapeutic Medicine, Lindenhofspital, Lindenhofgruppe, Bern, Switzerland.

The objective of the research was to study predictors of treatment success for patients with eating disorders. The Department of Psychosomatic and Psychotherapeutic Medicine of the Lindenhofspital (Lindenhofgruppe) in Bern, Switzerland, explored these factors in 436 patients (mean age 25.4; 95.1% female) treated as in-patients and/or in the day clinic of the Department of Psychosomatic and Psychotherapeutic Medicine of the Lindenhofspital in Bern, Switzerland.

All patients were assessed at the beginning and at the end of the treatment with several questionnaires, e.g. Quality of Life, Symptom Checklist, Indicator of Anxiety and Depression, Eating Disorder Inventory, Inventories of Interpersonal Difficulties and Personality Style and Disorders.

46% of the patients reached a (very) good treatment outcome, 38% of the patients showed an improvement, 16% had a poor outcome.

The results showed that the following factors had a significant positive impact on the treatment: Living in more urban area, having a good “Emotional Role Functioning”(*) and a good “Relation to Reality”(**). On the contrary, factors like “Drive for Thinness”, high levels of anxiety, depressive symptoms and interpersonal difficulties proved to be significant negative predictors.

In conclusion, the less symptoms of the eating disorder and the less psychological difficulties the patients showed at the beginning of the therapy, the better the treatment outcome tended to be. We therefore recommend initiating an intensive treatment at an early stage of the disease, before the eating disorder and the comorbid psychological difficulties get worse and jeopardize treatment outcome.

(*) “Emotional Role Functioning”: The individual’s emotional ability to fulfil his or her social roles.

(**) “Relation to Reality”: The individual’s ability to perceive reality without emotional interferences.

The Lindenhofgruppe Private Hospital Group The Lindenhofgruppe is a Swiss private hospital group located in Bern, Switzerland. It is one of the country’s leading private groups including three hospitals, where approximately 130’000 patients are treated per year, roughly 30’000 of which on an inpatient basis. The group offers a comprehensive range of interdisciplinary primary healthcare as well as specialized and highly specialized medicine. Focus areas are Internal Medicine, Oncology, Women’s Health, Orthopaedics, Abdominal Surgery, Urology, Angiology/Vascular Surgery and Emergency Medicine. The group counts approximately 2’400 employees.

www.lindenhofgruppe.ch

Specific information about the Psychosomatic and Psychotherapeutic Medicine of the Lindenhofgruppe are available on the [Psychosomatic Department’s website](#):

<http://www.lindenhofgruppe.ch/de/fachgebiete/psychosomatik/>

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“Marijuana and Synthetic Marijuana (SM) Overdose/Withdrawal Symptoms in Young Adults: Applying and Implementing Stricter Regulations on Use: A Case-Report”

-Synthetic Marijuana (cannabinoids) are often misleading as safe, “legal alternatives”. In reality, Synthetic Marijuana can affect the brain much more dramatically than cannabis. This drug, in reality, is clustered into a group of drugs named “psychoactive substances.”

In turn, the use of synthetic cannabinoids can lead to psychotic effects, such as extreme anxiety, confusion, paranoia, hallucinations, and delusionary behavior. Additionally, the use of synthetic cannabinoids can produce similar effects to the use of marijuana, such as elevated mood, relaxation, and altered mental status. As well as psychiatric effects, synthetic cannabinoids can raise blood pressure, cause kidney damage and possible breakthrough seizures.

As for availability, synthetic cannabinoids have been easy to buy in convenient stores, gas stations, and through the Internet. Because the chemicals used in them have a high potential for abuse and no medical benefit, authorities have made it illegal to sell, buy, or possess some of these chemicals associated with the synthetic marijuana mixture. However, manufacturers try to “sidestep” these laws by changing the chemicals of the mixture so it can be made more accessible to the public.

In turn, this case report does not just state what composes synthetic marijuana and what can occur from an overdose or intoxication from synthetic marijuana; it also displays reasons and suggestions on how to implement stricter regulations on synthetic marijuana use availability, in order to ideally lower accompanied admission rates and hospital costs that comes from the usage of these substances.

Source of information found from the following

URL(<https://www.drugabuse.gov/publications/drugfacts/synthetic-cannabinoids>)



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Smaller prefrontal volume contribute to resilience after natural disaster in children

- Regional brain volume changes due to a stressful event were observed in children. On the other hand, despite a psychological distress, positive psychological changes could occur after experiencing a stressful event, which were defined as posttraumatic growth (PTG). Although the neurological characteristics related to posttraumatic stress in children have been well investigated, those associated with PTG remained unclear. We aimed to identify the brain volume changes as a pre-existing factor of PTG after the 2011 Japanese earthquake in children.

