

50 healthy lifestyle & healthy aging abstracts **may '16 newsletter**

(Capaldi, Passmore et al. 2015; Anderl, Hahn et al. 2016; Balzarotti, Biassoni et al. 2016; Cashman, Dowling et al. 2016; Cassidy, Franz et al. 2016; da Costa, Reichenbach et al. 2016; Del Giudice 2016; DeSalvo, Olson et al. 2016; Endrighi, Steptoe et al. 2016; Fales, Frederick et al. 2016; Fink, Weege et al. 2016; Gagliardi, Andriolo et al. 2016; Gardener, Wright et al. 2016; Gillen, Martin et al. 2016; Girmé, Overall et al. 2016; Gordon and Chen 2016; Helnæs, Kyrø et al. 2016; Hess, David et al. 2016; Hickey and Banks 2016; Hodgson, Prince et al. 2016; Jin, Jones et al. 2016; Jonason, Icho et al. 2016; Kingsbury, Dupuis et al. 2016; Lammers and Imhoff 2016; Lin, Lin et al. 2016; Luecken, Hagan et al. 2016; Lukaszewski, Simmons et al. 2016; Morris, Brockman et al. 2016; Murray, Theakston et al. 2016; O'Dowd 2016; O'Hare, O'Sullivan et al. 2016; Perkin, Logan et al. 2016; Piccirillo 2016; Rimfeld, Kovas et al. 2016; Robbins, Low et al. 2016; Rodríguez-Cano, López-Durán et al. 2016; Ruffman, Wilson et al. 2016; Salerno, Rhind et al. 2016; Schmit, Rennert et al. 2016; Shakersain, Santoni et al. 2016; Silva, Mello et al. 2016; Sundquist, Ohlsson et al. 2016; Tyrrell, Jones et al. 2016; Virchow, Backer et al. 2016; Warren and McGraw 2016; Willey, Gardener et al. 2016; Williams, Pasco et al. 2016; Williamson, Altman et al. 2016; Wong 2016; Zhang, Chen et al. 2016)

Anderl, C., T. Hahn, et al. (2016). **"Facial width-to-height ratio predicts psychopathic traits in males."** *Personality and Individual Differences* 88: 99-101. <http://www.sciencedirect.com/science/article/pii/S0191886915005759>

(Available in free full text) Facial width-to-height ratio (fWHR), a putative marker of pubertal testosterone action, has been reliably linked with various facets of unsociable behavior in men. In order to elucidate the underlying mechanisms, a recent study by Geniole and colleagues (2014) has provided evidence for an association between male fWHR and the psychopathic personality trait fearless dominance in an undergraduate student sample, although the reported effect size was small (β stand = .17). We aimed to replicate and extend this finding by recruiting young adult prison inmates in addition to a sample of undergraduate students, thereby increasing the variance of the psychopathy scores at the high-end of the continuum. We found significant positive associations between fWHR not only with fearless dominance, as reported before, but also with the factor self-centered impulsivity, and with overall psychopathy scores. Results point to a role of testosterone in the development of psychopathic personality traits.

Balzarotti, S., F. Biassoni, et al. (2016). **"Individual differences in cognitive emotion regulation: Implications for subjective and psychological well-being."** *Journal of Happiness Studies* 17(1): 125-143. <http://dx.doi.org/10.1007/s10902-014-9587-3>

(Free full text available from ResearchGate) Although research has extensively examined the link between cognitive emotion regulation and psychopathological symptoms, scant attention has been given to the relationship between dispositional use of cognitive emotion regulation strategies and individuals' positive functioning. In a cross-sectional study on 470 adults, we examined whether individual differences in the use of nine cognitive strategies were associated with subjective and psychological well-being. Results show that positive reappraisal and refocus on planning are positively related to both subjective and psychological well-being. Rumination, catastrophizing and self-blame are linked to poorer well-being, while positive refocusing, putting into perspective, and acceptance show few significant associations. These results suggest that cognitive emotion regulation strategies may be differently effective in promoting individual's well-being. [Note: "Cognitive Emotion Regulation Questionnaire (CERQ) The CERQ (Garnefski et al. 2001, 2002a, b) is a 36-item scale that evaluates nine cognitive strategies of emotion regulation (four items each). Positive reappraisal refers to the attempt of reinterpreting the event in terms of personal growth (e.g., "I think I can learn something from the situation"). Putting into perspective refers to thoughts emphasizing the relativity of the event when comparing it to other (more serious) situations (e.g., "I tell myself that there are worse things in life"). Positive refocusing refers to the attempt of thinking about pleasant and happy situations instead of thinking about the harmful event (e.g., "I think of something nice instead of what has happened"). Refocus on planning consists in thoughts about what to and how to face the negative event (e.g., "I think about a plan of what I can do best"). Acceptance refers to thoughts of resigning oneself to what has happened (e.g., "I think that I must learn to live with it"). Self-blame and Blaming Others consist in thoughts putting the blame of what has happened on oneself versus others (e.g., "I feel that I am the one to blame for it"). Rumination refers to thinking about the feelings experienced as a consequence of the negative event (e.g., "I dwell upon the feelings the situation has evoked in me"). Catastrophizing consists in the emphasis of the negative aspects of the event (e.g., "I often think that what I have experienced is the worst that can happen to a person"). Respondents are asked to indicate what they generally think when experiencing negative or unpleasant events. The items are rated on a Likert scale ranging from one (almost never) to five (almost always)].

Capaldi, C. A., H.-A. Passmore, et al. (2015). **"Flourishing in nature: A review of the benefits of connecting with nature and its application as a wellbeing intervention."** *International Journal of Wellbeing* 5(4): 1-16. <http://www.internationaljournalofwellbeing.org/index.php/ijow/article/view/449>

(Available in free full text) From the increasing number of people living in urban areas to the continued degradation of the natural environment, many of us appear to be physically and psychologically disconnected from nature. We consider the theoretical explanations and present evidence for why this state of affairs might result in suboptimal levels of hedonic and eudaimonic wellbeing by reviewing the large body of research on the mental health benefits of connecting with nature. The advantages of contact with nature as a potential wellbeing intervention are discussed, and examples of how this research is being applied to reconnect individuals to nature and improve wellbeing are given. We conclude by considering the limitations of, and proposing future directions for, research in this area. Overall, evidence suggests that connecting with nature is one path to flourishing in life.

Cashman, K. D., K. G. Dowling, et al. (2016). **"Vitamin d deficiency in europe: Pandemic?"** *The American Journal of Clinical Nutrition* 103(4): 1033-1044. <http://ajcn.nutrition.org/content/103/4/1033.abstract>

(Available in free full text) Background: Vitamin D deficiency has been described as being pandemic, but serum 25-hydroxyvitamin D [25(OH)D] distribution data for the European Union are of very variable quality. The NIH-led international Vitamin D Standardization Program (VDSP) has developed protocols for standardizing existing 25(OH)D values from national health/nutrition surveys. Objective: This study applied VDSP protocols to serum 25(OH)D data from representative childhood/teenage and adult/older adult European populations, representing a sizable geographical footprint, to better quantify the prevalence of vitamin D deficiency in Europe. Design: The VDSP protocols were applied in 14 population studies [reanalysis of subsets of serum 25(OH)D in 11 studies and complete analysis of all samples from 3 studies that had not previously measured it] by using certified liquid chromatography-tandem mass spectrometry on biobanked sera. These data were combined with standardized serum 25(OH)D data from 4 previously standardized studies (for a total n = 55,844). Prevalence

estimates of vitamin D deficiency [using various serum 25(OH)D thresholds] were generated on the basis of standardized 25(OH)D data. Results: An overall pooled estimate, irrespective of age group, ethnic mix, and latitude of study populations, showed that 13.0% of the 55,844 European individuals had serum 25(OH)D concentrations <30 nmol/L on average in the year, with 17.7% and 8.3% in those sampled during the extended winter (October–March) and summer (April–November) periods, respectively. According to an alternate suggested definition of vitamin D deficiency (<50 nmol/L), the prevalence was 40.4%. Dark-skinned ethnic subgroups had much higher (3- to 71-fold) prevalence of serum 25(OH)D <30 nmol/L than did white populations. Conclusions: Vitamin D deficiency is evident throughout the European population at prevalence rates that are concerning and that require action from a public health perspective. What direction these strategies take will depend on European policy but should aim to ensure vitamin D intakes that are protective against vitamin D deficiency in the majority of the European population.

Cassidy, A., M. Franz, et al. (2016). **"Dietary flavonoid intake and incidence of erectile dysfunction."** *The American Journal of Clinical Nutrition* 103(2): 534-541. <http://ajcn.nutrition.org/content/103/2/534.abstract>

Background: The predominant etiology for erectile dysfunction (ED) is vascular, but limited data are available on the role of diet. A higher intake of several flavonoids reduces diabetes and cardiovascular disease risk, but no studies have examined associations between flavonoids and erectile function. Objective: This study examined the relation between habitual flavonoid subclass intakes and incidence of ED. Design: We conducted a prospective study among 25,096 men from the Health Professionals Follow-Up Study. Total flavonoid and subclass intakes were calculated from food-frequency questionnaires collected every 4 y. Participants rated their erectile function in 2000 (with historical reporting from 1986) and again in 2004 and 2008. Results: During 10 y of follow-up, 35.6% reported incident ED. After multivariate adjustment, including classic cardiovascular disease risk factors, several subclasses were associated with reduced ED incidence, specifically flavones (RR = 0.91; 95% CI: 0.85, 0.97; P-trend = 0.006), flavanones (RR = 0.89; 95% CI: 0.83, 0.95; P-trend = 0.0009), and anthocyanins (RR = 0.91; 95% CI: 0.85, 0.98; P-trend = 0.002) comparing extreme intakes. The results remained statistically significant after additional adjustment for a composite dietary intake score. In analyses stratified by age, a higher intake of flavanones, anthocyanins, and flavones was significantly associated with a reduction in risk of ED only in men <70 y old and not older men (11–16% reduction in risk; P-interaction = 0.002, 0.03, and 0.007 for flavones, flavanones, and anthocyanins, respectively). In food-based analysis, higher total intake of fruit, a major source of anthocyanins and flavanones, was associated with a 14% reduction in risk of ED (RR = 0.86; 95% CI: 0.79, 0.92; P = 0.002). Conclusions: These data suggest that a higher habitual intake of specific flavonoid-rich foods is associated with reduced ED incidence. Intervention trials are needed to further examine the impact of increasing intakes of commonly consumed flavonoid-rich foods on men's health.

da Costa, B. R., S. Reichenbach, et al. (2016). **"Effectiveness of non-steroidal anti-inflammatory drugs for the treatment of pain in knee and hip osteoarthritis: A network meta-analysis."** *The Lancet*. [http://dx.doi.org/10.1016/S0140-6736\(16\)30002-2](http://dx.doi.org/10.1016/S0140-6736(16)30002-2)

