

# **48 healthy lifestyle & healthy aging abstracts**

## **august '16 newsletter**

(Hallford and Mellor 2015; Lamy, Fischer-Lokou et al. 2015; Almaatouq, Radaelli et al. 2016; Aune, Sen et al. 2016; Barnett and Deutsch 2016; Bayley-Veloso and Salmon 2016; Buck 2016; Carbonneau, Vallerand et al. 2016; Chapman and Guven 2016; Chen, Tong et al. 2016; Christensen, Batterham et al. 2016; Donahue and Green 2016; Donaldson, de Roos et al. 2016; Dunbar 2016; Eckerd, Barnett et al. 2016; Elwood, Morgan et al. 2016; Farvid, Chen et al. 2016; García-Esquinas, Rahi et al. 2016; Gershoff and Grogan-Kaylor 2016; Gravel, Pelletier et al. 2016; Hadden, Rodriguez et al. 2016; Hartig and Viola 2016; Hudson and Roberts 2016; Ilmarinen, Lönnqvist et al. 2016; Kanat-Maymon, Antebi et al. 2016; Konok, Gigler et al. 2016; Lamy, Gueguen et al. 2016; Larsson, Åkesson et al. 2016; Lemon, Aksenov et al. 2016; Linde, Allais et al. 2016; Luong, Wrzus et al. 2016; Maki, Kaspar et al. 2016; McAndrew and Koehnke 2016; Mensah, Andres et al. 2016; Mischkowski, Crocker et al. 2016; Molero, Shaver et al. 2016; Moore, Lee et al. 2016; Okonofua, Paunesku et al. 2016; Rikoon, Brenneman et al. 2016; Roster, Ferrari et al. 2016; Svedholm-Häkkinen and Lindeman 2016; Twenge and Donnelly 2016; Twenge, Sherman et al. 2016; Valtorta, Kanaan et al. 2016; van Zuuren, Fedorowicz et al. 2016; Wammes, Meade et al. 2016; Wang, Schmid et al. 2016; Wickham, Williamson et al. 2016)

Almaatouq, A., L. Radaelli, et al. (2016). **"Are you your friends' friend? Poor perception of friendship ties limits the ability to promote behavioral change."** *PLoS ONE* 11(3): e0151588. <http://dx.doi.org/10.1371/journal.pone.0151588>

Persuasion is at the core of norm creation, emergence of collective action, and solutions to 'tragedy of the commons' problems. In this paper, we show that the directionality of friendship ties affect the extent to which individuals can influence the behavior of each other. Moreover, we find that people are typically poor at perceiving the directionality of their friendship ties and that this can significantly limit their ability to engage in cooperative arrangements. This could lead to failures in establishing compatible norms, acting together, finding compromise solutions, and persuading others to act. We then suggest strategies to overcome this limitation by using two topological characteristics of the perceived friendship network. The findings of this paper have significant consequences for designing interventions that seek to harness social influence for collective action.

Aune, D., A. Sen, et al. (2016). **"Bmi and all cause mortality: Systematic review and non-linear dose-response meta-analysis of 230 cohort studies with 3.74 million deaths among 30.3 million participants."** *BMJ* 353. <http://www.bmj.com/content/bmj/353/bmj.i2156.full.pdf>

(Available in free full text) Objective To conduct a systematic review and meta-analysis of cohort studies of body mass index (BMI) and the risk of all cause mortality, and to clarify the shape and the nadir of the dose-response curve, and the influence on the results of confounding from smoking, weight loss associated with disease, and preclinical disease. Data sources PubMed and Embase databases searched up to 23 September 2015. Study selection Cohort studies that reported adjusted risk estimates for at least three categories of BMI in relation to all cause mortality. Data synthesis Summary relative risks were calculated with random effects models. Non-linear associations were explored with fractional polynomial models. Results 230 cohort studies (207 publications) were included. The analysis of never smokers included 53 cohort studies (44 risk estimates) with >738 144 deaths and >9 976 077 participants. The analysis of all participants included 228 cohort studies (198 risk estimates) with >3 744 722 deaths among 30 233 329 participants. The summary relative risk for a 5 unit increment in BMI was 1.18 (95% confidence interval 1.15 to 1.21; I<sup>2</sup>=95%, n=44) among never smokers, 1.21 (1.18 to 1.25; I<sup>2</sup>=93%, n=25) among healthy never smokers, 1.27 (1.21 to 1.33; I<sup>2</sup>=89%, n=11) among healthy never smokers with exclusion of early follow-up, and 1.05 (1.04 to 1.07; I<sup>2</sup>=97%, n=198) among all participants. There was a J shaped dose-response relation in never smokers (Pnon-linearity <0.001), and the lowest risk was observed at BMI 23-24 in never smokers, 22-23 in healthy never smokers, and 20-22 in studies of never smokers with ≥20 years' follow-up. In contrast there was a U shaped association between BMI and mortality in analyses with a greater potential for bias including all participants, current, former, or ever smokers, and in studies with a short duration of follow-up (<5 years or <10 years), or with moderate study quality scores. Conclusion Overweight and obesity is associated with increased risk of all cause mortality and the nadir of the curve was observed at BMI 23-24 among never smokers, 22-23 among healthy never smokers, and 20-22 with longer durations of follow-up. The increased risk of mortality observed in underweight people could at least partly be caused by residual confounding from prediagnostic disease. Lack of exclusion of ever smokers, people with prevalent and preclinical disease, and early follow-up could bias the results towards a more U shaped association.

Barnett, M. D. and J. T. Deutsch (2016). **"Humanism, authenticity, and humor: Being, being real, and being funny."** *Personality and Individual Differences* 91: 107-112. <http://www.sciencedirect.com/science/article/pii/S0191886915300854>

Authenticity is an important construct in humanistic psychology; it consists of discrepancies between the true self, the noticed self, and the expressed self. Humor may be conceptualized as having two axes: benign or disparaging, and improving the self or improving relationships with others. The purpose of this study was to investigate the relationship between facets of authenticity and humor styles among a large sample of U.S. college students (N = 813). It was found that lower incongruences between the three stages of authentic experience (i.e., higher authenticity) were associated with benign humor styles. Larger discrepancies in the self as well as the impact of external influences were associated with disparaging humor styles. These results suggest that there is a relationship between individuals' experience of the self and their style of humor.

Bayley-Veloso, R. and P. G. Salmon (2016). **"Yoga in clinical practice."** *Mindfulness* 7(2): 308-319. <http://dx.doi.org/10.1007/s12671-015-0449-9>

As the popularity of yoga has increased in mainstream society, its role as a form of complementary healthcare in clinical settings continues to grow as well. However, until recently, the popularity of yoga as a cultural phenomenon has not been matched by a commensurate increase in the rigor of research methods designed to assess its effectiveness in healthcare settings. Because of yoga's growing popularity, it is important for clinicians to have an empirically based working knowledge of its potential benefits and limitations. This paper reviews 52 clinical research studies of yoga published since 2011, limiting attention exclusively to randomized controlled trials in the interest of both rigor and economy of space. Promising trends and persistent limitations in the literature are explored in depth. The majority of the studies reported positive outcomes in the yoga intervention groups, but further research is needed to validate yoga as an effective intervention for various populations.