Using the MRI database in our institute, we analyzed data from 66 normal children (age = 12.0 ± 2.3 yrs, 34 males). A written informed consent was obtained from each child and their parent. We used structural brain MR images to assess their gray matter volumes obtained before the earthquake. Also, we assessed degree of their posttraumatic growth after the earthquake using Japanese version of posttraumatic growth inventory (PTGI-J). Then, we found a significant negative correlation between PTGI-J scores and the right dorsolateral prefrontal cortex (DLPFC) volume. The findings demonstrate that the smaller DLPFC volumes are pre-existing factors for the posttraumatic growth after a stressful event in normal children. The results indicate that an early maturation of the right DLPFC play an important role in the psychological developments after a stressful event.



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New research identifies mid-range conscientiousness as most adaptive trait for coping with recurrent stress.

- A recent study conducted at the Centre for Research on Occupational and Life Stress suggests that mid-range levels of conscientiousness, rather than high and low, may fit the adaptive cardiovascular profile for coping with recurrent acute stress in women. As trait personalities have genetically heritable components, the study sought to examine the effect of conscientiousness on cardiovascular reactivity across repetitive stress tasks.

Beat-to-beat intervals of systolic (SBP) and diastolic blood pressure (DBP), heart rate (HR), mean arterial pressure (MAP), cardiac output (CO), total peripheral resistance (TPR) were recorded from 81 women, aged 17-26, following a standardised paradigm consisting of three sets of acute stress exposure and recovery. Conscientiousness was measured using the revised NEO Personality Inventory (NEO-PI-R).

Results revealed significant effects for conscientiousness across time for SBP and DBP, with between group effects present for DBP and MAP. The mid-range showed healthy response patterns and habituation across the multiple stress tasks, while high and low scorers displayed exaggerated and greater reactivity, with a failure to adapt. This pattern corroborates natural selection theory, indicating a failure of 'extreme' reactors to maintain homeostasis across recurrent stress and suggests a pre-existing advantage for the mid-range.

Results suggest a potential vulnerability for high and low groups to not only recurrent acute stress, but also a trait vulnerability, which may contribute to greater cardiovascular disease risk and future disease development. Furthermore, findings highlight the significance of the mid-range, an overlooked group, and serve as an enhancement to current methodology and design in personality research.



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Innovative program by Indian researchers to deal with bullying in Schools

- Life-skills Education is an effective tool against bullying among teenagers, according to an intervention study from New Delhi, India.

The study will be presented as a citation poster in the American Psychosomatic Society's Annual Meet 2017 at Seville, Spain.

“For the first time, a life-skills program tackling bullying has been culturally adapted to the Indian context,” said Drishti Sharma, senior resident doctor at PGIMER, Chandigarh and the lead author. India has a rich story-telling tradition and this program used the famous 'Panchtantra' stories believed to be from 3rd century B.C.

The researchers divided 200 middle-school students into two groups – intervention and comparison. The former underwent one-month life-skills training program while the latter didn't. Six months later, the intervention group reported 20% lesser acts of fighting, and 16% reduction in victimization. No significant difference was observed in the other group.

Life-skills aid in responsible decision making by focusing on communication skills and creative thinking. The research showed that these skills once taught can be effective in reducing violence.

The trainers themselves displayed the life-skills in their behavior while training students. They employed interactive narratives, trust-building games, role-plays and video clippings. They also made sure that life-skills demonstrated by the children were duly rewarded over the sessions.

Violence is pervasive and the success of this low-cost program paves the way for future research to integrate life-skills training in the school curriculum.



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Nights with better sleep quality predict lower pain and improved mood the next morning.

- New research from the Penn State Stress and Health Lab suggests that nights with better sleep quality predict improved morning mood and pain in young adults.

Sleep, pain, and mood disturbances are frequently reported co-occurring concerns among young adults. Yet, the temporal dynamics between these variables in daily life are not well understood.

Danica Slavish (lead author and Penn State graduate student) wanted to know if evening mood and pain predicted nightly sleep quality, and if sleep quality predicted next-morning pain and mood.

As part of a longitudinal investigation, 125 young adults with and without chronic pain were recruited. Participants completed a baseline assessment and two weeks of daily reports at bedtime and waking.

Evening mood and pain did not predict nightly sleep quality, but nights with better sleep quality than usual predicted lower morning pain and improved mood.

However, these results were influenced by chronic pain status. Only among those with chronic pain did greater evening pain predict worse sleep quality, and did nights with worse sleep quality predict greater morning pain. Better sleep quality improved morning positive mood only among those without chronic pain.

“These results indicate that for those with chronic pain, there appears to be a vicious cycle between pain and sleep disturbances,” said Slavish. “Interventions that target sleep may reduce symptoms in those with chronic pain.”