Background Non-steroidal anti-inflammatory drugs (NSAIDs) are the backbone of osteoarthritis pain management. We aimed to assess the effectiveness of different preparations and doses of NSAIDs on osteoarthritis pain in a network meta-analysis. Methods For this network meta-analysis, we considered randomised trials comparing any of the following interventions: NSAIDs, paracetamol, or placebo, for the treatment of osteoarthritis pain. We searched the Cochrane Central Register of Controlled Trials (CENTRAL) and the reference lists of relevant articles for trials published between Jan 1, 1980, and Feb 24, 2015, with at least 100 patients per group. The prespecified primary and secondary outcomes were pain and physical function, and were extracted in duplicate for up to seven timepoints after the start of treatment. We used an extension of multivariable Bayesian random effects models for mixed multiple treatment comparisons with a random effect at the level of trials. For the primary analysis, a random walk of first order was used to account for multiple follow-up outcome data within a trial. Preparations that used different total daily dose were considered separately in the analysis. To assess a potential dose-response relation, we used preparation-specific covariates assuming linearity on log relative dose. Findings We identified 8973 manuscripts from our search, of which 74 randomised trials with a total of 58 556 patients were included in this analysis. 23 nodes concerning seven different NSAIDs or paracetamol with specific daily dose of administration or placebo were considered. All preparations, irrespective of dose, improved point estimates of pain symptoms when compared with placebo. For six interventions (diclofenac 150 mg/day, etoricoxib 30 mg/day, 60 mg/day, and 90 mg/day, and rofecoxib 25 mg/day and 50 mg/day), the probability that the difference to placebo is at or below a prespecified minimum clinically important effect for pain reduction (effect size [ES] -0.37) was at least 95%. Among maximally approved daily doses, diclofenac 150 mg/day (ES -0.57, 95% credibility interval [CrI] -0.69 to -0.46) and etoricoxib 60 mg/day (ES -0.58, -0.73 to -0.43) had the highest probability to be the best intervention, both with 100% probability to reach the minimum clinically important difference. Treatment effects increased as drug dose increased, but corresponding tests for a linear dose effect were significant only for celecoxib (p=0.030), diclofenac (p=0.031), and naproxen (p=0.026). We found no evidence that treatment effects varied over the duration of treatment. Model fit was good, and between-trial heterogeneity and inconsistency were low in all analyses. All trials were deemed to have a low risk of bias for blinding of patients. Effect estimates did not change in sensitivity analyses with two additional statistical models and accounting for methodological quality criteria in meta-regression analysis. Interpretation On the basis of the available data, we see no role for single-agent paracetamol for the treatment of patients with osteoarthritis irrespective of dose. We provide sound evidence that diclofenac 150 mg/day is the most effective NSAID available at present, in terms of improving both pain and function. Nevertheless, in view of the safety profile of these drugs, physicians need to consider our results together with all known safety information when selecting the preparation and dose for individual patients. [See too excellent commentary at <http://www.nhs.uk/news/2016/03March/Pages/Paracetamol-useless-in-treating-osteoarthritis-pain.aspx>].

Del Giudice, M. (2016). **"Sex differences in romantic attachment: A facet-level analysis."** *Personality and Individual Differences* 88: 125-128. <http://www.sciencedirect.com/science/article/pii/S0191886915005772>

(Available in free full text) Evolutionary models predict systematic sex differences in romantic avoidance and anxiety; however, observed effect sizes are typically small. Here I explore the possibility that larger and more reliable differences may emerge at the level of narrower attachment facets. In two datasets from the US and Italy, five facets could be identified in the Experiences in Close Relationships questionnaire. As predicted, attachment facets showed larger sex differences (US: $d = -.14$ to $.31$, Italy: $d = -.53$ to $.39$) than avoidance and anxiety (US: $d = .00$ and $-.03$, Italy: $d = .18$ and $-.40$); moreover, different facets of the same dimension showed opposite-sign effects. These findings suggest that sex differences in attachment can be fruitfully investigated at the level of facets.

DeSalvo, K. B., R. Olson, et al. (2016). **"Dietary guidelines for americans."** *JAMA* 315(5): 457-458. <http://dx.doi.org/10.1001/jama.2015.18396>

(Free full text available) The US Departments of Health and Human Services (DHHS) and Agriculture (USDA) have released the eighth edition (2015–2020) of the Dietary Guidelines for Americans. The Dietary Guidelines are an important part of

a complex and multifaceted solution to promoting health and preventing diet-related chronic diseases including cardiovascular disease, type 2 diabetes, some cancers, and obesity. The Dietary Guidelines are required under the National Nutrition Monitoring and Related Research Act of 1990 and inform the development of federal food, nutrition, and health policies and programs. They serve as the evidence-based foundation for federal government nutrition education materials and are used to inform programs like Older Americans Act Nutrition Services Programs and the Supplemental Nutrition Assistance Program (SNAP) that affect millions of people each day. The Dietary Guidelines can also be adapted by health care professionals to describe and recommend healthy eating to patients. Recent studies have shown that diets that align closely with the Dietary Guidelines are associated with a significant reduction in the onset of and deaths due to diet-related chronic diseases.

Endrighi, R., A. Steptoe, et al. (2016). **"The effect of experimentally induced sedentariness on mood and psychobiological responses to mental stress."** *The British Journal of Psychiatry* 208(3): 245-251. <http://bjp.rcpsych.org/content/bjprcpsych/208/3/245.full.pdf>

(Free full text available) Background Evidence suggests a link between sedentary behaviours and depressive symptoms. Mechanisms underlying this relationship are not understood, but inflammatory processes may be involved. Autonomic and inflammatory responses to stress may be heightened in sedentary individuals contributing to risk, but no study has experimentally investigated this. Aims To examine the effect of sedentary time on mood and stress responses using an experimental design. Method Forty-three individuals were assigned to a free-living sedentary condition and to a control condition (usual activity) in a cross-over, randomised fashion and were tested in a psychophysiology laboratory after spending 2 weeks in each condition. Participants completed mood questionnaires (General Health Questionnaire and Profile of Mood States) and wore a motion sensor for 4 weeks. Results Sedentary time increased by an average of 32 min/day ($P = 0.01$) during the experimental condition compared with control. Being sedentary resulted in increases in negative mood independent of changes in moderate to vigorous physical activity ($\Delta\text{GHQ} = 6.23$, $\Delta\text{POMS} = 2.80$). Mood disturbances were associated with greater stress-induced inflammatory interleukin-6 (IL-6) responses ($\beta = 0.37$). Conclusions Two weeks of exposure to greater free-living sedentary time resulted in mood disturbances independent of reduction in physical activity. Stress-induced IL-6 responses were associated with changes in mood.

Fales, M. R., D. A. Frederick, et al. (2016). **"Mating markets and bargaining hands: Mate preferences for attractiveness and resources in two national u.S. Studies."** *Personality and Individual Differences* 88: 78-87. <http://www.sciencedirect.com/science/article/pii/S0191886915005462>

(Available in free full text) According to a "mating market" approach, people with desirable traits have a stronger "bargaining hand" and can be more selective when choosing partners. We examined how heterosexual mate preferences varied by gender, age, personal income, education, and appearance satisfaction (Study 1 $N = 22,815$; Study 2 $N = 4790$). Men and women differed in the percentage indicating it was "desirable" or "essential" that their potential partner was good-looking (92% vs. 84%; $d = .39$), had a slender body (80% vs. 58%; $d = .53$), had a steady income (74% vs. 97%; $d = 1.17$), and made/will make a lot of money (47% vs. 69%; $d = -.49$). There were also gender differences in whether it was "very important" or "a must have" their partner made at least as much money as they do (24% vs. 46%; $d = .60$) and had a successful career (33% vs. 61%; $d = .57$), but not in whether their partner was physically attractive to them (40% vs. 42%; $d = .03$). Wealthier men and people with better appearance satisfaction had stronger preferences for good looking and slender partners. Preferences varied within and between genders, and were linked to bargaining hand in the mating market.

Fink, B., B. Weege, et al. (2016). **"Handgrip strength and the big five personality factors in men and women."** *Personality and Individual Differences* 88: 175-177. <http://www.sciencedirect.com/science/article/pii/S0191886915005863>

(Available in free full text) Physical strength correlates with facial and body morphology, body movement, and sexual behavior, especially in men. Thus, physical strength may signal male quality in the context of intersexual and intrasexual selection. We investigated relationships of handgrip strength (a measure of upper body muscularity) and personality (as assessed via the "Big Five" factors) in a sample of British men ($n = 75$) and women ($n = 86$), aged 18 to 42 years. Handgrip strength correlated negatively with neuroticism and positively with extraversion in men, and negatively with agreeableness in women. The relationship of handgrip strength and neuroticism in men remained after controlling for the influence of age and body mass index. We conclude that handgrip strength provides information about male neuroticism. We discuss our findings with reference to recent reports on male quality correlates of strength.

Gagliardi, A., B. Andriolo, et al. (2016). **"Vaccines for preventing herpes zoster in older adults."** *Cochrane Database of Systematic Reviews* 3. <http://onlinelibrary.wiley.com/doi/10.1002/14651858>

Background: Herpes zoster, also known as 'shingles', is a neurocutaneous disease characterised by the reactivation of the latent varicella zoster virus (VZV), the virus that causes chickenpox when immunity to VZV declines. It is an extremely painful condition that can last many weeks or months and it can significantly compromise the quality of life of affected individuals. The natural process of aging is associated with a reduction in cellular immunity and this predisposes older people to herpes zoster. Vaccination with an attenuated form of VZV activates specific T cell production avoiding viral reactivation. The Food and Drug Administration has approved a herpes zoster vaccine with an attenuated active virus for clinical use among older adults, which has been tested in large populations. A new adjuvanted recombinant VZV subunit zoster vaccine has also been tested. It consists of recombinant VZV glycoprotein E and a liposome-based AS01B adjuvant system. This new vaccine is not yet available for clinical use. Objectives: To evaluate the effectiveness and safety of vaccination for preventing herpes zoster in older adults. Search methods: For this 2015 update, we searched the Cochrane Central Register of Controlled Trials (CENTRAL 2015, Issue 9), MEDLINE (1948 to the 3rd week of October 2015), EMBASE (2010 to October 2015), CINAHL (1981 to October 2015) and LILACS (1982 to October 2015). Selection criteria: Randomised controlled trials (RCTs) or quasi-RCTs comparing zoster vaccine with placebo or no vaccine, to prevent herpes zoster in older adults (mean age > 60 years). Data collection and analysis: Two review authors independently collected and analysed data using a data extraction form. They also performed 'Risk of bias' assessment. Main results: We identified 13 studies involving 69,916 participants. The largest study included 38,546 participants. All studies were conducted in high-income countries and included only healthy Caucasian individuals ≥ 60 years of age without immunosuppressive comorbidities. Ten studies used live attenuated varicella zoster virus (VZV) vaccines. Three studies tested a new type of vaccine not yet available for clinical use. We judged five of the included studies to be at low risk of bias. The incidence of herpes zoster, at up to three years of follow-up, was lower in participants who received the vaccine than in those who received a placebo: risk ratio (RR) 0.49; 95% confidence interval (CI) 0.43 to 0.56, risk difference (RD) 2%, number needed to treat to benefit (NNTB) 50; GRADE: moderate quality evidence. The vaccinated group had a higher incidence of mild to moderate intensity adverse events. These data came from one large study that included 38,546 people aged 60 years or older. A study including 8122 participants compared the new vaccine (not yet available) to the placebo; the group that received the new vaccine had a lower incidence of herpes zoster at 3.2 years of follow-up: RR 0.04, 95% CI 0.02 to 0.10, RD 3%, NNTB 33; GRADE: moderate quality evidence. The vaccinated group had a higher incidence of adverse events but most were of mild to moderate intensity. All studies received funding from the pharmaceutical industry. Authors' conclusions: Herpes zoster

vaccine is effective in preventing herpes zoster disease and this protection can last three years. In general, zoster vaccine is well tolerated; it produces few systemic adverse events and injection site adverse events of mild to moderate intensity. There are studies of a new vaccine (with a VZV glycoprotein fraction plus adjuvant), which is currently not yet available for clinical use.