Buck, D. (2016). **Gardens and health: Implications for policy and practice**, Kings Fund.

(Available in free full text) The National Gardens Scheme commissioned The King's Fund to write an independent report on the benefits of gardens and gardening on health.

The report has three aims: 1.) to collate and summarise the evidence on the impact of gardens on wellbeing across the life-course, from childhood through family life and into older age. 2.) to demonstrate the important place gardening interventions have in the wider health and care system with a focus on four specific areas: social prescribing; community gardens; dementia care; end-of-life care. 3.) to make the case for the further integration of gardens and health into mainstream health policy and practice. The report includes a 'menu' of recommendations that aims to encourage the NHS, government departments, national bodies, local government, health and wellbeing boards and clinical commissioning groups to make more of the diverse health benefits of gardening in support of their priorities.

Carbonneau, N., R. J. Vallerand, et al. (2016). **"I'm not the same person since i met you": The role of romantic passion in how people change when they get involved in a romantic relationship.** *Motivation and Emotion* 40(1): 101-117. <http://dx.doi.org/10.1007/s11031-015-9512-z>

Using the dualistic perspective on romantic passion (Ratelle et al. in *Motiv Emot* 37:106–120, 2013; Vallerand et al. in *J Pers Soc Psychol* 85:756–767, 2003), the present research examined the role of harmonious and obsessive romantic passion in the prediction of personal changes in people's lives associated with romantic relationships. Young adults recruited through universities (Studies 1 and 2) and social networking sites (Studies 2 and 3) composed the samples of the three studies. Results of Study 1 revealed that harmonious and obsessive passion both positively predicted perceptions of personal growth while they respectively negatively and positively predicted disengagement from important activities and other social relationships for the sake of the romantic relationship. These associations were either fully replicated (for harmonious passion) or partially replicated (for obsessive passion) when examined using a six-month longitudinal design (Study 2) and when the two outcomes (i.e., personal growth and social disengagement) were reported by an informant (Study 3). Overall, the results suggest that the nature and extent of changes in people's lives as they become romantically involved may be predicted by the quality of their romantic passion.

Chapman, B. and C. Guven (2016). **"Revisiting the relationship between marriage and wellbeing: Does marriage quality matter?"** *Journal of Happiness Studies* 17(2): 533-551. <http://dx.doi.org/10.1007/s10902-014-9607-3>

This paper revisits the marriage and wellbeing relationship using variables reflecting marriage quality and data from the US, the UK and Germany. People in self-assessed poor marriages are fairly miserable and much less happy than unmarried people, even in the first year of marriages. However, people in self-assessed good marriages are even happier than the literature suggests. Women show greater range of responses to marriage quality than men. The effect of employment status and subjective health on happiness and the marriage effects on interpersonal trust and mental health change dramatically when marriage quality is controlled for. A strong link from happiness to marriage does not exist. However, happier people are more likely to stay single instead of being unhappily married, but less likely to stay single compared to being very happily married and happiness cannot predict staying single versus being pretty happily married.

Chen, G.-C., X. Tong, et al. (2016). **"Whole-grain intake and total, cardiovascular, and cancer mortality: A systematic review and meta-analysis of prospective studies."** *The American Journal of Clinical Nutrition* 104(1): 164-172. <http://ajcn.nutrition.org/content/104/1/164.abstract>

Background: The potential role of whole grain in preventing various mortality outcomes has been inconsistently reported in a wealth of prospective observational studies. Objective: We evaluated the relations between whole-grain intake and risks of dying from any cause, cardiovascular disease (CVD), and cancer through a meta-analytic approach. Design: Relevant studies were identified by searching PubMed and EMBASE databases and bibliographies of retrieved full publications. Summary RRs with 95% CIs were calculated with a random-effects model. Results: Thirteen studies on total mortality (104,061 deaths), 12 on CVD mortality (26,352 deaths), and 8 on cancer mortality (34,797 deaths) were included. Three studies reported whole-grain intake, and the remaining studies reported whole-grain product intake. In the dose-response analysis in which the intake of whole-grain products was converted to the amount of whole grain, the summary RRs for an increment in whole-grain intake of 50 g/d were 0.78 (95% CI: 0.67, 0.91) for total mortality, 0.70 (95% CI: 0.61, 0.79) for CVD mortality, and 0.82 (95% CI: 0.69, 0.96) for cancer mortality. A similar reduction was observed for the mortality from ischemic heart disease (RR: 0.68; 95% CI: 0.55, 0.84) but not from stroke (RR: 0.93; 95% CI: 0.54, 1.62). There was evidence of nonlinear associations of whole-grain intake with total (P-nonlinearity < 0.001) and CVD mortality (P-nonlinearity < 0.001), but not with cancer mortality (P-nonlinearity = 0.12), with the curves for the associations appearing slightly steeper at lower ranges (<35 g/d) of the intake than at higher ranges. Conclusions: Our findings suggest significant inverse relations between whole-grain intake and mortality due to any cause, CVD, or cancer. The findings support the recommendation of increasing whole-grain intake to improve public health.

Christensen, H., P. J. Batterham, et al. (2016). **"Effectiveness of an online insomnia program (shuti) for prevention of depressive episodes (the goodnight study): A randomised controlled trial."** *The Lancet Psychiatry* 3(4): 333-341. <http://www.sciencedirect.com/science/article/pii/S2215036615005362>

Summary Background In view of the high co-occurrence of depression and insomnia, a novel way to reduce the risk of escalating depression might be to offer an insomnia intervention. We aimed to assess whether an online self-help insomnia program could reduce depression symptoms. Methods We did this randomised controlled trial at the Australian National University in Canberra, Australia. Internet users (aged 18–64 years) with insomnia and depression symptoms, but who did not meet criteria for major depressive disorder, were randomly assigned (1:1), via computer-generated randomisation, to receive SHUTi, a 6 week, modular, online insomnia program based on cognitive behavioural therapy for insomnia, or HealthWatch, an interactive, attention-matched, internet-based placebo control program. Randomisation was stratified by age and sex. Telephone-based interviewers, statisticians, and chief investigators were masked to group allocation. The primary outcome was depression symptoms at 6 months, as measured with the Patient Health Questionnaire (PHQ-9). The primary analysis was by intention to treat. This trial is registered with the Australian New Zealand Clinical Trials Registry, number ACTRN12611000121965. Findings Between April 30, 2013, and June 9, 2014, we randomly assigned 1149 participants to receive SHUTi (n=574) or HealthWatch (n=575), of whom 581 (51%) participants completed the study program assessments at 6 weeks and 504 (44%) participants completed 6 months' follow-up. SHUTi significantly lowered depression symptoms on the PHQ-9 at 6 weeks and 6 months compared with HealthWatch (F[degrees of freedom 2,640·1]=37·2, p<0·0001). Major depressive disorder was diagnosed in 22 (4%) participants at 6 months (n=9 in the SHUTi group and n=13 in the HealthWatch group), with no superior effect of SHUTi versus HealthWatch (Fisher's exact test=0·52; p=0·32). No adverse events were reported. Interpretation Online cognitive behaviour therapy for insomnia treatment is a practical and effective way to reduce depression symptoms and could be capable of reducing depression at the population level by use of a fully automatised system with the potential for wide dissemination. Funding Australian National Health and Medical Research Council.