The National Science Foundation and the Penn State Social Science Research Institute supported this work. Co-authors are Jennifer Graham-Engeland, Joshua Smyth, and Lynn Martire.



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Research from Tilburg University suggests that people with certain personality characteristics experience less social support from their partner, family and friends

Experiencing a lot of negative emotions combined with not sharing these emotions with others is called Type D personality.

Type D personality has extensively been studied in heart patients. The current study was conducted on people with diabetes.

Researchers from Tilburg University, The Netherlands discovered that people with diabetes and Type D personality have a significantly higher chance to experience low social support from their partner, family and friends, compared to people with diabetes but without Type D. They also have a significantly higher chance to experience relational problems with their partners.

To find out if it was not just the negative emotions that caused this association, the researchers also looked at people with diabetes who experienced a lot of negative emotions, and who did share them with others. These people also had a higher chance to experience low social support, but not as high as the people with Type D personality.

The finding that Type Ds experience less social support, is important because it is known that social support is associated with well being and health. Therefore, people with diabetes and Type D personality may require special clinical attention.



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Research from the Oregon State University demonstrates that reactivity to the minor stressors of daily life influence cognitive health among older adults.

- Minor stressors occurring in daily life, as well as how individuals react to such stressors are well-established risk factors for poorer health, particularly among older adults. Previous research has shown that daily stressors also negatively impact older adults' cognitive health, compromising attention and memory. Recent research suggests that response time inconsistency, rapid fluctuations in performance, reflect lapses of attention, and is a potentially early marker of normal and pathological cognitive decline. Establishing a link between daily stressors and response time inconsistency represents an important opportunity to identify modifiable risk factors associated with vulnerability to accelerated cognitive decline.

We analyzed the association between exposure and reactivity to daily stressors and response time inconsistency among a sample of 116 older adults. Results indicated that when individuals experience exposure to stressors, inconsistency in performance increased. Similarly, when individuals were more physically and emotional reactive to their daily stressors –exhibiting increased physical symptoms and negative emotions, decreased positive emotions - inconsistency in performance increased.

These findings suggest that both exposure and reactivity to daily stressors contribute to compromised attention in old age, and may be risk factors for accelerated cognitive decline. Furthermore, intervention and prevention efforts targeted at mitigating exposure and tempering reactivity to minor stressors in daily life may help promote optimal cognitive health among older adults.



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Resilience training for work-related stress among healthcare workers: Results of a randomized clinical trial comparing in-person and smartphone delivered interventions

- Mindfulness interventions hold promise as a strategy to improve employee well-being and mitigate burnout. Despite growing interest in smartphone applications, there is little research on the use of smartphones to decrease work-related stress. Together, researchers at Mayo Clinic, Arizona State University, and SOMA Analytics assessed the effectiveness of an in-person mindfulness-based resilience training (MBRT) program and a smartphone-delivered resiliency-based intervention against a control condition on distress and well-being in employees at a major healthcare institution

Sixty employees (86.7% female, mean age 46) were randomized to a 6-week MBRT program, a smartphone intervention in which participants selected well-being goals with exercises regarding selected topics, or a control group. All participants tracked their sleep and answered questions about their emotions via smartphone for 6 weeks.

Compared to controls, the MBRT and smartphone groups exhibited greater improvements in well-being and stress post-intervention and 3 months later. The MBRT group also showed significant sustained improvements in the burnout domains of personal accomplishment and depersonalization. Compared to controls post-intervention, the MBRT group endorsed feeling significantly calmer, more cheerful, and indicated more enjoyable relations with others, while the smartphone group reported increased alignment with personal values.

Results suggest that both the smartphone and MBRT interventions can produce sustained benefits in employee well-being and stress. However, the employees who did MBRT, an in-person intervention, were most likely to improve in measures of work-related burnout and more areas of positive affect. These exploratory findings may be useful for researchers interested in the efficacy of mobile health technologies.



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Childhood Maltreatment Linked to Differences within Stress-Control Brain Regions

- Abuse or neglect during childhood could shape stress-related brain regions that may contribute to mood or anxiety disorders later in life, according to researchers at the University of Pittsburgh.

Layla Banihashemi, Ph.D., assistant professor of psychiatry at the University of Pittsburgh School of Medicine, and colleagues studied 70 participants with a range of anxiety and depression symptoms and varying levels of past childhood maltreatment (abuse or neglect).

Participants completed a questionnaire that assessed childhood maltreatment and underwent brain scans while performing a mild stress task to determine stress reactivity and structural integrity in certain parts of the brain. In particular, the researchers focused on the bed nucleus of the stria terminalis (BNST), an important “hub” within the stress-control network in the brain, and the stria terminalis, which connects the BNST to other important stress-control brain regions.