Gardener, H., C. B. Wright, et al. (2016). **"Ideal cardiovascular health and cognitive aging in the northern manhattan study."** *Journal of the American Heart Association* 5(3). <http://jaha.ahajournals.org/content/5/3/e002731.abstract>

(Available in free full text) Background The American Heart Association defined target levels for 7 cardiovascular health (CVH) factors: smoking, body mass index, physical activity, diet, blood pressure, cholesterol, and glucose. We hypothesized that a greater number of American Heart Association ideal CVH metrics would be associated with less decline in cognitive performance in our multiethnic population. Methods and Results A subsample from the population-based Northern Manhattan Study underwent repeated neuropsychological testing (mean interval 6±2 years). Domain-specific Z scores were derived by using factor analysis for the domains of Episodic Memory, Semantic Memory, Executive Function, and Processing Speed, based on initial performance and decline over time. Linear regression models were constructed to examine the relationship between the number of ideal CVH metrics at enrollment with later cognitive performance and decline, adjusting for sociodemographics and magnetic resonance imaging brain markers. Among 1033 participants (mean age at initial cognitive assessment 72±8 years, 39% male, 19% black, 16% white, 65% Hispanic; n=722 with repeat testing), 3% had 0 ideal factors, 15% had 1 factor, 33% had 2 factors, 30% had 3 factors, 14% had 4 factors, 4% had 5 factors, 1% had 6 factors, and 0% had 7 factors. An increasing number of ideal CVH factors was associated with better processing speed at initial assessment and less decline. The association was driven by nonsmoking and glucose. Among those with better cognitive performance at initial assessment, positive associations were observed between the number of ideal CVH factors and less decline in the domains of Executive Function and Episodic Memory. Conclusions The number of ideal CVH metrics was associated with less decline in the domains of Processing Speed and, to a lesser extent, of Executive Function and Episodic Memory. Ideal CVH promotion benefits brain health and cognitive aging.

Gillen, J. B., B. J. Martin, et al. (2016). **"Twelve weeks of sprint interval training improves indices of cardiometabolic health similar to traditional endurance training despite a five-fold lower exercise volume and time commitment."** *PLoS ONE* 11(4): e0154075. <http://dx.doi.org/10.1371/journal.pone.0154075>

(Available in free full text) Aims We investigated whether sprint interval training (SIT) was a time-efficient exercise strategy to improve insulin sensitivity and other indices of cardiometabolic health to the same extent as traditional moderate-intensity continuous training (MICT). SIT involved 1 minute of intense exercise within a 10-minute time commitment, whereas MICT involved 50 minutes of continuous exercise per session. Methods Sedentary men (27±8y; BMI = 26±6kg/m²) performed three weekly sessions of SIT (n = 9) or MICT (n = 10) for 12 weeks or served as non-training controls (n = 6). SIT involved 3x20-second 'all-out' cycle sprints (~500W) interspersed with 2 minutes of cycling at 50W, whereas MICT involved 45 minutes of continuous cycling at ~70% maximal heart rate (~110W). Both protocols involved a 2-minute warm-up and 3-minute cool-down at 50W. Results Peak oxygen uptake increased after training by 19% in both groups (SIT: 32±7 to 38±8; MICT: 34±6 to 40±8ml/kg/min; p<0.001 for both). Insulin sensitivity index (CSI), determined by intravenous glucose tolerance tests performed before and 72 hours after training, increased similarly after SIT (4.9±2.5 to 7.5±4.7, p = 0.002) and MICT (5.0±3.3 to 6.7±5.0 x 10⁻⁴ min⁻¹ [μU/mL]⁻¹, p = 0.013) (p<0.05). Skeletal muscle mitochondrial content also increased similarly after SIT and MICT, as primarily reflected by the maximal activity of citrate synthase (CS; P<0.001). The corresponding changes in the control group were small for VO₂peak (p = 0.99), CSI (p = 0.63) and CS (p = 0.97). Conclusions Twelve weeks of brief intense interval exercise improved indices of cardiometabolic health to the same extent as traditional endurance training in sedentary men, despite a five-fold lower exercise volume and time commitment.

Girme, Y. U., N. C. Overall, et al. (2016). **"Happily single: The link between relationship status and well-being depends on avoidance and approach social goals."** *Social Psychological and Personality Science* 7(2): 122-130. <http://spp.sagepub.com/content/7/2/122.abstract>

Although prior research suggests that single people experience lower well-being than those involved in romantic relationships, the effect of relationship status is small. Moreover, relationships can be a source of hurt and conflict, which single people can avoid. The current research examined for whom being involved in a relationship versus being single enhances versus undermines well-being by testing whether social goals moderated the link between relationship status and (1) daily life satisfaction (Study 1, N = 187, undergraduate sample) and (2) life satisfaction/well-being across time (Study 2, N = 4,024, nationally representative sample). In both studies, single people high in avoidance goals who strive to prevent relationship conflict and disagreements were just as happy as people involved in a relationship. In addition, individuals high in approach goals who strive to enhance relationship closeness experienced greater life satisfaction/well-being but particularly when they were involved in a relationship (Study 2).

Gordon, A. M. and S. Chen (2016). **"Do you get where i'm coming from?: Perceived understanding buffers against the negative impact of conflict on relationship satisfaction."** *Journal of Personality and Social Psychology* 110(2): 239-260. <http://psycnet.apa.org/journals/psp/110/2/239/>

Conflict can have damaging effects on relationship health. But is all conflict detrimental? Across 7 studies, we tested the overarching hypothesis that conflict in close relationships is only detrimental when people do not feel their thoughts, feelings, and point of view are understood by their relationship partners. Supporting this, conflict was negatively associated with relationship satisfaction among participants who perceived their romantic partner as less understanding, but not among those who felt more understood by their partners. This was true cross-sectionally (Study 1), experimentally (Studies 2, 3, 6a, and 6b), in daily life (Study 4), and for both members of couples pre- to postconflict conversation in the laboratory (Study 5). The buffering effects of feeling understood could not be explained by people who felt more understood being more understanding themselves, having more general positive perceptions of their partners, fighting about less important or different types of issues, engaging in more pleasant conflict conversations, or being more satisfied with their relationships before the conflict. Perceived understanding was positively associated with conflict resolution, but this did not explain the benefits of feeling understood. Evidence from Studies 6a and 6b suggests that feeling understood during conflict may buffer against reduced relationship satisfaction in part because it strengthens the relationship and signals that one's partner is invested. Overall, these studies suggest that perceived understanding may be a critical buffer against the potentially detrimental effects of relationship conflict.

Helnæs, A., C. Kyrø, et al. (2016). **"Intake of whole grains is associated with lower risk of myocardial infarction: The danish diet, cancer and health cohort."** *The American Journal of Clinical Nutrition* 103(4): 999-1007. <http://ajcn.nutrition.org/content/103/4/999.abstract>

Background: High intake of whole grains has been associated with lower risk of coronary heart disease; however, the research that has been used to evaluate different effects of different whole-grain cereals (e.g., wheat, rye, and oats) has been

sparse. Objective: We investigated the association between whole-grain intake in terms of total intake and intakes of different cereals and myocardial infarction. Design: This prospective study included 54,871 Danish adults aged 50–64 y, of whom 2329 individuals developed myocardial infarction (13.6 y of follow-up). Detailed information on daily intake of whole-grain products was available from a self-administered food-frequency questionnaire, and intakes of total whole grain and whole-grain species (wheat, rye, and oats) were estimated. The association between intake of whole grains and risk of myocardial infarction was examined with the use of a Cox proportional hazards model adjusted for potential confounders. Results: For both men and women with total whole-grain intake in the highest quartile, lower risks of myocardial infarction were shown [HRs: 0.75 (95% CI: 0.65, 0.86) and 0.73 (95% CI: 0.58, 0.91), respectively] than for individuals with intake in the lowest quartile. When the specific cereal species were considered, rye and oats, but not wheat, were associated with lower myocardial infarction risk in men. No significant associations were seen in women. For total whole-grain products, significantly lower myocardial infarction risks were seen with higher intakes in both men and women. Rye bread (in men and women) and oatmeal (in men) were associated with significantly lower risk of myocardial infarction, whereas no significant association was shown for whole-grain bread, crispbread, and wheat. Conclusion: In this study, we provide support for the hypothesis that whole-grain intake is related to lower risk of myocardial infarction and suggest that the cereals rye and oats might especially hold a beneficial effect.

Hess, U., S. David, et al. (2016). **"Emotional restraint is good for men only: The influence of emotional restraint on perceptions of competence."** *Emotion* 16(2): 208-213. <http://www.ncbi.nlm.nih.gov/pubmed/26461250>

The present research investigated the notion that passionate restraint or "manly emotion" is a relevant emotion norm not only for men but also for women in modern Western society (MacArthur & Shields, 2015). For this, 2 studies were conducted to assess whether restraint in emotional reactivity is perceived as a sign of both emotional and general competence. Restraint was induced by delaying the onset of the emotional reaction to a purported emotion elicitor. The results show that men were indeed rated as both more emotionally competent and more intelligent in general when they showed restraint, confirming the notion that such restraint fits a positively valued Western ideal of emotional reactivity. For women, however, the opposite pattern emerged in that they were perceived as more emotionally competent and intelligent when they reacted immediately than when restraint was induced. Thus, manly emotions were good for men only.

Hickey, M. and E. Banks (2016). **"Nice guidelines on the menopause."** *BMJ* 352. <http://www.bmj.com/content/bmj/352/bmj.i191.full.pdf>

The first National Institute for Health and Clinical Excellence guidelines on menopause appropriately highlight how symptoms may impair quality of life and function and persist for many years for some women. The guidelines promote individualised care and emphasise the need for adequate clinical services and further research. While the NICE guidelines emphasise the clear evidence that menopausal hormone therapy (MHT, often referred to as hormone replacement therapy) provides highly effective relief of symptoms, there is less focus on other useful options. Recent high quality evidence shows that selected antidepressants are equivalent to very low dose oestrogen for vasomotor symptoms and sleep, and gabapentin has a similar efficacy. For women who want to self manage, techniques such as yoga and cognitive behavioural therapy may reduce symptoms and also improve quality of life and mood. Women should not be "suffering in silence" but should be informed about alternatives to MHT, even if these are not as effective, and the risks and benefits of MHT so that they can make an informed choice. [For the NICE guidance itself, see <https://www.nice.org.uk/guidance/ng23>].