Donahue, J. K. and M. C. Green (2016). **"A good story: Men's storytelling ability affects their attractiveness and perceived status."** *Personal Relationships* 23(2): 199-213. <http://dx.doi.org/10.1111/perc.12120>

Three studies examined gender differences in the effect of storytelling ability on perceptions of a person's attractiveness as a short-term and long-term romantic partner. In Study 1, information about a potential partner's storytelling ability was provided. Study 2 participants read a good or poor story supposedly written by a potential partner. Results suggested that only women's attractiveness assessments of men as a long-term date increased for good storytellers. Storytelling ability did not affect men's ratings of women nor did it affect ratings of short-term partners. Study 3 suggested that the effect of storytelling ability on long-term attractiveness for male targets may be mediated by perceived status. Storytelling ability appears to increase perceived status and thus helps men attract long-term partners.

Donaldson, A. I., B. de Roos, et al. (2016). **"Is life longer with a box of chocolates?"** *Heart*. <http://heart.bmj.com/content/early/2016/04/11/heartjnl-2016-309468.short>

Coronary heart disease is the leading cause of death worldwide and accounts for almost 70 000 deaths annually in the UK alone. The modifiable lifestyle risk factors contributing to coronary heart disease have been extensively researched and they include poor dietary choices, physical inactivity and smoking. In contrast to the often recommended heart healthy diet, it has perhaps been both a surprise and a delight to many that recent research has suggested that chocolate in both its milky and dark disguises may have a protective effect against coronary artery disease. Cocoa has the richest flavanol content of all foods on a per-weight basis including high levels of epicatechin. The health benefits of eating chocolate have increasingly been attributed to their flavan-3-ol content, found in the highest concentration in dark chocolate. Indeed, flavanol-rich cocoa is thought to activate nitric oxide synthesis which could explain findings of beneficial effects of chocolate on endothelial cell function and blood pressure control. Chocolate consumption has also been associated with improved platelet function, reduced insulin resistance and a healthier serum lipid profile. This may be attributed to the high levels of oleic acid found in dark chocolate—a monounsaturated fat known to have a positive effect on blood lipids. The most recent Swedish study found an inverse association between chocolate consumption and myocardial infarction risk with those eating  $\geq 3$ –4 servings/week of chocolate having a 13% relative risk reduction (HR 0.87 (95% CI 0.77 to 0.98,  $p=0.04$ )) compared with non-consumers. The authors acknowledge that chocolate consumption was only assessed by a single question in a baseline food frequency questionnaire with no distinction made between types or quantity. This is particularly important bearing in mind the possible dose-dependent relationship ...

Dunbar, R. I. (2016). **"Do online social media cut through the constraints that limit the size of offline social networks?"** *R Soc Open Sci* 3(1): 150292. <http://www.ncbi.nlm.nih.gov/pubmed/26909163>

The social brain hypothesis has suggested that natural social network sizes may have a characteristic size in humans. This is determined in part by cognitive constraints and in part by the time costs of servicing relationships. Online social networking offers the potential to break through the glass ceiling imposed by at least the second of these, potentially enabling us to maintain much larger social networks. This is tested using two separate UK surveys, each randomly stratified by age, gender and regional population size. The data show that the size and range of online egocentric social networks, indexed as the number of Facebook friends, is similar to that of offline face-to-face networks. For one sample, respondents also specified the number of individuals in the inner layers of their network (formally identified as support clique and sympathy group), and these were also similar in size to those observed in offline networks. This suggests that, as originally proposed by the social brain hypothesis, there is a cognitive constraint on the size of social networks that even the communication advantages of online media are unable to overcome. In practical terms, it may reflect the fact that real (as opposed to casual) relationships require at least occasional face-to-face interaction to maintain them.

Eckerd, L. M., J. E. Barnett, et al. (2016). **"Grief following pet and human loss: Closeness is key."** *Death Stud* 40(5): 275-282. <http://www.tandfonline.com/doi/abs/10.1080/07481187.2016.1139014?journalCode=udst20>

The authors compared grief severity and its predictors in two equivalent college student samples who had experienced the death of a pet ( $n = 211$ ) or a person ( $n = 146$ ) within the past 2 years. The human death sample reported higher grief severity,  $p < .01$ , but effect sizes were small ( $d_s = .28$ – $.30$ ). For both samples, closeness to the deceased was overwhelmingly the strongest predictor of grief severity; other predictors generally dropped out with closeness added to the model. Results highlight the importance of including closeness to deceased in grief research, and its centrality in understanding grief counseling clients.

Elwood, P. C., G. Morgan, et al. (2016). **"Aspirin in the treatment of cancer: Reductions in metastatic spread and in mortality: A systematic review and meta-analyses of published studies."** *PLoS ONE* 11(4): e0152402. <http://dx.doi.org/10.1371/journal.pone.0152402>