The scientists found that among healthy adults who have never had a mood or anxiety disorder, more severe experiences of childhood maltreatment were associated with greater reactivity to stress within the BNST as observed by brain imaging. This relationship was not observed among individuals with past or current mood or anxiety disorders.

Among adults with past or current mood or anxiety disorders, greater childhood maltreatment was associated with less structural integrity of the stria terminalis.

The findings suggest that childhood maltreatment may shape BNST-related brain circuitry in ways that reflect vulnerability or resilience to mood or anxiety disorders. Understanding this circuitry may help with the development of more effective treatments for these disorders.



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ED overcrowding and its influence on PTSD

- Overcrowding in an emergency department (ED) could lead to increased risk for developing posttraumatic stress disorder (PTSD) symptoms after evaluation for suspected acute coronary syndrome (ACS), a new study finds. These findings come from the REactions to Acute Care and Hospitalization (REACH) study, a cohort study of psychological outcomes in patients evaluated for possible ACS (i.e., heart attack and unstable angina) at Columbia University Medical Center. Approximately 1 in 8 patients evaluated for ACS develops PTSD symptoms, and these symptoms are associated with increased risk of ACS recurrence and mortality. Thus, it is important to identify modifiable factors that are associated with posttraumatic stress risk and that can be targeted for prevention. In this study the Emergency Department Work Index (EDWIN), an objective, validated ED crowding measure, was utilized to capture the association between ED crowding and early posttraumatic stress symptoms in these patients upon transfer to inpatient hospitalization. Data from 1,000 participants showed that greater EDWIN score was associated with greater early posttraumatic stress symptoms. Greater ED threat perceptions also predicted greater posttraumatic stress symptoms. Interestingly, the effect of ED threat perceptions did not fully explain the association of overcrowding with posttraumatic stress symptoms. Findings call for future studies on how to reduce ED overcrowding and whether less crowding is associated with better psychological outcomes for patients evaluated for suspected ACS.



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Research from California State University, Long Beach suggests that prenatal stress management programs are effective in helping low-income pregnant women reduce their number of birth complications.

- We assessed the frequency of nine birth complication outcomes (e.g., low birth weight, premature birth) in our sample of 69 low-income pregnant women as part of a longitudinal study examining the effects of prenatal stress on maternal and infant health. During their first trimester, women were randomly chosen to participate in either an eight-week, group-based prenatal cognitive behavioral stress management (CBSM) intervention, where women learned relaxation and coping skills designed to regulate stress and mood, or an eight-week control group where women received print-based prenatal health information.

We found that women receiving the prenatal CBSM intervention had significantly fewer birth complications compared to women in the control group. These findings suggest that prenatal CBSM interventions are effective in improving low-income pregnant women's birth outcomes through training in CBSM techniques. These results are particularly important given that many birth complication outcomes have adverse effects on the long-term health and well-being of mothers and their children.



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Early psychological distress after implantable cardioverter defibrillator implantation: who is at risk?

- Studies have shown that living with an implantable cardioverter defibrillator (ICD) is associated with symptoms of anxiety and depression in a subset of patients. These psychological distress symptoms are often unrecognized in cardiac practice and have a negative influence on quality of life and cardiovascular prognosis. As levels of distress are stable over time, early identification and treatment of patients at risk might be beneficial. Yet, evidence on prevalence rates of psychological distress in ICD patients is inconclusive and knowledge about risk markers is scarce. Therefore, we examined prevalence and risk markers of early psychological distress in participants of the REMOTE-CIED study, a European randomized controlled trial in 569 heart failure patients with an ICD. In this study, 25% of the patients reported to suffer from psychological distress 1-2 weeks after implantation. Being < 60 years of age, having a threatening view of heart failure, ICD-related concerns, a distressed (Type D) personality, poor health status and receiving psychotropic medication were associated with an increased risk of psychological distress. Attending cardiac rehabilitation, however, was associated with a decreased risk of psychological distress. These results indicate that a significant subset of European heart failure patients with an ICD experience early symptoms of psychological distress. Psychological characteristics were the strongest associates of distress, while clinical characteristics did not have an impact. Timely identification of patients with psychological distress is essential and offering (individualized) cardiac rehabilitation might be a promising avenue to prevent and reduce distress in ICD patients.



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Irregular Sleep Patterns May Increase Risk of Developing Cardiovascular Disease, Pitt Study Finds

- Adults who have irregular sleep patterns may be at greater risk of developing cardiovascular disease, according to research from the University of Pittsburgh.