Hodgson, J. M., R. L. Prince, et al. (2016). **"Apple intake is inversely associated with all-cause and disease-specific mortality in elderly women."** *British Journal of Nutrition* 115(05): 860-867. <http://dx.doi.org/10.1017/S0007114515005231>

Higher fruit intake is associated with lower risk of all-cause and disease-specific mortality. However, data on individual fruits are limited, and the generalisability of these findings to the elderly remains uncertain. The objective of this study was to examine the association of apple intake with all-cause and disease-specific mortality over 15 years in a cohort of women aged over 70 years. Secondary analyses explored relationships of other fruits with mortality outcomes. Usual fruit intake was assessed in 1456 women using a FFQ. Incidence of all-cause and disease-specific mortality over 15 years was determined through the Western Australian Hospital Morbidity Data system. Cox regression was used to determine the hazard ratios (HR) for mortality. During 15 years of follow-up, 607 (41.7 %) women died from any cause. In the multivariable-adjusted analysis, the HR for all-cause mortality was 0.89 (95 % CI 0.81, 0.97) per sd (53 g/d) increase in apple intake, HR 0.80 (95 % CI 0.65, 0.98) for consumption of 5–100 g/d and HR 0.65 (95 % CI 0.48, 0.89) for consumption of >100 g/d (an apple a day), compared with apple intake of <5 g/d (P for trend=0.03). Our analysis also found that higher apple intake was associated with lower risk for cancer mortality, and that higher total fruit and banana intakes were associated lower risk of CVD mortality (P<0.05). Our results support the view that regular apple consumption may contribute to lower risk of mortality.

Jin, X., G. Jones, et al. (2016). **"Effect of vitamin D supplementation on tibial cartilage volume and knee pain among patients with symptomatic knee osteoarthritis: A randomized clinical trial."** *JAMA* 315(10): 1005-1013. <http://dx.doi.org/10.1001/jama.2016.1961>

Importance Observational studies suggest that vitamin D supplementation is associated with benefits for knee osteoarthritis, but current trial evidence is contradictory. Objective To compare the effects of vitamin D supplementation vs placebo on knee pain and knee cartilage volume in patients with symptomatic knee osteoarthritis and low vitamin D levels. Design, Setting, and Participants A multicenter randomized, double-blind, placebo-controlled clinical trial in Tasmania and Victoria, Australia. Participants with symptomatic knee osteoarthritis and low 25-hydroxyvitamin D (12.5-60 nmol/L) were enrolled from June 2010 to December 2011. The trial was completed in December 2013. Interventions Participants were randomly assigned to receive monthly treatment with oral vitamin D3 (50 000 IU; n = 209) or an identical placebo (n = 204) for 2 years. Main Outcomes and Measures Primary outcomes were change in tibial cartilage volume (assessed using magnetic resonance imaging [MRI]) and change in the Western Ontario and McMaster Universities Arthritis Index (WOMAC) pain score (0 [no pain] to 500 [worst pain]) from baseline to month 24. Secondary outcomes were cartilage defects and bone marrow lesions (assessed using MRI). Results Of 413 enrolled participants (mean age, 63.2 years; 50% women), 340 (82.3%) completed the study. The level of 25-hydroxyvitamin D increased more in the vitamin D group (40.6 nmol/L) than in the placebo group (6.7 nmol/L) (P < .001) over 2 years. There were no significant differences in annual change of tibial cartilage volume (–3.4% in the vitamin D group vs –4.2% in the placebo group [between-group difference, 0.8% {95% CI, –0.2% to 1.8%}]; P = .13) or WOMAC pain score (–49.9 in the vitamin D group vs –35.1 in the placebo group [between-group difference, –14.8 {95% CI, –32.5 to 2.9}]; P = .10). There were no significant differences in change of tibiofemoral cartilage defects (0.3 in the vitamin D group vs 0.5 in the placebo group [between-group difference, –0.2 {95% CI, –0.4 to 0.1}]; P = .21) or change in tibiofemoral bone marrow lesions (–0.1 in the vitamin D group vs 0.3 in the placebo group [between-group difference, –0.5 {95% CI, –0.9 to 0.0}]; P = .06). Adverse events (≥1 per patient) occurred in 56 participants in the vitamin D group and in 37 participants in the placebo group (P = .04). Conclusions and Relevance Among patients with symptomatic knee osteoarthritis and low serum 25-hydroxyvitamin D levels, vitamin D supplementation, compared with placebo, did not result in significant differences in

change in MRI-measured tibial cartilage volume or WOMAC knee pain score over 2 years. These findings do not support the use of vitamin D supplementation for preventing tibial cartilage loss or improving WOMAC knee pain in patients with knee osteoarthritis. Trial Registration [clinicaltrials.gov Identifier: NCT01176344](https://clinicaltrials.gov/ct2/show/study/NCT01176344); anzctr.org.au Identifier: ACTRN12610000495022

Jonason, P. K., A. Icho, et al. (2016). **"Resources, harshness, and unpredictability: The socioeconomic conditions associated with the dark triad traits."** *Evolutionary Psychology* 14(1).

<http://evp.sagepub.com/content/14/1/1474704915623699.abstract>

(Available in free full text) We sought to test the hypothesis that the Dark Triad traits are condition-dependent responses to a particular set of socioecological conditions in childhood. In three cross-sectional studies (N = 1,403), we examined how the Dark Triad traits were correlated with measures of resource availability, harshness, and unpredictability in one's childhood and adulthood. The Dark Triad traits were correlated with self-reports of an unpredictable childhood when using both the Short Dark Triad and the Dirty Dozen measures. These effects were somewhat stronger in men than in women and were replicable across samples. We also replicated sex differences in the Dark Triad traits but found none for our measures of socioecological conditions. Results are discussed in terms of the recurrent unpredictability in evolutionary history necessitating the sensitivity and responsiveness to such features to enable survival and reproduction. We contend that the Dark Triad traits might be condition-sensitive adaptations to socioecological unpredictability that all people could have if properly motivated.

Kingsbury, M., G. Dupuis, et al. (2016). **"Associations between fruit and vegetable consumption and depressive symptoms: Evidence from a national canadian longitudinal survey."** *J Epidemiol Community Health* 70(2): 155-161.

<http://www.ncbi.nlm.nih.gov/pubmed/26311898>

BACKGROUND: Several cross-sectional studies have demonstrated associations between diet quality, including fruit and vegetable consumption, and mental health. However, research examining these associations longitudinally, while accounting for related lifestyle factors (eg, smoking, physical activity) is scarce. METHODS: This study used data from the National Population Health Survey (NPHS), a large, national longitudinal survey of Canadians. The sample included 8353 participants aged 18 and older. Every 2 years from 2002/2003 to 2010/2011, participants completed self-reports of daily fruit and vegetable consumption, physical activity, smoking and symptoms of depression and psychological distress. Using generalised estimating equations, we modelled the associations between fruit and vegetable consumption at each timepoint and depression at the next timepoint, adjusting for relevant covariates. RESULTS: Fruit and vegetable consumption at each cycle was inversely associated with next-cycle depression (beta=-0.03, 95% CI -0.05 to -0.01, p<0.01) and psychological distress (beta=-0.03, 95% CI -0.05 to -0.02, p<0.0001). However, once models were adjusted for other health-related factors, these associations were attenuated (beta=-0.01, 95% CI -0.04 to 0.02, p=0.55; beta=-0.00, 95% CI -0.03 to 0.02, p=0.78 for models predicting depression and distress, respectively). CONCLUSIONS: These findings suggest that relations between fruit and vegetable intake, other health-related behaviours and depression are complex. Behaviours such as smoking and physical activity may have a more important impact on depression than fruit and vegetable intake. Randomised control trials of diet are necessary to disentangle the effects of multiple health behaviours on mental health.

Lammers, J. and R. Imhoff (2016). **"Power and sadomasochism: Understanding the antecedents of a knotty relationship."** *Social Psychological and Personality Science* 7(2): 142-148. <http://spp.sagepub.com/content/7/2/142.abstract>

A large sample of 14,306 men and women was used to examine the relationship between social power and sexual arousal to consensual sadomasochism. Results showed that power increases the arousal to sadomasochism, after controlling for age and dominance. Furthermore, the effect of power on arousal by sadistic thoughts is stronger among women than among men, while the effect of power on arousal by masochistic thoughts is stronger among men than women. These findings refute common beliefs, reinforced through novels such as *Fifty Shades of Grey*, that the desire for sadomasochism reflects a desire to play out power dynamics in the bedroom. Instead, the effect of power is driven through a process of disinhibition that leads people to disregard sexual norms in general and disregard sexual norms associated with their gender in particular. These results add to an emerging literature that social power changes traditional gender patterns in sex.

Lin, W.-F., Y.-C. Lin, et al. (2016). **"We can make it better: "We" moderates the relationship between a compromising style in interpersonal conflict and well-being."** *Journal of Happiness Studies* 17(1): 41-57.

<http://dx.doi.org/10.1007/s10902-014-9582-8>

Compromising is considered a useful strategy for solving interpersonal conflicts. However, compromising, which includes accommodating and sacrificing, may also lead to anxiety and depression. Therefore, the current study focused on a moderating mechanism between compromising and psychological health. Based on self-expansion theory, we hypothesized that the more individuals have a relational focus (i.e., a greater use of "we") while narrating their compromising experiences, the better psychological health they will experience. Two hundred sixty-one participants from National Taiwan University (mean age = 20.40, 53.26 % male, 46.74 % female), wrote about an experience of conflict with their parents and completed a package of questionnaires to measure their conflict management style and psychological health. The frequency of the "we" pronoun was considered an index of relational focus. As predicted, the results from a hierarchical multiple regression demonstrated that "we" moderated the effect of compromising style on well-being. Specifically, the relationship between compromising and psychological well-being were strengthened for individuals who had more relational focus. Thus, although a compromising style helps solve interpersonal conflicts, it does not necessarily increase individuals' well-being. How individuals anchor their experiences are more important.

Luecken, L. J., M. J. Hagan, et al. (2016). **"A longitudinal study of the effects of child-reported maternal warmth on cortisol stress response 15 years after parental divorce."** *Psychosomatic Medicine* 78(2): 163-170.

http://journals.lww.com/psychosomaticmedicine/Fulltext/2016/02000/A_Longitudinal_Study_of_the_Effects_of.6.aspx

Objectives: The experience of parental divorce during childhood is associated with an increased risk of behavioral and physical health problems. Alterations in adrenocortical activity may be a mechanism in this relation. Parent-child relationships have been linked to cortisol regulation in children exposed to adversity, but prospective research is lacking. We examined maternal warmth in adolescence as a predictor of young adults' cortisol stress response 15 years after parental divorce. Methods: Participants included 240 youth from recently divorced families. Mother and child reports of maternal warmth were assessed at 6 time points across childhood, adolescence, and young adulthood. Offspring salivary cortisol was measured in young adulthood before and after a social stress task. Structural equation modeling was used to predict cortisol response from maternal warmth across early and late adolescence. Results: Higher child-reported maternal warmth in early adolescence predicted higher child-reported maternal warmth in late adolescence (standardized regression = 0.45, standard error = 0.065, p < .01), which predicted lower cortisol response to a challenging interpersonal task in young adulthood (standardized regression = -0.20, standard error = 0.094, p = .031). Neither mother-reported warmth in early adolescence nor late adolescence was significantly related to offspring cortisol response in young adulthood. Conclusions: Results suggest that for children from

divorced families, a warm mother-child relationship after divorce and across development, as perceived by the child, may promote efficient biological regulation later in life. Trial Registration: ClinicalTrials.gov Identifier: NCT01407120.