(Available in free full text) Background: Low-dose aspirin has been shown to reduce the incidence of cancer, but its role in the treatment of cancer is uncertain. Objectives: We conducted a systematic search of the scientific literature on aspirin taken by patients following a diagnosis of cancer, together with appropriate meta-analyses. Methods: Searches were completed in Medline and Embase in December 2015 using a pre-defined search strategy. References and abstracts of all the selected papers were scanned and expert colleagues were contacted for additional studies. Two reviewers applied pre-determined eligibility criteria (cross-sectional, cohort and controlled studies, and aspirin taken after a diagnosis of cancer), assessed study quality and extracted data on cancer cause-specific deaths, overall mortality and incidence of metastases. Random effects meta-analyses and planned sub-group analyses were completed separately for observational and experimental studies. Heterogeneity and publication bias were assessed in sensitivity analyses and appropriate omissions made. Papers were examined for any reference to bleeding and authors of the papers were contacted and questioned. Results: Five reports of randomised trials were identified, together with forty two observational studies: sixteen on colorectal cancer, ten on breast and ten on prostate cancer mortality. Pooling of eleven observational reports of the effect of aspirin on cause-specific mortality from colon cancer, after the omission of one report identified on the basis of sensitivity analyses, gave a hazard ratio (HR) of 0.76 (95% CI 0.66, 0.88) with reduced heterogeneity ( $P = 0.04$ ). The cause specific mortality in five reports of patients with breast cancer showed significant heterogeneity ( $P < 0.0005$ ) but the omission of one outlying study reduced heterogeneity ( $P = 0.19$ ) and led to an HR = 0.87 (95% CI 0.69, 1.09). Heterogeneity between nine studies of prostate cancer was significant, but again, the omission of one study led to acceptable homogeneity ( $P = 0.26$ ) and an overall HR = 0.89 (95% CI 0.79–0.99). Six single studies of other cancers suggested reductions in cause specific mortality by aspirin, and in five the effect is statistically significant. There were no significant differences between the pooled HRs for the three main cancers and after the omission of three reports already identified in sensitivity analyses heterogeneity was removed and revealed an overall HR of 0.83 (95% CI 0.76–0.90). A mutation of PIK3CA was present in about 20% of patients, and appeared to explain most of the reduction in colon cancer mortality by aspirin. Data were not adequate to examine the importance of this or any other marker in the effect of aspirin in the other cancers. On bleeding attributable to aspirin two reports stated that there had been no side effect or bleeding attributable to aspirin. Authors on the other reports were written to and 21 replied stating that no data on bleeding were available. Conclusions and Implications: The study highlights the need for randomised trials of aspirin treatment in a variety of cancers. While these are awaited there is an urgent need for evidence from observational studies of aspirin and the less common cancers, and for

more evidence of the relevance of possible bio-markers of the aspirin effect on a wide variety of cancers. In the meantime it is urged that patients in whom a cancer is diagnosed should be given details of this research, together with its limitations, to enable each to make an informed decision as to whether or not to take low-dose aspirin.

Farvid, M. S., W. Y. Chen, et al. (2016). **"Fruit and vegetable consumption in adolescence and early adulthood and risk of breast cancer: Population based cohort study."** *BMJ* 353. <http://www.bmj.com/content/bmj/353/bmj.i2343.full.pdf>

(Available in free full text) Objective To evaluate the association between fruit and vegetable intake during adolescence and early adulthood and risk of breast cancer. Design Prospective cohort study. Setting Health professionals in the United States. Participants 90 476 premenopausal women aged 27-44 from the Nurses' Health Study II who completed a questionnaire on diet in 1991 as well as 44 223 of those women who completed a questionnaire about their diet during adolescence in 1998. Main outcome measure Incident cases of invasive breast cancer, identified through self report and confirmed by pathology report. Results There were 3235 cases of invasive breast cancer during follow-up to 2013. Of these, 1347 cases were among women who completed a questionnaire about their diet during adolescence (ages 13-18). Total fruit consumption during adolescence was associated with a lower risk of breast cancer. The hazard ratio was 0.75 (95% confidence interval 0.62 to 0.90; P=0.01 for trend) for the highest (median intake 2.9 servings/day) versus the lowest (median intake 0.5 serving/day) fifth of intake. The association for fruit intake during adolescence was independent of adult fruit intake. There was no association between risk and total fruit intake in early adulthood and total vegetable intake in either adolescence or early adulthood. Higher early adulthood intake of fruits and vegetables rich in  $\alpha$  carotene was associated with lower risk of premenopausal breast cancer. The hazard ratio was 0.82 (0.70 to 0.96) for the highest fifth (median intake 0.5 serving/day) versus the lowest fifth (median intake 0.03 serving/day) intake. The association with adolescent fruit intake was stronger for both estrogen and progesterone receptor negative cancers than estrogen and progesterone receptor positive cancers (P=0.02 for heterogeneity). For individual fruits and vegetables, greater consumption of apple, banana, and grapes during adolescence and oranges and kale during early adulthood was significantly associated with a reduced risk of breast cancer. Fruit juice intake in adolescence or early adulthood was not associated with risk. Conclusion There is an association between higher fruit intake and lower risk of breast cancer. Food choices during adolescence might be particularly important.

García-Esquinas, E., B. Rahi, et al. (2016). **"Consumption of fruit and vegetables and risk of frailty: A dose-response analysis of 3 prospective cohorts of community-dwelling older adults."** *The American Journal of Clinical Nutrition* 104(1): 132-142. <http://ajcn.nutrition.org/content/104/1/132.abstract>

Background: Consuming fruit and vegetables (FVs) may protect against frailty, but to our knowledge no study has yet assessed their prospective dose-response relation. Objective: We sought to examine the dose-response association between FV consumption and the risk of frailty in older adults. Design: Data were taken from 3 independent cohorts of community-dwelling older adults: the Seniors-ENRICA (Study on Nutrition and Cardiovascular Risk Factors in Spain) cohort (n = 1872), Three-City (3C) Bordeaux cohort (n = 581), and integrated multidisciplinary approach cohort (n = 473). Baseline food consumption was assessed with a validated computerized diet history (Seniors-ENRICA) or with a food-frequency questionnaire (3C Bordeaux and AMI). In all cohorts, incident frailty was assessed with the use of the Fried criteria. Results across cohorts were pooled with the use of a random-effects model. Results: During a mean 2.5-y follow-up, 300 incident frailty cases occurred. Fully adjusted models showed that the pooled ORs (95% CIs) of incident frailty comparing participants who consumed 1, 2, or  $\geq 3$  portions of fruit/d to those with no consumption were, respectively, 0.59 (0.27, 0.90), 0.58 (0.29, 0.86), and 0.48 (0.20, 0.75), with a P-trend of 0.04. The corresponding values for vegetables were 0.69 (0.42, 0.97), 0.56 (0.35, 0.77), and 0.52 (0.13, 0.92), with a P-trend < 0.01. When FVs were analyzed together, the pooled ORs (95% CIs) of incident frailty were 0.41 (0.21, 0.60), 0.47 (0.25, 0.68), 0.36 (0.18, 0.53), and 0.31 (0.13, 0.48), with a P-trend < 0.01 for participants who consumed 2, 3, 4, or  $\geq 5$  portions/d, respectively, compared with those who consumed  $\leq 1$  portion/d. An inverse dose-response relation was also found between the baseline consumption of fruit and risk of exhaustion, low physical activity, and slow walking speed, whereas the consumption of vegetables was associated with a decreased risk of exhaustion and unintentional weight loss. Conclusions: Among community-dwelling older adults, FV consumption was associated with a lower short-term risk of frailty in a dose-response manner, and the strongest association was obtained with 3 portions of fruit/d and 2 portions of vegetables/d.