“We found that greater irregularity in sleep-wake patterns was associated with larger brachial artery diameter, which is a structural measure of heart health,” said study author Marissa A. Bowman, doctoral graduate student, University of Pittsburgh department of psychology. “A larger diameter of the brachial artery means that blood has a wider area to flow through, making blood flow less efficient. This may contribute to greater risk for developing cardiovascular disease.”

Using a watch-like digital device called an actigraph, researchers gauged how regular a person’s sleep-wake activity was. Then they used ultrasound to measure the structure and function of the person’s cardiovascular system.

Previous studies have examined sleep-wake patterns in individuals who have already been diagnosed with one or more cardiovascular diseases. This study looked at sleep cycles and heart health in adults who do not have these diseases. The study found that adults with larger arteries had irregular sleep patterns that looked similar to those observed in previous studies who later developed, and even died from, one of these diseases.

“The research suggests that people who wake up and go to bed at very different times throughout the week may have a higher risk to develop cardiovascular disease,” said Bowman. “Since sleep-wake patterns are largely a modifiable behavior, we can apply findings like this directly into public health interventions to reduce patients’ risks of developing cardiovascular disease.”



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Safer Neighborhoods, Better Sleep

- Living in a neighborhood that has high levels of crime and lower perceived safety is associated with poorer sleep among African American adults, according to a new study.

In a random sample of 792 African Americans from two low-income neighborhoods in Pittsburgh, researchers from the RAND Corporation found that higher levels of perceived neighborhood safety, social cohesion, and satisfaction, and lower crime levels were associated better sleep efficiency (an objective measure of sleep quality).

After adjusting for individual characteristics including age, sex, education, income, sleep medications, psychological distress, and body mass, significant associations persisted between higher levels of violent crime and lower perceived safety and poorer sleep efficiency. “These findings highlight the importance of considering broader environmental factors that influence sleep that, in turn, may contribute to pervasive racial/ ethnic and socioeconomic disparities in health,” said Wendy M. Troxel, a RAND psychologist and sleep expert who led the study.

The study adds to the small, but growing literature on the influence of neighborhood disadvantage on poor sleep, and is unique in its use of both objective and subjective measures of neighborhood characteristics and objective measures of sleep.

Study participants wore an actigraph, a small watch-like device, for seven consecutive nights to measure their sleep. Neighborhood characteristics were assessed using objective and subjective measures.

The results are a part of a larger study exploring why African Americans and individuals living in disadvantaged neighborhoods have disproportionately high rates of chronic health conditions and whether neighborhood investments may improve residents' sleep.



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Potential mechanisms linking positive emotions and health: Is psychological well-being related to the adoption of a healthier lifestyle over time?

- Positive psychological well-being, including positive emotions, optimism, and purpose in life, protects against cardiovascular disease. Healthy behaviors like exercise and non-smoking may be possible mechanisms that explain these associations. Although prior studies have suggested that higher levels of psychological well-being are related to individual healthy behaviors (e.g., prudent diet), its role in overall lifestyle remains unknown. Studying psychological well-being's association with a set of healthy behaviors is important because behaviors tend to aggregate and have a multiplicative influence on disease risk.

Over 35,000 women from the Nurses' Health Study completed questionnaires on psychological well-being –optimism and happiness– and health-related behaviors over a 20-year period. A lifestyle score was derived from measures of exercise, diet, alcohol consumption, smoking, and body mass index. A healthy lifestyle was defined as healthy levels for at least 4 of the 5 behaviors. After considering factors that could influence results (like age, education), women with moderate and high levels of optimism were 18% and 33% more likely, respectively, to report a healthy lifestyle over the study period, compared to those with low levels. Comparable results were obtained with happiness. Moreover, these associations were similar regardless of how healthy women's behaviors were at the study onset.

Results suggest that women with moderate and high levels of happiness and optimism are more likely to engage in healthier lifestyle over time, compared to those with lower levels. Future studies should investigate whether enhancing psychological well-being can improve subsequent lifestyle. If so, psychological well-being may have important implications for the prevention of cardiovascular disease.



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Distress and inflammation may explain why women undergoing chemotherapy have poor sleep

- **Sevilla, Spain** - Every year in the United States, nearly 71,500 women are diagnosed with a gynecologic cancer. Sleep disturbances are common and concerning in people with cancer, particularly among those going through chemotherapy. However, it is not quite clear why this is. Chantel Ulfig, a graduate student in the laboratory of Deidre Pereira, PhD in the Department of Clinical & Health Psychology at the University of Florida, is seeking to understand how psychological, behavioral, and biological factors may explain this relationship.