Lukaszewski, A. W., Z. L. Simmons, et al. (2016). **"The role of physical formidability in human social status allocation."** *Journal of Personality and Social Psychology* 110(3): 385-406 <http://psycnet.apa.org/journals/psp/110/3/385/>

Why are physically formidable men willingly allocated higher social status by others in cooperative groups? Ancestrally, physically formidable males would have been differentially equipped to generate benefits for groups by providing leadership services of within-group enforcement (e.g., implementing punishment of free riders) and between-group representation (e.g., negotiating with other coalitions). Therefore, we hypothesize that adaptations for social status allocation are designed to interpret men's physical formidability as a cue to these leadership abilities, and to allocate greater status to formidable men on this basis. These hypotheses were supported in 4 empirical studies wherein young adults rated standardized photos of subjects (targets) who were described as being part of a white-collar business consultancy. In Studies 1 and 2, male targets' physical strength positively predicted ratings of their projected status within the organization, and this effect was mediated by perceptions that stronger men possessed greater leadership abilities of within-group enforcement and between-group representation. Moreover, (a) these same patterns held whether status was conceptualized as overall ascendancy, prestige-based status, or dominance-based status, and (b) strong men who were perceived as aggressively self-interested were not allocated greater status. Finally, 2 experiments established the causality of physical formidability's effects on status-related perceptions by manipulating targets' relative strength (Study 3) and height (Study 4). In interpreting our findings, we argue that adaptations for formidability-based status allocation may have facilitated the evolution of group cooperation in humans and other primates.

Morris, M., J. Brockman, et al. (2016). **"Association of seafood consumption, brain mercury level, and apoe ϵ 4 status with brain neuropathology in older adults."** *JAMA* 315(5). <http://dx.doi.org/10.1001/jama.2015.19451>

Importance Seafood consumption is promoted for its many health benefits even though its contamination by mercury, a known neurotoxin, is a growing concern. **Objective** To determine whether seafood consumption is correlated with increased brain mercury levels and also whether seafood consumption or brain mercury levels are correlated with brain neuropathologies. **Design, Setting, and Participants** Cross-sectional analyses of deceased participants in the Memory and Aging Project clinical neuropathological cohort study, 2004-2013. Participants resided in Chicago retirement communities and subsidized housing. The study included 286 autopsied brains of 554 deceased participants (51.6%). The mean (SD) age at death was 89.9 (6.1) years, 67% (193) were women, and the mean (SD) educational attainment was 14.6 (2.7) years. **Exposures** Seafood intake was first measured by a food frequency questionnaire at a mean of 4.5 years before death. **Main Outcomes and Measures** Dementia-related pathologies assessed were Alzheimer disease, Lewy bodies, and the number of macroinfarcts and microinfarcts. Dietary consumption of seafood and n-3 fatty acids was annually assessed by a food frequency questionnaire in the years before death. Tissue concentrations of mercury and selenium were measured using instrumental neutron activation analyses. **Results** Among the 286 autopsied brains of 544 participants, brain mercury levels were positively correlated with the number of seafood meals consumed per week ($\rho = 0.16$; $P = .02$). In models adjusted for age, sex, education, and total energy intake, seafood consumption (≥ 1 meal[s]/week) was significantly correlated with less Alzheimer disease pathology including lower density of neuritic plaques ($\beta = -0.69$ score units [95% CI, -1.34 to -0.04]), less severe and widespread neurofibrillary tangles ($\beta = -0.77$ score units [95% CI, -1.52 to -0.02]), and lower neuropathologically defined Alzheimer disease ($\beta = -0.53$ score units [95% CI, -0.96 to -0.10]) but only among apolipoprotein E (APOE ϵ 4) carriers. Higher intake levels of α -linolenic acid (18:3 n-3) were correlated with lower odds of cerebral macroinfarctions (odds ratio for tertiles 3 vs 1, 0.51 [95% CI, 0.27 to 0.94]). Fish oil supplementation had no statistically significant correlation with any neuropathologic marker. Higher brain concentrations of mercury were not significantly correlated with increased levels of brain neuropathology. **Conclusions and Relevance** In cross-sectional analyses, moderate seafood consumption was correlated with lesser Alzheimer disease neuropathology. Although seafood consumption was also correlated with higher brain levels of mercury, these levels were not correlated with brain neuropathology.

Murray, J., A. Theakston, et al. (2016). **"Can the attention training technique turn one marshmallow into two? Improving children's ability to delay gratification."** *Behaviour Research and Therapy* 77: 34-39. <http://www.sciencedirect.com/science/article/pii/S0005796715300589>

The seminal Marshmallow Test (Mischel & Ebbesen, 1970) has reliably demonstrated that children who can delay gratification are more likely to be emotionally stable and successful later in life. However, this is not good news for those children who can't delay. Therefore, this study aimed to explore whether a metacognitive therapy technique, Attention Training (ATT: Wells, 1990) can improve young children's ability to delay gratification. One hundred children participated. Classes of 5-6 year olds were randomly allocated to either the ATT or a no-intervention condition and were tested pre and post-intervention on ability to delay gratification, verbal inhibition (executive control), and measures of mood. The ATT intervention significantly increased (2.64 times) delay of gratification compared to the no-intervention condition. After controlling for age and months in school, the ATT intervention and verbal inhibition task performance were significant independent predictors of delay of gratification. These results provide evidence that ATT can improve children's self-regulatory abilities with the implication that this might reduce psychological vulnerability later in life. The findings highlight the potential contribution that the Self-Regulatory Executive Function (S-REF) model could make to designing techniques to enhance children's self-regulatory processes.

O'Dowd, A. (2016). **"Mental healthcare is biggest nhs worry for the public."** *BMJ* 352: i16. <http://www.bmj.com/content/352/bmj.i16>

Access to and the quality of mental health services in England are the biggest concerns for the public, indicates research carried out by Healthwatch England. General practices could do more in this area by offering in-house counselling services and ensuring that practice staff were trained to recognise mental health problems early, it said. Healthwatch England, the national consumer champion in health and care, released findings of its annual survey of health and care priorities on 31 December. It gathered responses from all of its 152 local branches for the survey and found that more than half (77) of the branches said that local people had flagged mental health as one of their top issues for 2016. Branches gather information from the public through events, letters, phone calls, and local surveys. Various concerns had been raised by the public, including long waiting times after being referred for treatment, GPs "not understanding" their mental health needs, and a lack of community and crisis care. The public made several suggestions to improve the situation, including: * Enabling people to access mental health support themselves rather than having to go through a GP. * GP surgeries offering in-house counselling services. * Ensuring that general practice staff were better trained to recognise mental health problems and help people get support, and * Service commissioners working with the public to develop more efficient ways of delivering services.

O'Hare, C., V. O'Sullivan, et al. (2016). **"Seasonal and meteorological associations with depressive symptoms in older adults: A geo-epidemiological study."** *Journal of Affective Disorders* 191: 172-179.

<http://www.sciencedirect.com/science/article/pii/S0165032715305929>

Background Given increased social and physiological vulnerabilities, older adults may be particularly susceptible to environmental influences on mood. Whereas the impact of season on mood is well described for adults, studies rarely extend to elders or include objective weather data. We investigated the impact of seasonality and meteorological factors on risk of current depressive symptoms in older adults. **Methods** We used data on 8027 participants from the first wave of The Irish Longitudinal Study of Ageing, a population-representative cohort of adults aged 50+. Depressive symptoms were recorded using the Centre for Epidemiological Studies Depression Scale. Season was defined according to the World Meteorological Organisation. Data on climate over the preceding thirty years, and temperature and rain over the preceding month, were provided by the Irish Meteorological Service and linked using Geographic Information Systems techniques to participant's geo-coded locations at a resolution of one kilometre. **Results** The highest levels of depressive symptoms were reported in winter and the lowest in spring (mean 6.56 [CI95% 6.09, 7.04] vs. 5.81 [CI95%: 5.40, 6.22]). In fully adjusted linear regression models, participants living in areas with higher levels of rainfall in the preceding and/or current calendar month had greater depressive symptoms (0.04 SE 0.02; $p=0.039$ per 10 mm additional rainfall per month) while those living in areas with sunnier climates had fewer depressive symptoms (-2.67 SE 0.88; $p=0.003$ for every additional hour of average annual daily sunshine). **Limitations** This was a cross-sectional analysis thus causality cannot be inferred; monthly rain and temperature averages were available only on a calendar month basis while monthly local levels of sunshine data were not available. **Conclusions** Environmental cues may influence mood in older adults and thus have relevance for the recognition and treatment of depression in this age group.

Perkin, M. R., K. Logan, et al. (2016). **"Randomized trial of introduction of allergenic foods in breast-fed infants."** *New England Journal of Medicine*. <http://www.nejm.org/doi/full/10.1056/NEJMoa1514210>

(Available in free full text) **Background** The age at which allergenic foods should be introduced into the diet of breast-fed infants is uncertain. We evaluated whether the early introduction of allergenic foods in the diet of breast-fed infants would protect against the development of food allergy. **Methods** We recruited, from the general population, 1303 exclusively breast-fed infants who were 3 months of age and randomly assigned them to the early introduction of six allergenic foods (peanut, cooked egg, cow's milk, sesame, whitefish, and wheat; early-introduction group) or to the current practice recommended in the United Kingdom of exclusive breast-feeding to approximately 6 months of age (standard-introduction group). The primary outcome was food allergy to one or more of the six foods between 1 year and 3 years of age. **Results** In the intention-to-treat analysis, food allergy to one or more of the six intervention foods developed in 7.1% of the participants in the standard-introduction group (42 of 595 participants) and in 5.6% of those in the early-introduction group (32 of 567) ($P=0.32$). In the per-protocol analysis, the prevalence of any food allergy was significantly lower in the early-introduction group than in the standard-introduction group (2.4% vs. 7.3%, $P=0.01$), as was the prevalence of peanut allergy (0% vs. 2.5%, $P=0.003$) and egg allergy (1.4% vs. 5.5%, $P=0.009$); there were no significant effects with respect to milk, sesame, fish, or wheat. The consumption of 2 g per week of peanut or egg-white protein was associated with a significantly lower prevalence of these respective allergies than was less consumption. The early introduction of all six foods was not easily achieved but was safe. **Conclusions** The trial did not show the efficacy of early introduction of allergenic foods in an intention-to-treat analysis. Further analysis raised the question of whether the prevention of food allergy by means of early introduction of multiple allergenic foods was dose-dependent.

Piccirillo, J. F. (2016). **"Transcranial magnetic stimulation for chronic tinnitus."** *JAMA* 315(5): 506-507.

<http://dx.doi.org/10.1001/jama.2016.0075>

Tinnitus is the experience of noise without external stimulation and is thought to represent a phantom sensation. It is estimated that as many as 60 million individuals in the United States experience tinnitus. Tinnitus is related to loud noise exposure and other forms of acoustic trauma, hearing loss, and aging. Tinnitus and hearing loss are the 2 most common disabilities among recently discharged military personnel. A significant number of people with tinnitus experience the phantom noise but are not bothered enough to seek treatment. On the other hand, distressed patients experience myriad bothersome symptoms that may include disruptions in attention, concentration, perception, and emotions, each of which can significantly decrease functional status and quality of life. Recent neuroimaging research findings suggest that the maintenance of tinnitus and its effects on various important functions are related to the degree of dysfunction in one or more cortical neural networks ... This JAMA commentary discusses the encouraging results from a recent reported trial of transcranial magnetic stimulation for tinnitus.