Gershoff, E. T. and A. Grogan-Kaylor (2016). **"Spanking and child outcomes: Old controversies and new meta-analyses."** *J Fam Psychol* 30(4): 453-469. <http://psycnet.apa.org/?f&fa=main.doiLanding&doi=10.1037/fam0000191>

Whether spanking is helpful or harmful to children continues to be the source of considerable debate among both researchers and the public. This article addresses 2 persistent issues, namely whether effect sizes for spanking are distinct from those for physical abuse, and whether effect sizes for spanking are robust to study design differences. Meta-analyses focused specifically on spanking were conducted on a total of 111 unique effect sizes representing 160,927 children. Thirteen of 17 mean effect sizes were significantly different from zero and all indicated a link between spanking and increased risk for detrimental child outcomes. Effect sizes did not substantially differ between spanking and physical abuse or by study design characteristics.

Gravel, E. E., L. G. Pelletier, et al. (2016). **"Doing it for the right reasons: Validation of a measurement of intrinsic motivation, extrinsic motivation, and amotivation for sexual relationships."** *Personality and Individual Differences* 92: 164-173. <http://www.sciencedirect.com/science/article/pii/S0191886915300969>

This investigation examined the psychometric properties of the Sexual Motivation Scale (SexMS), a scale measuring the different types of self-regulation proposed by SDT in the context of sexual relationships: Intrinsic motivation, extrinsic motivation, and amotivation. We analyzed the construct validity of the SexMS in two studies (Study 1: N = 1070, Study 2: N = 575). Results from a confirmatory factor analysis indicated that the SexMS can adequately reproduce the correlated six-factor structure posited by SDT. Findings from measurement invariance analyses as a function of gender and relationship type (i.e., casual and committed), tests for internal consistency, and correlational analyses all provided support for the reliability and the validity of the SexMS. Importantly, self-determined sexual regulation was associated to positive sexual health and well-being outcomes, whereas the inverse was found for non-self-determined sexual regulation. Additionally, participants who scored within the problematic range of sexual function showed a greater endorsement of non-self-determined sexual regulation and a lower endorsement of self-determined sexual regulation than those who scored in the non-problematic range. Overall, the SexMS provides a valuable tool to investigate sexuality within a SDT framework and a fine-grained measurement for the examination of the motivational processes associated with sexual health and well-being.

Hadden, B. W., L. M. Rodriguez, et al. (2016). **"An actor-partner interdependence model of attachment and need fulfillment in romantic dyads."** *Social Psychological and Personality Science* 7(4): 349-357. <http://spp.sagepub.com/content/7/4/349.abstract>

The present research tested the unique associations between attachment and basic psychological need fulfillment in relationships. Past research shows that anxious and avoidant attachment are associated with distinct patterns of relationship behaviors, wherein anxious attachment is related to excessive attention to the relationship and avoidant attachment is related to

detachment from the relationship. Specifically, we explored the role of romantic partner's attachment in predicting each other's experiences of relatedness, autonomy, and competence. Across two samples of undergraduate romantic couples (n sample 1 = 156, n sample 2 = 264), one's own anxious and avoidant attachment predicted generally lower basic psychological need fulfillment. Having a more anxiously attached partner predicted higher relatedness but lower autonomy, whereas having a more avoidantly attached partner predicted lower relatedness but higher autonomy need fulfillment. These results extend prior research, suggesting that one's partner's anxious and avoidant attachment has distinct implications for one's own outcomes.

Hallford, D. J. and D. Mellor (2015). **"Brief reminiscence activities improve state well-being and self-concept in young adults: A randomised controlled experiment."** *Memory*: 1-10. <http://www.ncbi.nlm.nih.gov/pubmed/26522498>

Reminiscence-based psychotherapies have been demonstrated to have robust effects on a range of therapeutic outcomes. However, little research has been conducted on the immediate effects of guided activities they are composed of, or how these might differ dependent on the type of reminiscence. The current study utilised a controlled experimental design, whereby 321 young adults (mean age = 25.5 years, SD = 3.0) were randomised to one of four conditions of online reminiscence activity: problem-solving (successful coping experiences), identity (self-defining events contributing to a meaningful and continuous personal identity), bitterness revival (negative or adverse events), or a control condition (any memory from their past). Participants recalled autobiographical memories congruent with the condition, and answered questions to facilitate reflection on the memories. The results indicated that problem-solving and identity reminiscence activities caused significant improvements in self-esteem, meaning in life, self-efficacy and affect, whereas no effects were found in the bitterness revival and control conditions. Problem-solving reminiscence also caused a small effect in increasing perceptions of a life narrative/s. Differences between the conditions did not appear to be explained by the positive-valence of memories. These results provide evidence for the specific effects of adaptive types of problem-solving and identity reminiscence in young adults.

Hartig, J. and J. Viola (2016). **"Online grief support communities: Therapeutic benefits of membership."** *OMEGA - Journal of Death and Dying* 73(1): 29-41. <http://ome.sagepub.com/content/73/1/29.abstract>

Online grief support communities have become popular in recent years for those seeking information and empathetic others following the death of someone close to them. Hundreds of Facebook pages and Web sites are now devoted to bereavement—and health-care professionals need to assess what therapeutic benefits virtual communities might offer to help people manage grief and integrate death into their lives. In the current study of online grief support networks (N = 185), individuals report less psychological distress as a result of joining these groups—and this psychosocial benefit increased over time. Individuals who were members for a year or more characterized their grief as less severe compared with those who had a shorter tenure in the community. Additional findings and implications are discussed.

Hudson, N. W. and B. W. Roberts (2016). **"Social investment in work reliably predicts change in conscientiousness and agreeableness: A direct replication and extension of hudson, roberts, and lodi-smith (2012)."** *Journal of Research in Personality* 60: 12-23. <http://www.sciencedirect.com/science/article/pii/S0092656615300167>

(Available in free full text) The present study was a close replication of Hudson, Roberts, and Lodi-Smith (2012). Participants' personality traits and social investment in work were measured twice over three years. Latent change models were used to examine the associations among the intercepts (levels) and slopes (changes) for these variables. Results revealed that levels of all of the big five traits except openness were generally related to levels of social investment at work. Longitudinally, changes in social investment in work were generally associated with simultaneously co-occurring changes in only conscientiousness and agreeableness. Age did not moderate these correlated changes. Overall, the results directly replicated those of Hudson et al. (2012) and suggest that personality traits develop in concert with job experiences.