As a part of a larger randomized clinical trial funded by a National Cancer Institute grant to Dr. Pereira at the University of Florida, Ulfig explored whether women going through chemotherapy for gynecologic cancers took a longer time to fall asleep (had longer sleep latency), and if so, whether this was due to nighttime distress and/or systemic inflammation. Women with gynecologic cancers who reported poor sleep before surgery completed a one-night home sleep study (polysomnography) and two weeks of daily sleep diaries to measure sleep latency and nighttime distress. Systemic inflammation was measured by levels of Interleukin-6 (IL-6), an inflammation promoting immune protein, in their blood six to eight weeks after surgery. Forty-eight women were included in analyses.

Compared to women who did not receive chemotherapy, women receiving chemotherapy had longer sleep latency, and this relationship was at least partially accounted for by their greater nighttime distress and IL-6 levels. Ulfing noted that these results have important implications for treatment. “Biobehavioral interventions may improve sleep in women receiving chemotherapy for gynecologic cancers by reducing nighttime distress and systemic inflammation,” she explained. Dr. Pereira’s larger trial is closing to enrollment in June 2017 and will examine this and related questions.



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Research from California State University, Long Beach suggests that low-income women who participate in a stress management class during pregnancy give birth to infants with lower levels of the stress hormone cortisol.

- Long Beach, CA - During their first trimester of pregnancy, a sample of 100 low-income women were randomly chosen to participate in either an eight-week prenatal stress management class, where women learned relaxation and coping skills designed to reduce stress, or an eight-week control group where women received print-based prenatal health information. At three months postpartum, these women were asked to provide samples of their saliva, as well as that of their infant, to measure the stress hormone cortisol.

At three months postpartum, we found that women who had higher levels of cortisol also had infants with higher levels of cortisol. However, these results differed depending on whether women participated in the stress management class or the control group during pregnancy. We found that women who participated in the prenatal stress management class had infants with lower cortisol levels at three months postpartum compared to infants of women who were in the control group. These findings suggest that women's participation in a prenatal stress management class potentially has long-term beneficial effects for reducing their infant's postpartum cortisol levels. These results are particularly important given that cortisol has been shown to have adverse effects on the health and well-being of mothers and their children.



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Supportive work environments equal lower blood pressure

- Research has clearly and consistently linked socially supportive relationships to better overall health, including reduced blood pressure, a known risk factor for cardiovascular disease. Individuals spend a large percentage of their day at work. A supportive work environment, including employees' perceptions that they are valued by the organization (organizational support) and can expect support and aid from supervisors and coworkers (individual work-place social support), is associated with reduced stress, improved work-related communication and increased productivity. Less is known about specific health benefits associated with work-place support, specifically as it relates to cardiovascular-risk-reducing indicators such as blood pressure. Ninety-two working individuals completed work social support and organizational support questionnaires and wore ambulatory blood pressure (ABP) monitors for 24 hours. ABP measures offer a large number of readings across the day, chronicling daily fluctuations, and providing a more complete picture of cardiovascular functioning. ABP was assessed randomly twice an hour during wake hours and once an hour during sleep. We examined individual work-place support and found perceptions of greater support from supervisors was associated with decreased systolic blood pressure, and support from coworkers was associated with both decreased systolic and diastolic blood pressure. No association was found for organizational support and ABP indicating that supportive co-workers and supervisors rather than the perception of the organization's concern for the worker's well-being may be more effective in reducing daily blood pressure and risk for cardiovascular disease. Interventions to increase work-place support in terms of co-workers and supervisors could provide cardiovascular protection to workers.



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Diurnal cortisol secretion altered by anxiety level in coronary artery disease patients

- Anxiety has been posited as an independent risk factor for coronary heart disease (CHD), besides the established risk factors including hypertension, heightened blood cholesterol, smoking, diabetes, obesity, and others.

From an evolutionary perspective, anxiety represents an early universal affect which warns and thereby protects us in threatening conditions. Only when the anxiety continues and hinders our performance in daily life, it gains the character of an anxiety disorder.

Anxiety is associated with the biological stress response including secretion of the two key stress hormones adrenaline and cortisol.

Cortisol secretion follows a typical diurnal variation pattern characterized by a steep morning increase within the first 30 minutes of awakening which is then followed by a less steep but steady decline during the day.

This pattern is stable across age and can be measured reliably via saliva probes taken at defined time points of the day.

In the present study, we analyzed cortisol and anxiety levels in coronary heart disease patients from the German multicenter SPIRR-CAD trial (Herrmann-Lingen et al 2016).

Patients with elevated anxiety levels showed a significantly more pronounced cortisol increase within the first 30 minutes of awakening compared to the low anxiety subjects.

The data suggest that anxiety may alter our diurnal cortisol secretion pattern.

In conclusion, emotion regulation and stress management may be important targets in the prevention of future cardiac events in coronary heart disease patients.