Rimfeld, K., Y. Kovas, et al. (2016). **"True grit and genetics: Predicting academic achievement from personality."** *J Pers Soc Psychol*. <http://www.ncbi.nlm.nih.gov/pubmed/26867111>

Grit-perseverance and passion for long-term goals-has been shown to be a significant predictor of academic success, even after controlling for other personality factors. Here, for the first time, we use a U.K.-representative sample and a genetically sensitive design to unpack the etiology of Grit and its prediction of academic achievement in comparison to well-established personality traits. For 4,642 16-year-olds (2,321 twin pairs), we used the Grit-S scale (perseverance of effort and consistency of interest), along with the Big Five personality traits, to predict grades on the General Certificate of Secondary Education (GCSE) exams, which are administered U.K.-wide at the end of compulsory education. Twin analyses of Grit perseverance yielded a heritability estimate of 37% (20% for consistency of interest) and no evidence for shared environmental influence. Personality, primarily conscientiousness, predicts about 6% of the variance in GCSE grades, but Grit adds little to this prediction. Moreover, multivariate twin analyses showed that roughly two-thirds of the GCSE prediction is mediated genetically. Grit perseverance of effort and Big Five conscientiousness are to a large extent the same trait both phenotypically ($r = 0.53$) and genetically (genetic correlation = 0.86). We conclude that the etiology of Grit is highly similar to other personality traits, not only in showing substantial genetic influence but also in showing no influence of shared environmental factors. Personality significantly predicts academic achievement, but Grit adds little phenotypically or genetically to the prediction of academic achievement beyond traditional personality factors, especially conscientiousness.

Robbins, N. K., K. G. Low, et al. (2016). **"A qualitative exploration of the "coming out" process for asexual individuals."** *Archives of Sexual Behavior* 45(3): 751-760. <http://dx.doi.org/10.1007/s10508-015-0561-x>

"Coming out" is an important process not only for identity formation in sexual minorities, but also for increasing access to romantic partners of similar identities (Vaughan & Waehler, 2010). It is unclear how asexuality and the variations within the asexual community are revealed and communicated in the coming out process. Some asexual individuals may find no practical value in coming out, as they do not seek romantic partnerships, while others pursue romantic relationships that are devoid of sexual activity. To date, virtually no psychological research has explored the "coming out" experience for those with an asexual identity. The current research analyzed the "coming out" narratives of 169 self-identified asexual individuals recruited from three online asexual communities using a phenomenological approach. Salient themes were extracted from narratives about the experience of developing an asexual identity. Themes included skepticism from family and friends, lack of acceptance and

misunderstanding, non-disclosure of the asexual identity, relief upon discovering the asexual community, and the role of the internet in asexual identity discovery and expression. A theoretical model of asexual identity development is proposed based on these findings. [It is estimated that approximately 1% of adults are asexual - see fuller discussion at the excellent BPS Research Digest <http://digest.bps.org.uk/2016/03/what-is-it-like-to-come-out-as-asexual.html>].

Rodríguez-Cano, R., A. López-Durán, et al. (2016). **"Smoking cessation and depressive symptoms at 1-, 3-, 6-, and 12-months follow-up."** *Journal of Affective Disorders* 191: 94-99. <http://www.sciencedirect.com/science/article/pii/S0165032715307461>

Background The relationship between tobacco and depressive symptoms has been examined. However, there is little information on the evolution of these symptoms when an individual quits. The aim of this study was to analyze the evolution of depressive symptoms over time (pre-, post-treatment, 1-, 3-, 6-, and 12-months follow-up) in relation to smoking status 12 months after having received a psychological treatment for smoking cessation. **Method** The sample was made up of 242 adults who received cognitive-behavioral treatment for smoking cessation (64.4% women; mean age=41.71 years). The BDI-II was used to assess depressive symptomatology. Participants were classified into three groups according to smoking status at 12-months follow-up (abstainers, relapsers, and smokers). **Results** There were no significant differences in depressive symptoms among the three groups at pretreatment. At the end of treatment, abstainers and relapsers presented less depressive symptomatology than smokers. At follow-up, abstainers continued to present less depressive symptomatology than smokers, whereas in relapsers, symptoms began to increase as the relapses occurred. Regarding the evolution of depressive symptomatology, the abstainer and relapser groups showed a significant reduction at the end of treatment. Only in the group of abstainers did the decrease continue during 12 months follow-up. **Limitations** The decrease of the initial sample size from 562 to 242 participants. Variables such as self-esteem and self-efficacy were not assessed. **Conclusions** Smoking cessation is associated with a decrease in depressive symptomatology, that is maintained over time. In contrast, relapse is associated with an increase of such symptoms. These findings signify the potential importance of addressing depressive symptomatology in smoking cessation treatment.

Ruffman, T., M. Wilson, et al. (2016). **"Age differences in right-wing authoritarianism and their relation to emotion recognition."** *Emotion* 16(2): 226-236. <http://www.ncbi.nlm.nih.gov/pubmed/26461245>

This study examined the correlates of right-wing authoritarianism (RWA) in older adults. Participants were given tasks measuring emotion recognition, executive functions and fluid IQ and questionnaires measuring RWA, perceived threat and social dominance orientation. Study 1 established higher age-related RWA across the age span in more than 2,600 New Zealanders. Studies 2 to 4 found that threat, education, social dominance and age all predicted unique variance in older adults' RWA, but the most consistent predictor was emotion recognition, predicting unique variance in older adults' RWA independent of all other variables. We argue that older adults' worse emotion recognition is associated with a more general change in social judgment. Expression of extreme attitudes (right- or left-wing) has the potential to antagonize others, but worse emotion recognition means that subtle signals will not be perceived, making the expression of extreme attitudes more likely. Our findings are consistent with other studies showing that worsening emotion recognition underlies age-related declines in verbosity, understanding of social gaffes, and ability to detect lies. Such results indicate that emotion recognition is a core social insight linked to many aspects of social cognition.

Salerno, L., C. Rhind, et al. (2016). **"An examination of the impact of care giving styles (accommodation and skilful communication and support) on the one year outcome of adolescent anorexia nervosa: Testing the assumptions of the cognitive interpersonal model in anorexia nervosa."** *Journal of Affective Disorders* 191: 230-236. <http://www.sciencedirect.com/science/article/pii/S0165032715308697>

Background The cognitive interpersonal model predicts that parental caregiving style will impact on the rate of improvement of anorexia nervosa symptoms. The study aims to examine whether the absolute levels and the relative congruence between mothers' and fathers' care giving styles influenced the rate of change of their children's symptoms of anorexia nervosa over 12 months. **Methods** Triads (n=54) consisting of patients with anorexia nervosa and both of their parents were included in the study. Caregivers completed the Caregiver Skills scale and the Accommodation and Enabling Scale at intake. Patients completed the Short Evaluation of Eating Disorders at intake and at monthly intervals for one year. Polynomial Hierarchical Linear Modeling was used for the analysis. **Results** There is a person/dose dependant relationship between accommodation and patients' outcome, i.e. when both mother and father are highly accommodating outcome is poor, if either is highly accommodating outcome is intermediate and if both parents are low on accommodation outcome is good. Outcome is also good if both parents or mother alone have high levels of carer skills and poor if both have low levels of skills. **Limitations** Including only a sub-sample of an adolescent clinical population; not considering time spent care giving, and reporting patient's self-reported outcome data limits the generalisability of the current findings. **Conclusion** Accommodating and enabling behaviours by family members can serve to maintain eating disorder behaviours. However, skilful behaviours particularly by mothers, can aid recovery. Clinical interventions to optimise care giving skills and to reduce accommodation by both parents may be an important addition to treatment for anorexia nervosa.

Schmit, S. L., H. S. Rennert, et al. (2016). **"Coffee consumption and the risk of colorectal cancer."** *Cancer Epidemiology Biomarkers & Prevention* 25(4): 634-639. <http://cebp.aacrjournals.org/content/25/4/634.abstract>

Background: Coffee contains several bioactive compounds relevant to colon physiology. Although coffee intake is a proposed protective factor for colorectal cancer, current evidence remains inconclusive. **Methods:** We investigated the association between coffee consumption and risk of colorectal cancer in 5,145 cases and 4,097 controls from the Molecular Epidemiology of Colorectal Cancer (MECC) study, a population-based case-control study in northern Israel. We also examined this association by type of coffee, by cancer site (colon and rectum), and by ethnic subgroup (Ashkenazi Jews, Sephardi Jews, and Arabs). Coffee data were collected by interview using a validated, semi-quantitative food frequency questionnaire. **Results:** Coffee consumption was associated with 26% lower odds of developing colorectal cancer [OR (drinkers vs. non-drinkers), 0.74; 95% confidence interval (CI), 0.64–0.86; P < 0.001]. The inverse association was also observed for decaffeinated coffee consumption alone (OR, 0.82; 95% CI, 0.68–0.99; P = 0.04) and for boiled coffee (OR, 0.82; 95% CI, 0.71–0.94; P = 0.004). Increasing consumption of coffee was associated with lower odds of developing colorectal cancer. Compared with <1 serving/day, intake of 1 to <2 servings/day (OR, 0.78; 95% CI, 0.68–0.90; P < 0.001), 2 to 2.5 servings/day (OR, 0.59; 95% CI, 0.51–0.68; P < 0.001), and >2.5 servings/day (OR, 0.46; 95% CI, 0.39–0.54; P < 0.001) were associated with significantly lower odds of colorectal cancer (Ptrend < 0.001), and the dose-response trend was statistically significant for both colon and rectal cancers. **Conclusions:** Coffee consumption may be inversely associated with risk of colorectal cancer in a dose-response manner. **Impact:** Global coffee consumption patterns suggest potential health benefits of the beverage for reducing the risk of colorectal cancer.

Shakersain, B., G. Santoni, et al. (2016). **"Prudent diet may attenuate the adverse effects of western diet on cognitive decline."** *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* 12(2): 100-109. <http://dx.doi.org/10.1016/j.jalz.2015.08.002>

(Available in free full text) Introduction The influence of mixed dietary patterns on cognitive changes is unknown. Methods A total of 2223 dementia-free participants aged ≥ 60 were followed up for 6 years to examine the impact of dietary patterns on cognitive decline. Mini-mental state examination (MMSE) was administered. Diet was assessed by a food frequency questionnaire. By factor analysis, Western and prudent dietary patterns emerged. Mixed-effect models for longitudinal data with repeated measurements were used. Results Compared with the lowest adherence to each pattern, the highest adherence to prudent pattern was related to less MMSE decline ($\beta = 0.106$, $P = .011$), whereas the highest adherence to Western pattern was associated with more MMSE decline ($\beta = -0.156$, $P < .001$). The decline associated with Western diet was attenuated when accompanied by high adherence to prudent pattern. Discussion High adherence to prudent diet may diminish the adverse effects of high adherence to Western diet on cognitive decline.