Ilmarinen, V.-J., J.-E. Lönnqvist, et al. (2016). **"Similarity-attraction effects in friendship formation: Honest platoon-mates prefer each other but dishonest do not."** *Personality and Individual Differences* 92: 153-158. <http://www.sciencedirect.com/science/article/pii/S0191886915301215>

Friends tend to be similar on many characteristics, including personality traits. Yet, a real-world similarity-attraction effect based on actual personality traits is not supported by current research. One reason for this apparent contradiction could be that dark personality traits have been absent from this literature. In a sample (N = 181) of military cadet freshmen, we investigated homophily ("love of the same") based on the traits identified by the Five-Factor Model (FFM) and two dark personality traits, Manipulativeness and Egotism. We did not find homophily based on the FFM traits. However, platoon-mate dyads with similar levels of trait Manipulativeness or Egotism were more likely to mutually like each other. Furthermore, response surface analyses revealed that homophily for these two traits occurred only at the low, or bright, end of these traits. Our results support arguments derived from evolutionary theory that argue for the importance of trait honesty in friendship formation.

Kanat-Maymon, Y., A. Antebi, et al. (2016). **"Basic psychological need fulfillment in human-pet relationships and well-being."** *Personality and Individual Differences* 92: 69-73. <http://www.sciencedirect.com/science/article/pii/S0191886915301070>

According to self-determination theory (SDT; Deci & Ryan, 2000), fulfillment of the basic psychological needs for autonomy, competence, and relatedness within close relationships are essential for well-being. In the current research, we sought to further explore this association as regards human-pet relationships. Drawing on recent studies that have documented the benefits pet owners can derive from their relationship with a pet, we examined the extent to which perceived need support by a pet can facilitate well-being and allay psychological distress. Participants were 206 pet owners (dog or cat). Results of a SEM analysis indicated that perceived needs support by a pet significantly predicted higher well-being but did not predict level of psychological distress. These associations were found over and beyond needs support by a close human other. The implications of the uniqueness of human-pet relationships to well-being through the lens of SDT are discussed.

Konok, V., D. Gigler, et al. (2016). **"Humans' attachment to their mobile phones and its relationship with interpersonal attachment style."** *Computers in Human Behavior* 61: 537-547. <http://www.sciencedirect.com/science/article/pii/S0747563216302333>

Humans have a biological predisposition to form attachment to social partners, and they seem to form attachment even toward non-human and inanimate targets. Attachment styles influence not only interpersonal relationships, but interspecies and object attachment as well. We hypothesized that young people form attachment toward their mobile phone, and that people with higher attachment anxiety use the mobile phone more likely as a compensatory attachment target. We constructed a scale to observe people's attachment to their mobile and we assessed their interpersonal attachment style. In this exploratory study we found that young people readily develop attachment toward their phone: they seek the proximity of it and experience distress on separation. People's higher attachment anxiety predicted higher tendency to show attachment-like features regarding their mobile. Specifically, while the proximity of the phone proved to be equally important for people with different

attachment styles, the constant contact with others through the phone was more important for anxiously attached people. We conclude that attachment to recently emerged artificial objects, like the mobile may be the result of cultural co-option of the attachment system. People with anxious attachment style may face challenges as the constant contact and validation the computer-mediated communication offers may deepen their dependence on others.

Lamy, L., J. Fischer-Lokou, et al. (2015). **"Places for help: Micro-level variation in helping behavior toward a stranger."** *Psychol Rep* 116(1): 242-248. <http://www.ncbi.nlm.nih.gov/pubmed/25621671>

A field experiment was conducted to explore whether certain urban places have an influence on helpfulness. Places semantically associated with the idea of love may act as primes and trigger increased helpfulness. Passersby (96 men, 96 women) happened upon a female confederate with a "leg injury" who inadvertently dropped personal items. The experiment took place in a common street or near a hospital entrance, a Catholic church, or a flower shop. Results indicated that helpfulness increased near a hospital or flower shop. These results are explained in light of automatic activation of normative behavior.

Lamy, L., N. Gueguen, et al. (2016). **"Wrong place to get help": A field experiment on luxury stores and helping behavior.** *Social Influence* 11(2): 130-139. <http://www.tandfonline.com/doi/full/10.1080/15534510.2016.1160839>

(Available in free full text) Three experiments were conducted in field settings. It was hypothesized that luxury stores may act as environmental reminders of materialism and that helpfulness would vary according to the presence or absence of such cues. Study 1 (N = 80) indicated that consumers coming out of famous brand stores displayed less helpfulness, as compared to mere passersby. Study 2 (N = 112) showed passersby were less helpful near a luxury brand store than in an ordinary street with no shops. In Study 3 (N = 360), passersby were less helpful when walking down a street lined with highly exclusive stores, as compared to streets with ordinary stores or no stores. Results, limitations, and directions for future research are discussed. [Note: contrast this paper with this group's 2015 study showing increased helping behavior near hospitals or flower shops - but not churches].

Larsson, S. C., A. Åkesson, et al. (2016). **"Chocolate consumption and risk of myocardial infarction: A prospective study and meta-analysis."** *Heart*. <http://heart.bmj.com/content/early/2016/03/02/heartjnl-2015-309203.abstract>

Objective To examine whether chocolate consumption is associated with a reduced risk of ischaemic heart disease, we used data from a prospective study of Swedish adults and we performed a meta-analysis of available prospective data. Methods and results The Swedish prospective study included 67 640 women and men from the Cohort of Swedish Men and the Swedish Mammography Cohort who had completed a food-frequency questionnaire and were free of cardiovascular disease at baseline. Myocardial infarction (MI) cases were ascertained through linkage with the Swedish National Patient and Cause of Death Registers. PubMed and EMBASE databases were searched from inception until 4 February 2016 to identify prospective studies on chocolate consumption and risk of ischaemic heart disease. Results The results from eligible studies were combined using a random-effects model. During follow-up (1998–2010), 4417 MI cases were ascertained in the Swedish study. Chocolate consumption was inversely associated with MI risk. Compared with non-consumers, the multivariable relative risk for those who consumed  $\geq 3$ –4 servings/week of chocolate was 0.87 (95% CI 0.77 to 0.98; p for trend =0.04). Five prospective studies on chocolate consumption and ischaemic heart disease were identified. Together with the Swedish study, the meta-analysis included six studies with a total of 6851 ischaemic heart disease cases. The overall relative risk for the highest versus lowest category of chocolate consumption was 0.90 (95% CI 0.82 to 0.97), with little heterogeneity among studies (I<sup>2</sup>=24.3%). Conclusions Chocolate consumption is associated with lower risk of MI and ischaemic heart disease.