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Pain reduction can be learned by children through observation of effective treatments in other persons

- Studies have shown that pain reduction after an inert treatment, a so-called placebo effect, can be elicited in one person after the observation of an effective treatment in another person. This social learning effect occurred when a treatment was observed live as well as when it was observed in a video. However, placebo effects through observation have been tested in adults only by now, but it could be even more important in children as they have fewer own experiences in medical settings.

The research group of Dr. Katja Weimer in Tübingen, Germany, is the first to examine this effect in a group of 88 healthy girls and boys between age 8 and 18. They were divided into different groups and observed an effective intervention reducing heat pain on the forearm applied to their mother or to an unfamiliar woman of similar age, and either live or in a video. Subsequently, the same intervention but with a placebo only was applied to the children themselves.

Results show that observation of an effective treatment in a non-familiar woman was more effective than observation of the own mother. Whether the treatment was observed live or in a video did not make any difference.

These results are clinically extremely relevant: learning about effective treatments through observation would be a practical and efficient strategy to enhance placebo effects and treatments, particularly in children and adolescents.

This study was supported by a grant of the German Research Foundation (DFG; WE5658/2-1).



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Stress hormones influence early coronary heart disease processes

- Atherosclerosis is the underlying cause of coronary heart disease and many other vascular diseases. Atherosclerosis results in thickening of the inner wall of blood vessels, that can occlude arteries, and when ruptured, can cause sudden cardiovascular events such as heart attack and stroke. Early atherosclerotic lesion development involves the adhesion of white blood cells called monocytes to endothelial cells that make up the inside of the blood vessel wall. Adhered monocytes then migrate into the vessel wall to form atherosclerotic lesions. Chronic emotional stress, working through biological stress systems, has been shown to accelerate atherosclerosis, but the biological mechanisms that advance disease through stress are not clear. Elucidating the role of stress in early atherosclerotic processes is important to understand how psychological factors influence coronary heart disease, and to develop treatment strategies.

In our study, we grew vascular endothelial cells and monocytes in lab dishes to evaluate how norepinephrine, a hormone of the sympathetic nervous system released in response to stress, influences the adhesion and migration of monocytes. We found that treating endothelial cells with norepinephrine increased the adhesion of monocytes to endothelial cells. In addition, we showed that norepinephrine is mildly chemotactic for monocytes, meaning that norepinephrine may also stimulate monocyte migration into the vessel wall. These results suggest that release of norepinephrine and similar hormones in response to stress can influence the early atherosclerotic processes of monocyte adhesion and migration. Our findings provide a mechanism by which emotional stress increases the progression of coronary heart disease.



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The inability to express emotions does not increase the risk of first cardiovascular event

- Alexithymia is a personality construct defined by difficulties in identifying and labelling one's own emotional state. Although it has been suggested to be associated with cardiovascular diseases and mortality, studies are scarce and the direction of the association is questionable. For instance, alexithymia could be a psychological response to a life-threatening illness, rather than the other way around. The aim of this study was to explore the long-term association between alexithymia and cardiovascular diseases in participants without cardiovascular history at baseline. Alexithymia was measured with a self-rated scale in 5,586 participants of the French Supplémentation en Vitamines et Minéraux AntioXydants (SU.VI.MAX) cohort before 1998 then they were followed for cardiovascular events during an average of 11 years.

A total of 173 first cardiovascular events were recorded using self-reported information or clinical visits, and were validated by an independent expert committee. Alexithymia at baseline was not associated with cardiovascular events at follow-up in either men or women. Our study suggests that difficulties in identifying and labelling one's own emotional state have no effect on the risk of cardiovascular diseases among individuals without previous cardiovascular event.



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Cardiovascular risk goes up as you feel down but it could depend on your socioeconomic status

- Beside classical risk factors as smoking or hypertension, several psychological factors have been shown to be associated with increased cardiovascular risk, including depression. However, a growing body of evidence suggests that the effect of depression might depend upon socioeconomic status.

In this study, we examined the association between depressive symptoms and predicted 10-year risk of coronary heart disease in 34,836 working participants from the French population-based CONSTANCES cohort (<http://www.constances.fr>). Coronary heart disease is a disease in which the flow of oxygen-rich blood to heart muscle is reduced or blocked. Its risk in 10 years was estimated for each participant from his/her characteristics (age, gender, smoking status, diabetes status, systolic blood pressure, total and HDL cholesterol) whereas depressive symptoms were self-reported.

The association between depressive symptoms and the predicted 10-year risk of coronary heart disease was different according the occupational status of male participants: although no effect of depression was shown in men of high status (e.g. managers), the greatest estimated risk was found in individuals of low status (e.g. plant operators) with depressive symptoms. In other words, the association between depressive mood and cardiovascular risk was higher in individuals of low status than in those of high status.