Silva, A. A. d., R. G. B. d. Mello, et al. (2016). **"Sleep duration and mortality in the elderly: A systematic review with meta-analysis."** *BMJ Open* 6(2). <http://bmjopen.bmj.com/content/6/2/e008119.abstract>

(Available in free full text) Objective The purpose of our study was to evaluate the association between short and long sleep duration and all-cause and cardiovascular mortality among elderly individuals. Design Systematic review and meta-analysis of population-based cohort studies. Setting Articles were retrieved from international and national electronic databases. Study selection Studies were identified in PubMed, EMBASE, LILACS (Latin American and Caribbean Health Sciences Literature), IBECs (Bibliographic Index on Health Sciences from Spain) and CAPES (PhD thesis repository) between 1980 and 2015. Studies which met all criteria were eligible: participants aged 60 years or over, assessment of sleep duration as 24 h, nighttime or daytime sleep, evaluation of all-cause or cause-specific mortality, population-based cohort studies conducted on representative samples. There was no language restriction and studies published as abstracts were excluded. Data extraction Data were analysed using the Comprehensive Meta-Analysis software (V.3.3.070), and summary estimates (relative risk (RR), 95% CI) were calculated using a random effects model. Heterogeneity and consistency were evaluated through Cochran's Q and the I² statistics, respectively, and sensitivity analyses were conducted. Primary and secondary outcome measures All-cause and cardiovascular mortality. Results Overall, 27 cohort studies were selected, comprising >70 000 elderly individuals, and followed up from 3.4 to 35 years. In the pooled analysis, long and short sleep duration were associated with increased all-cause mortality (RR 1.33; 95% CI 1.24 to 1.43 and RR 1.07; 95% CI 1.03 to 1.11, respectively), compared with the reference category. For cardiovascular mortality, the pooled relative risks were 1.43 (95% CI 1.15 to 1.78) for long sleep, and 1.18 (95% CI 0.76 to 1.84) for short sleep. Daytime napping ≥ 30 min was associated with risk of all-cause mortality (RR 1.27; 95% CI 1.08 to 1.49), compared with no daytime sleep, but longer sleep duration (≥ 2.0 h) was not (RR 1.34; 95% CI 1.95 to 1.90). Conclusions Among elderly individuals, long and short sleep duration are associated with increased risk for all-cause mortality. Long sleep duration is associated with cardiovascular mortality.

Sundquist, J., H. Ohlsson, et al. (2016). **"School achievement and risk of eating disorders in a swedish national cohort."** *Journal of the American Academy of Child & Adolescent Psychiatry* 55(1): 41-46.e41. <http://www.sciencedirect.com/science/article/pii/S0890856715006528>

(Available in free full text) Objective High achievement in school has been associated with increased risk of eating disorders, including anorexia nervosa (AN) and bulimia nervosa (BN), but causality of these relationships is unclear. We sought to examine the association between school achievement and AN or BN in a national cohort and to determine the possible contribution of familial confounding using a co-relative design. Method This national cohort study involved 1,800,643 persons born in Sweden during 1972 to 1990 who were still living in Sweden at age 16 years and were followed up for AN and BN identified from inpatient and outpatient diagnoses through 2012. We used Cox regression to examine the association between school achievement and subsequent risk of AN or BN, and stratified Cox models to examine the gradient in this association across different strata of co-relative pairs (first cousins, half siblings, full siblings). Results School achievement was positively associated with risk of AN among females and males (hazard ratio [HR] per additional 1 standard deviation, females: HR = 1.29; 95% CI = 1.25–1.33; males: HR = 1.29; 95% CI = 1.10–1.52), and risk of BN among females but not males (females: HR = 1.16; 95% CI = 1.11–1.20; males: HR = 1.05; 95% CI = 0.84–1.31). In co-relative analyses, as the degree of shared genetic and environmental factors increased (e.g., from first-cousin to full-sibling pairs), the association between school achievement and AN or BN substantially decreased. Conclusion In this large national cohort study, high achievement in school was associated with increased risk of AN and BN, but this appeared to be explained by unmeasured familial (genetic and environmental) factors.

Tyrrell, J., S. E. Jones, et al. (2016). **"Height, body mass index, and socioeconomic status: Mendelian randomisation study in uk biobank."** *BMJ* 352. <http://www.bmj.com/content/bmj/352/bmj.i582.full.pdf>

Objective To determine whether height and body mass index (BMI) have a causal role in five measures of socioeconomic status. Design Mendelian randomisation study to test for causal effects of differences in stature and BMI on five measures of socioeconomic status. Mendelian randomisation exploits the fact that genotypes are randomly assigned at conception and thus not confounded by non-genetic factors. Setting UK Biobank. Participants 119 669 men and women of British ancestry, aged between 37 and 73 years. Main outcome measures Age completed full time education, degree level education, job class, annual household income, and Townsend deprivation index. Results In the UK Biobank study, shorter stature and higher BMI were observationally associated with several measures of lower socioeconomic status. The associations between shorter stature and lower socioeconomic status tended to be stronger in men, and the associations between higher BMI and lower socioeconomic status tended to be stronger in women. For example, a 1 standard deviation (SD) higher BMI was associated with a £210 (€276; \$300; 95% confidence interval £84 to £420; $P=6 \times 10^{-3}$) lower annual household income in men and a £1890 (£1680 to £2100; $P=6 \times 10^{-15}$) lower annual household income in women. Genetic analysis provided evidence that these associations were partly causal. A genetically determined 1 SD (6.3 cm) taller stature caused a 0.06 (0.02 to 0.09) year older age of completing full time education ($P=0.01$), a 1.12 (1.07 to 1.18) times higher odds of working in a skilled profession ($P=6 \times 10^{-7}$), and a £1130 (£680 to £1580) higher annual household income ($P=4 \times 10^{-8}$). Associations were stronger in men. A genetically determined 1 SD higher BMI (4.6 kg/m²) caused a £2940 (£1680 to £4200; $P=1 \times 10^{-5}$) lower annual household income and a 0.10 (0.04 to 0.16) SD ($P=0.001$) higher level of deprivation in women only. Conclusions These data support evidence that height and BMI play an important partial role in determining several aspects of a person's socioeconomic status, especially women's BMI for income and deprivation and men's height for education, income, and job class. These findings have important social and health implications, supporting evidence that overweight people, especially women, are at a disadvantage and that taller people, especially men, are at an advantage.

Virchow, J., V. Backer, et al. (2016). **"Efficacy of a house dust mite sublingual allergen immunotherapy tablet in adults with allergic asthma: A randomized clinical trial."** *JAMA* 315(16): 1715-1725. <http://dx.doi.org/10.1001/jama.2016.3964>

Importance The house dust mite (HDM) sublingual allergen immunotherapy (SLIT) tablet is a potential novel treatment option for HDM allergy-related asthma. **Objectives** To evaluate the efficacy and adverse events of the HDM SLIT tablet vs placebo for asthma exacerbations during an inhaled corticosteroid (ICS) reduction period. **Design, Settings, and Participants** Double-blind, randomized, placebo-controlled trial conducted between August 2011 and April 2013 in 109 European trial sites. The trial included 834 adults with HDM allergy-related asthma not well controlled by ICS or combination products, and with HDM allergy-related rhinitis. Key exclusion criteria were FEV1 less than 70% of predicted value or hospitalization due to asthma within 3 months before randomization. Efficacy was assessed during the last 6 months of the trial when ICS was reduced by 50% for 3 months and then completely withdrawn for 3 months. **Interventions** 1:1:1 randomization to once-daily treatment with placebo (n = 277) or HDM SLIT tablet (dosage groups: 6 SQ-HDM [n = 275] or 12 SQ-HDM [n = 282]) in addition to ICS and the short-acting β_2 -agonist salbutamol. **Main Outcomes and Measures** Primary outcome was time to first moderate or severe asthma exacerbation during the ICS reduction period. Secondary outcomes were deterioration in asthma symptoms, change in allergen-specific immunoglobulin G4 (IgG4), change in asthma control or asthma quality-of-life questionnaires, and adverse events. **Results** Among 834 randomized patients (mean age, 33 years [range, 17-83]; women, 48%), 693 completed the study. The 6 SQ-HDM and 12 SQ-HDM doses both significantly reduced the risk of a moderate or severe asthma exacerbation compared with placebo (hazard ratio [HR]: 0.72 [95% CI, 0.52-0.99] for the 6 SQ-HDM group, P = .045, and 0.69 [95% CI, 0.50-0.96] for the 12 SQ-HDM group, P = .03). The absolute risk differences based on the observed data (full analysis set) in the active groups vs the placebo group were 0.09 (95% CI, 0.01-0.15) for the 6 SQ-HDM group and 0.10 (95% CI, 0.02-0.16) for the 12 SQ-HDM group. There was no significant difference between the 2 active groups. Compared with placebo, there was a reduced risk of an exacerbation with deterioration in asthma symptoms (HR, 0.72 [95% CI, 0.49-1.02] for the 6 SQ-HDM group, P = .11, and 0.64 [95% CI, 0.42-0.96] for the 12 SQ-HDM group, P = .03) and a significant increase in allergen-specific IgG4. However, there was no significant difference for change in asthma control questionnaire or asthma quality-of-life questionnaire for either dose. There were no reports of severe systemic allergic reactions. The most frequent adverse events were mild to moderate oral pruritus (13% for the 6 SQ-HDM group, 20% for the 12 SQ-HDM group, and 3% for the placebo group), mouth edema, and throat irritation. **Conclusions and Relevance** Among adults with HDM allergy-related asthma not well controlled by ICS, the addition of HDM SLIT to maintenance medications improved time to first moderate or severe asthma exacerbation during ICS reduction, with an estimated absolute reduction at 6 months of 9 to 10 percentage points; the reduction was primarily due to an effect on moderate exacerbations. Treatment-related adverse events were common at both active doses. Further studies are needed to assess long-term efficacy and safety.

Warren, C. and A. P. McGraw (2016). **"Differentiating what is humorous from what is not."** *Journal of Personality and Social Psychology* 110(3): 407-430. <http://psycnet.apa.org/journals/psp/110/3/407/>

After 2.5 millennia of philosophical deliberation and psychological experimentation, most scholars have concluded that humor arises from incongruity. We highlight 2 limitations of incongruity theories of humor. First, incongruity is not consistently defined. The literature describes incongruity in at least 4 ways: surprise, juxtaposition, atypicality, and a violation. Second, regardless of definition, incongruity alone does not adequately differentiate humorous from nonhumorous experiences. We suggest revising incongruity theory by proposing that humor arises from a benign violation: something that threatens a person's well-being, identity, or normative belief structure but that simultaneously seems okay. Six studies, which use entertainment, consumer products, and social interaction as stimuli, reveal that the benign violation hypothesis better differentiates humorous from nonhumorous experiences than common conceptualizations of incongruity. A benign violation conceptualization of humor improves accuracy by reducing the likelihood that joyous, amazing, and tragic situations are inaccurately predicted to be humorous.