Lemon, J. A., V. Aksenov, et al. (2016). **"A multi-ingredient dietary supplement abolishes large-scale brain cell loss, improves sensory function, and prevents neuronal atrophy in aging mice."** *Environmental and Molecular Mutagenesis* 57(5): 382-404. <http://dx.doi.org/10.1002/em.22019>

(Available in free full text) Transgenic growth hormone mice (TGM) are a recognized model of accelerated aging with characteristics including chronic oxidative stress, reduced longevity, mitochondrial dysfunction, insulin resistance, muscle wasting, and elevated inflammatory processes. Growth hormone/IGF-1 activate the Target of Rapamycin known to promote aging. TGM particularly express severe cognitive decline. We previously reported that a multi-ingredient dietary supplement (MDS) designed to offset five mechanisms associated with aging extended longevity, ameliorated cognitive deterioration and significantly reduced age-related physical deterioration in both normal mice and TGM. Here we report that TGM lose more than 50% of cells in midbrain regions, including the cerebellum and olfactory bulb. This is comparable to severe Alzheimer's disease and likely explains their striking age-related cognitive impairment. We also demonstrate that the MDS completely abrogates this severe brain cell loss, reverses cognitive decline and augments sensory and motor function in aged mice. Additionally, histological examination of retinal structure revealed markers consistent with higher numbers of photoreceptor cells in aging and supplemented mice. We know of no other treatment with such efficacy, highlighting the potential for prevention or amelioration of human neuropathologies that are similarly associated with oxidative stress, inflammation and cellular dysfunction. [Medscape - [http://www.medscape.com/viewarticle/864566-vp\\_1](http://www.medscape.com/viewarticle/864566-vp_1) - comment "A dietary supplement containing ingredients commonly found in health food stores appears to prevent the decline in brain structure and function typically seen in Alzheimer's disease, the results of an animal study indicate. In a mouse model of accelerated aging and severe cognitive decline, a combination of vitamins and minerals, as well as nutraceuticals, such as beta carotene, bioflavonoids, cod liver oil, flax seed, garlic, and green tea extract, not only maintained brain cell numbers and mass and cognitive function but also appeared to prevent deterioration of sight and smell. The study was led by Jennifer Lemon, PhD, research associate in the Department of Medical Physics and Applied Radiation Sciences, McMaster University, Hamilton, Ontario, Canada. She said that she was "shocked, along with everybody else" that a nutraceutical combination "that's considered by most practitioners in the medical field to be either ineffective or benign can actually have such a profound effect on function." Dr Lemon told Medscape Medical News that she is nevertheless "optimistic" that the effects of the supplement will translate into humans. One of the main reasons is that "the supplement works on fundamental mechanisms that are pretty much ubiquitous across any organism that breathes air, essentially." These mechanisms, which include oxidative stress, inflammation, and mitochondrial dysfunction, "happen in a multitude of species as they get older" and are not "something that is specifically a human phenomenon that has been attempted to be recreated in a mouse model," she noted. The study was published online May 20 in *Environmental and Molecular Mutagenesis*. Cognitive Function Restored Previous research by the team showed that the supplement extended longevity and reduced cognitive and age-related physical deterioration in both normal mice and transgenic growth hormone mice (TGM). TGM are characterized by accelerated aging accompanied by severe cognitive decline, as well long-term oxidative stress, insulin resistance, and other traits. For the current study, the team mated heterozygous TGM and normal mice to create equal numbers of TGM and normal mice with a similar genetic background. The mice were then randomly assigned at weaning either to receive a liquid form of the supplement every day, with the doses of the ingredients adjusted to correspond to the amounts recommended for humans, or to be left untreated. The mice then underwent a series of somatosensory tests to determine the severity of age-related losses in motor coordination and overall mobility. Their brains were examined for histologic changes, and the degree of apoptosis and changes in cell counts were assessed. Single-photon emission computed tomography and positron-

emission tomography scanning was also performed. The team found that compared with normal mice, untreated TGM displayed brain cell losses, deterioration of sensory function, and reductions in cerebral metabolic rate and blood perfusion that were equivalent to those seen in patients with Alzheimer's disease. Specifically, the mice had greater than a 50% loss at a cellular level, a 36% reduction in brain mass, and at least twofold reductions in brain metabolism and blood flow at 12 months. Furthermore, in the untreated TGM, motor and cognitive functions were severely compromised. Although the supplement did not have significant effects on brain cell numbers, brain weight, or brain metabolism or perfusion in normal mice, it had striking effects in TGM. With the supplement, brain mass and brain cell density were maintained at levels seen in young mice. Brain metabolic activity was comparable to that in control mice, with no significant difference between the groups. Moreover, the supplement was associated with a twofold increase in brain perfusion in TGM. The results also showed that the supplement restored cognitive function in TGM and led to significant improvements in motor coordination. It also appeared to reduce anxiety, allowing TGM to explore "unsafe/novel" environments. The team found that the supplement appeared to offset deterioration of visual acuity in TGM. It was associated with increases in the thickness of the retinal outer nuclear layer and outer segment of 26% and 29%, respectively, in TGM compared with untreated mice. TGM that received the supplement also showed improvements in olfactory sensitivity and greater numbers of mitral cells in the olfactory bulb in comparison with untreated mice. Inasmuch as olfactory loss is associated with an increased risk of developing severe neurodegenerative conditions, the researchers say these findings suggest that the supplement may be offsetting neurodegeneration throughout the brain. Striking a Balance For Dr Lemon, the findings support the notion that nutraceuticals are more likely to be effective when taken in combination with other supplements rather than when taken alone as a single supplement. "Our criteria for including things in the supplement were mainly that there was scientific evidence to show that they worked on a particular mechanism. It didn't have to be that it had a great whole-body effect, because most individual supplements don't," she said. "That is typically because our cells are working in such a complex way that we have many mechanisms that are occurring simultaneously, and when something's going wrong, it's usually knocking everything out of balance." Dr Lemon explained that when the level of one particular component is increased in the cells, "you tend to also knock everything out of whack. "There are a lot of studies that show that high doses of single things, like vitamin E, for instance, can create disease or can make disease worse. A lot of that has to do with the fact that the cell works optimally when it's balanced, and when you put one thing in, particularly something that is used as an antioxidant, you can turn it into a pro-oxidant, exacerbating free radical production within the cells," she said. One aspect of the supplement that sets it apart from a novel pharmaceutical agent is that it is not subject to the same degree of intellectual property protection, owing to the fact that it is composed of nutraceuticals that are available in health food stores. Acknowledging that this "will always be a problem here," Dr Lemon said that although a company has licensed the formulation from McMaster University to commercialize it, it is likely that, should the supplement be shown to have similar effects in humans, "people would try to make versions of it." There are, however, "some very specific things that we've done to try to make that a little bit more difficult," Dr Lemon added. Specifically, she noted that mice do not have diurnal rhythms such as those seen in humans. The team has therefore worked on formulating the supplement as two pills, one to be taken in the morning, and the other in the evening, "depending on what functions you're trying to protect."]