This study suggests that socioeconomic status should be considered when evaluating the risk of coronary heart disease on depressed individuals, at least in men.

This study suggests that socioeconomic status, in particular occupational status, should be considered when evaluating the risk of coronary hear disease in depressed individuals, at least in men.



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The Relationship between Heart Rate Variability and Markers of Inflammation: A Meta-Analysis

- A report from The Ohio State University suggests that individuals with lower heart rate variability may have poorer regulation of the inflammatory reflex, an important system in fighting disease.

Columbus, OH – The inflammatory reflex is known as the body’s primary defense against infection and therefore, is important in fighting disease. Converging evidence suggest that the autonomic nervous system (ANS), composed of both parasympathetic (PNS) and sympathetic (SNS) nervous systems, directly regulates the inflammatory reflex. Heart rate variability (HRV), an index of ANS activity, can be separated into various components that primarily reflect PNS activity and a combination of both SNS and PNS branches. Importantly, the PNS is the primary regulatory of many vital bodily systems, including the inflammatory reflex. Therefore, higher HRV should reflect a better inflammatory reflex.

However, research on relationships between HRV and markers of inflammation are mixed. Therefore, the present meta-analysis estimates the “true” relationship between several components HRV and inflammatory markers. An analysis of 51 reports showed a total negative relationship between HRV and markers of inflammation, such that higher HRV was associated with lesser markers of inflammation. In this regard, associations between components of HRV that primarily reflect PNS activity and inflammatory markers were especially consistent.

In sum, our meta-analysis highlights the importance of the ANS, specifically the PNS, in regulating inflammation. We propose that components of HRV, specifically those that are of PNS influence, can be used to proxy the flexibility and integrity of the physiological pathway responsible for properly regulating the inflammatory reflex.



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HOW DOES NEIGHBORHOOD ADVERSITY GET UNDER THE SKIN?

Previous studies have shown that living in poor neighborhoods is associated with poor psychological health. However, researchers are now investigating the ways through which neighborhood adversity gets under the skin. In a series of studies we tested whether objective and subjective neighborhood adversity was associated with cortisol, a marker of physical and psychological stress. Cortisol was measured both in saliva and in hair. Across three studies we found that higher subjective neighborhood adversity mediated the link between higher objective neighborhood disadvantage and dysregulation in cortisol secretion, regardless of whether it was measured in saliva or hair. This finding was evident among children as well as middle age and older adults.



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University of Miami Researchers to Present New Findings Related to Gene Expression and Health Outcomes among Women with Breast Cancer at Scientific Meeting

Coral Gables, FL (March 9, 2016) – Researchers at the University of Miami (UM) College of Arts & Sciences and UM Miller School of Medicine will present new findings on stress and health concerning women with breast cancer at the 74th Annual Scientific Meeting of the American Psychosomatic Society in Denver. The theme at this year's meeting is *Translating Research into Practice: From Bench to Policy*.

UM College of Arts & Sciences Psychology doctoral student Laura Bouchard, M.S., will join Dr. Michael Antoni, Cooper Fellow and professor of psychology at the College of Arts & Sciences, and professor of psychiatry and behavior sciences at the Sylvester Comprehensive Center at the UM Miller School of Medicine, at the meeting to present new findings that suggest favorable changes in gene expression after stress management intervention during primary treatment predict long-term health outcomes in women with breast cancer.

Antoni's research team previously showed that participating in a cognitive-behavioral stress management (CBSM) intervention improves psychological adaptation during breast cancer treatment. Women receiving CBSM learned various relaxation techniques as well as skills to change negative thoughts and improve coping strategies in 10 weekly group sessions.

Women in CBSM also revealed decreased expression of pro-metastatic and pro-inflammatory genes in circulating white blood cells. Recently, Antoni's team showed that women in CBSM had a greater disease-free interval (i.e., time to a breast cancer recurrence) and survival 11 years later.

In these new analyzes, Antoni will show that greater reductions in expression in many of these genes after CBSM predict greater disease-free interval. Bouchard will show that similar gene expression changes predict higher overall survival in this cohort.

These findings are the first to provide preliminary support for a biobehavioral pathway through which changes in gene expression explain effects of CBSM on long-term health outcomes among breast cancer patients, and may inform mechanisms underlying health effects of other psychosocial interventions in breast cancer.

Additional authors of the study include, Suzanne Lechner, Charles Carver, Jamie Stagl, Lisa Gudenkauf, Devika Jutagir, Chelsea Amiel, Hannah Fisher, Alain Diaz, Bonne Blomberg from the University of Miami, Susan Lutgendorf from the University of Iowa, and Steven Cole from University of California, Los Angeles (UCLA).

For more information, visit <http://www.as.miami.edu/anthropology/graduate/>