Willey, J. Z., H. Gardener, et al. (2016). **"Leisure-time physical activity associates with cognitive decline: The northern manhattan study."** *Neurology*. <http://www.neurology.org/content/early/2016/03/23/WNL.000000000002582.abstract>

Objective: Because leisure-time physical activity (LTPA) is protective against incident dementia, we hypothesized that LTPA is protective against decline in domain-specific cognitive performance. **Methods:** As part of the Northern Manhattan Study, LTPA was ascertained at enrollment using a validated in-person questionnaire. We assessed cognition in participants in the Northern Manhattan Study MRI substudy using a standard neuropsychological examination (NPE) (n = 1,228), and a repeat examination was performed 5 years later (n = 876). LTPA was summarized as the maximum intensity of any activity performed, classified as none to light intensity (physical inactivity) (90%) vs moderate to heavy intensity (10%). The NPE was subcategorized using standardized z scores over validated domains: processing speed, semantic memory, episodic memory, and executive function. We used multivariable linear regression models to examine the association of LTPA with initial and change in cognitive performance. Analyses were adjusted for sociodemographics, cardiovascular disease risk factors, and MRI findings (white matter hyperintensity volume, silent brain infarcts, cerebral volume). **Results:** No/low levels of LTPA were associated with worse executive function, semantic memory, and processing speed scores on the first NPE. The associations were slightly attenuated and no longer significant after adjusting for vascular risk factors. Cognitively unimpaired participants reporting no/low LTPA vs moderate/high levels declined more over time in processing speed ($\beta = -0.231 \pm 0.112$, p = 0.040) and episodic memory ($\beta = -0.223 \pm 0.117$, p = 0.057) adjusting for sociodemographic and vascular risk factors. **Conclusions:** A low level of LTPA is independently associated with greater decline in cognitive performance over time across domains.

Williams, L. J., J. A. Pasco, et al. (2016). **"Statin and aspirin use and the risk of mood disorders among men."** *Int J Neuropsychopharmacol*. <http://www.ncbi.nlm.nih.gov/pubmed/26839250>

BACKGROUND: There is a growing understanding that depression is associated with systemic inflammation. Statins and aspirin have anti-inflammatory properties. Given these agents have been shown to reduce the risk of a number of diseases characterized by inflammation, we aimed to determine whether a similar relationship exists for mood disorders (MD). **METHODS:** This study examined data collected from 961 men (24-98 years) participating in the Geelong Osteoporosis Study. MD were identified using a semistructured clinical interview (SCID-I/NP). Anthropometry was measured and information on medication use and lifestyle factors was obtained via questionnaire. Two study designs were utilized: a nested case-control and a retrospective cohort study. **RESULTS:** In the nested case-control study, exposure to statin and aspirin was documented for 9 of 142 (6.3%) cases and 234 of 795 (29.4%) controls (P < .001); after adjustment for age, exposure to these anti-inflammatory agents was associated with reduced likelihood of MD (OR 0.2, 95%CI 0.1-0.5). No effect modifiers or other confounders were identified. In the retrospective cohort study of 836 men, among the 210 exposed to statins or aspirin, 6 (2.9%) developed de novo MD during 1000 person-years of observation, whereas among 626 nonexposed, 34 (5.4%) developed de novo MD during 3071 person-years of observation. The hazard ratio for de novo MD associated with exposure to anti-inflammatory agents was 0.55 (95%CI 0.23-1.32). **CONCLUSIONS:** This study provides both cross-sectional and longitudinal evidence consistent with the hypothesis that statin and aspirin use is associated with a reduced risk of MD.

Williamson, H. C., N. Altman, et al. (2016). **"Effects of relationship education on couple communication and satisfaction: A randomized controlled trial with low-income couples."** *Journal of Consulting and Clinical Psychology* 84(2): 156-166 <http://psycnet.apa.org/journals/ccp/84/2/156/>

Objective: Although preventive educational interventions for couples have been examined in more than 100 experimental studies, the value of this work is limited by reliance on economically advantaged populations and by an absence of data on proposed mediators and moderators. Data from the Supporting Healthy Marriage Project—a randomized, controlled trial of relationship education for couples living with low incomes—were therefore analyzed to test whether intervention effects on relationship satisfaction would be mediated by observational assessments of relationship communication and whether any such effects would be moderated by couples' pretreatment risk. Method: Within the larger sample of Supporting Healthy Marriage Project couples randomized to a relationship education or no-treatment control condition, the present analyses focus on the 1,034 couples who provided (a) data on sociodemographic risk at baseline, (b) observational data on couple communication 12 months after randomization, and (c) reports of relationship satisfaction 30 months after randomization. Results: Intervention couples reported higher satisfaction at 30 months than control couples, regardless of their level of pretreatment risk. Among higher risk couples, the intervention improved observed communication as well. Contrary to prediction, treatment effects on satisfaction were not mediated by improvements in communication, and improvements in communication did not translate into greater satisfaction. Conclusions: Relationship education programs produce small improvements in relationship satisfaction and communication, particularly for couples at elevated sociodemographic risk. The absence of behavioral effects on satisfaction indicates, however, that the mechanisms by which couples may benefit from relationship education are not yet well understood.

Wong, G. W. K. (2016). **"Preventing food allergy in infancy — early consumption or avoidance?"** *New England Journal of Medicine*. <http://www.nejm.org/doi/full/10.1056/NEJMe1601412>

(Available in free full text) Food allergy among children is common, affecting up to 8% of children younger than 3 years of age. It can be serious, even fatal, with hospital-discharge data from the United States documenting an increasing trend of food-induced anaphylaxis. In order to minimize accidental exposure to foods to which a child could be allergic, many schools in the United States have a "no sharing" policy for food. For decades, we had been trying to stem the rising tide of food allergy by urging parents to avoid exposing their children to foods such as egg, peanut, and fish early in life — a recommendation that was based on the idea that early exposure led to allergic sensitization. A year ago, the compelling results of the Learning Early about Peanut Allergy (LEAP) trial turned this idea on its head by showing that the early consumption of peanut by high-risk infants dramatically decreased their risk of the development of peanut allergy. On the basis of such evidence, a joint consensus communication from 10 national and international medical societies was published, providing guidance on how to introduce peanut in high-risk infants as a primary preventive strategy. Peanut is just one of the many food allergens. Will the approach from the LEAP trial be effective in the general population? What about allergies to other common foods such as milk, egg, and fish? Perkin et al. now attempt to answer these questions in the Journal in their trial, Enquiring about Tolerance (EAT). The investigators studied previously exclusively breast-fed infants from the general population and hypothesized that the early introduction of six allergenic foods into the infant's diet starting at 3 months would lead to the prevention of allergy to at least one of these foods. More than 1300 infants were randomly assigned to the introduction of six allergenic foods (early-introduction group) or to the standard U.K. recommendation of exclusive breast-feeding to approximately 6 months of age (standard-introduction group). The parents of the infants in the early-introduction group were instructed to feed them 3 rounded teaspoons of smooth peanut butter, one small egg, two portions (40 to 60 g) of cow's milk yogurt, 3 teaspoons of sesame paste, 25 g of white fish, and two wheat-based cereal biscuits every week. All the children were assessed regularly until they reached 3 years of age. In the intention-to-treat analyses, the primary outcome of the percentage of participants with food allergy to one or more of the six foods was 5.6% in the early-introduction group and 7.1% in the standard-introduction group. The difference did not reach statistical significance. When the study was designed, the investigators were aware that this treatment protocol was very demanding — less than half the participants in the early-introduction group (42.8%) adhered to the trial protocol. However, a per-protocol analysis showed that the primary outcome was significantly lower in the early-introduction group (2.4%) than in the standard-introduction group (7.3%), which suggests that this approach is effective if the parents and infants are able to adhere to the protocol. Although it is easy to assume that the reason the intention-to-treat analysis did not show a difference could be attributed to a lack of adherence to the protocol, I urge caution with this interpretation. It is possible that other explanations, such as reverse causality, may result in the observed differences between the intention-to-treat analysis and the per-protocol analysis. If the parents and infants did not adhere to the protocol because eating a given food led to subtle avoidance behaviors, the parents would stop trying to feed it to the infants. Although the trial showed that the early introduction of these allergenic foods was safe, the low rate of adherence that was documented in the trial suggests that the introduction of such a demanding protocol is likely to be even lower in real-life settings, which makes the early-feeding approach ineffective. In the EAT trial, the rate of adherence was the highest for dairy products in the form of yogurt, as opposed to textural food such as egg. This difference may well be due to the rather immature oral motor skills of young infants at 3 to 4 months of age and also to concerns of the parents about choking. If feeding these foods is safe, what is the minimal amount needed for inducing tolerance to these foods? Will the regimen be as effective if we introduce these foods at a later age but early enough before sensitization may occur? How can we improve the preparation of foods to make them easier for parents to administer? These questions must be addressed before we can hope that an early-feeding strategy will be effective at a population level. In the meantime, evidence is building that early consumption rather than delayed introduction of foods is likely to be more beneficial as a strategy for the primary prevention of food allergy. So feed your children and hope that they will EAT.

Zhang, Y., J. Chen, et al. (2016). **"Intakes of fish and polyunsaturated fatty acids and mild-to-severe cognitive impairment risks: A dose-response meta-analysis of 21 cohort studies."** *The American Journal of Clinical Nutrition* 103(2): 330-340. <http://ajcn.nutrition.org/content/103/2/330.abstract>

Background: The intake of fish and polyunsaturated fatty acids (PUFAs) may benefit cognitive function. However, optimal intake recommendations for protection are unknown. Objective: We systematically investigated associations between fish and PUFA intake and mild-to-severe cognitive impairment risk. Design: Studies that reported risk estimates for mild cognitive impairment (MCI), cognitive decline, dementia, Alzheimer disease (AD), or Parkinson disease (PD) from fish, total PUFAs, total n-3 (ω -3) PUFAs, or at least one n-3 PUFA were included. Study characteristics and outcomes were extracted. The pooled RR was estimated with the use of a random-effects model meta-analysis. A dose-response analysis was conducted with the use of the 2-stage generalized least-squares trend program. Results: We included 21 studies (181,580 participants) with 4438 cases identified during follow-up periods (2.1–21 y). A 1-serving/wk increment of dietary fish was associated with lower risks of dementia (RR: 0.95; 95% CI: 0.90, 0.99; P = 0.042, I² = 63.4%) and AD (RR: 0.93; 95% CI: 0.90, 0.95; P = 0.003, I² = 74.8%). Pooled RRs of MCI and PD were 0.71 (95% CI: 0.59, 0.82; P = 0.733, I² = 0%) and 0.90 (95% CI: 0.80, 0.99; P = 0.221, I² = 33.7%), respectively, for an 8-g/d increment of PUFA intake. As an important source of marine n-3 PUFAs, a 0.1-g/d increment of dietary docosahexaenoic acid (DHA) intake was associated with lower risks of dementia (RR: 0.86; 95% CI: 0.76, 0.96; P < 0.001, I² = 92.7%) and AD (RR: 0.63; 95% CI: 0.51, 0.76; P < 0.001, I² = 94.5%). Significant curvilinear relations between fish consumption and risk of AD and between total PUFAs and risk of MCI (both P-nonlinearity < 0.001) were

observed. Conclusions: Fishery products are recommended as dietary sources and are associated with lower risk of cognitive impairment. Marine-derived DHA was associated with lower risk of dementia and AD but without a linear dose-response relation.