Linde, K., G. Allais, et al. (2016). **"Acupuncture for the prevention of tension-type headache."** *Cochrane Database of Systematic Reviews*(4). <http://dx.doi.org/10.1002/14651858.CD007587.pub2>

Background: Acupuncture is often used for prevention of tension-type headache but its effectiveness is still controversial. This is an update of our Cochrane review originally published in Issue 1, 2009 of The Cochrane Library. Objectives: To investigate whether acupuncture is a) more effective than no prophylactic treatment/routine care only; b) more effective than 'sham' (placebo) acupuncture; and c) as effective as other interventions in reducing headache frequency in adults with episodic or chronic tension-type headache. Search methods: We searched CENTRAL, MEDLINE, EMBASE and AMED to 19 January 2016. We searched the World Health Organization (WHO) International Clinical Trials Registry Platform to 10 February 2016 for ongoing and unpublished trials. Selection criteria: We included randomised trials with a post-randomisation observation period of at least eight weeks, which compared the clinical effects of an acupuncture intervention with a control (treatment of acute headaches only or routine care), a sham acupuncture intervention or another prophylactic intervention in adults with episodic or chronic tension-type headache. Data collection and analysis: Two review authors checked eligibility; extracted information on participants, interventions, methods and results; and assessed study risk of bias and the quality of the acupuncture intervention. The main efficacy outcome measure was response (at least 50% reduction of headache frequency) after completion of treatment (three to four months after randomisation). To assess safety/acceptability we extracted the number of participants dropping out due to adverse effects and the number of participants reporting adverse effects. We assessed the quality of the evidence using GRADE (Grading of Recommendations Assessment, Development and Evaluation). Main results: Twelve trials (11 included in the previous version and one newly identified) with 2349 participants (median 56, range 10 to 1265) met the inclusion criteria. Acupuncture was compared with routine care or treatment of acute headaches only in two large trials (1265 and 207 participants), but they had quite different baseline headache frequency and management in the control groups. Neither trial was blinded but trial quality was otherwise high (low risk of bias). While effect size estimates of the two trials differed considerably, the proportion of participants experiencing at least 50% reduction of headache frequency was much higher in groups receiving acupuncture than in control groups (moderate quality evidence; trial 1: 302/629 (48%) versus 121/636 (19%); risk ratio (RR) 2.5; 95% confidence interval (CI) 2.1 to 3.0; trial 2: 60/132 (45%) versus 3/75 (4%); RR 11; 95% CI 3.7 to 35). Long-term effects (beyond four months) were not investigated. Acupuncture was compared with sham acupuncture in seven trials of moderate to high quality (low risk of bias); five large studies provided data for one or more meta-analyses. Among participants receiving acupuncture, 205 of 391 (51%) had at least 50% reduction of headache frequency compared to 133 of 312 (43%) in the sham group after treatment (RR 1.3; 95% CI 1.09 to 1.5; four trials; moderate quality evidence). Results six months after randomisation were similar. Withdrawals were low: 1 of 420 participants receiving acupuncture dropped out due to adverse effects and 0 of 343 receiving sham (six trials; low quality evidence). Three trials reported the number of participants reporting adverse effects: 29 of 174 (17%) with acupuncture versus 12 of 103 with sham (12%); odds ratio (OR) 1.3; 95% CI 0.60 to 2.7; low quality evidence). Acupuncture was compared with physiotherapy, massage or exercise in four trials of low to moderate quality (high risk of bias); study findings were inadequately reported. No trial found a significant superiority of acupuncture and for some outcomes the results slightly favoured the comparison therapy. None of these trials reported the number of participants dropping out due to adverse effects or the number of participants reporting adverse effects. Overall, the quality of the evidence assessed using GRADE was moderate or low, downgraded mainly due to a lack of blinding and variable effect sizes. Authors' conclusions: The available results suggest that acupuncture is effective for treating frequent episodic or chronic tension-type headaches, but further trials - particularly comparing acupuncture with other treatment options - are needed.

Luong, G., C. Wrzus, et al. (2016). **"When bad moods may not be so bad: Valuing negative affect is associated with weakened affect-health links."** *Emotion* 16(3): 387-401. <http://www.ncbi.nlm.nih.gov/pubmed/26571077>

Bad moods are considered "bad" not only because they may be aversive experiences in and of themselves, but also because they are associated with poorer psychosocial functioning and health. We propose that people differ in their negative

affect valuation (NAV; the extent to which negative affective states are valued as pleasant, useful/helpful, appropriate, and meaningful experiences) and that affect-health links are moderated by NAV. These predictions were tested in a life span sample of 365 participants ranging from 14-88 years of age using reports of momentary negative affect and physical well-being (via experience sampling) and assessments of NAV and psychosocial and physical functioning (via computer-assisted personal interviews and behavioral measures of hand grip strength). Our study demonstrated that the more individuals valued negative affect, the less pronounced (and sometimes even nonexistent) were the associations between everyday experiences of negative affect and a variety of indicators of poorer psychosocial functioning (i.e., emotional health problems, social integration) and physical health (i.e., number of health conditions, health complaints, hand grip strength, momentary physical well-being). Exploratory analyses revealed that valuing positive affect was not associated with the analogous moderating effects as NAV. These findings suggest that it may be particularly important to consider NAV in models of affect-health links.

Maki, K. C., K. L. Kaspar, et al. (2016). **"Consumption of a cranberry juice beverage lowered the number of clinical urinary tract infection episodes in women with a recent history of urinary tract infection."** *The American Journal of Clinical Nutrition* 103(6): 1434-1442. <http://ajcn.nutrition.org/content/103/6/1434.abstract>

(Available in free full text) Background: Urinary tract infections (UTIs) are among the most common bacterial infections and are often treated with antibiotics. Concerns about multidrug-resistant uropathogens have pointed to the need for safe and effective UTI-prevention strategies such as cranberry consumption. Objective: We assessed the effects of the consumption of a cranberry beverage on episodes of clinical UTIs. Design: In this randomized, double-blind, placebo-controlled, multicenter clinical trial, women with a history of a recent UTI were assigned to consume one 240-mL serving of cranberry beverage/d (n = 185) or a placebo (n = 188) beverage for 24 wk. The primary outcome was the clinical UTI incidence density, which was defined as the total number of clinical UTI events (including multiple events per subject when applicable) per unit of observation time. Results: The dates of the random assignment of the first subject and the last subject's final visit were February 2013 and March 2015, respectively. The mean age was 40.9 y, and characteristics were similar in both groups. Compliance with study product consumption was 98%, and 86% of subjects completed the treatment period in both groups. There were 39 investigator-diagnosed episodes of clinical UTI in the cranberry group compared with 67 episodes in the placebo group (antibiotic use-adjusted incidence rate ratio: 0.61; 95% CI: 0.41, 0.91; P = 0.016). Clinical UTI with pyuria was also significantly reduced (incidence rate ratio: 0.63; 95% CI: 0.40, 0.97; P = 0.037). One clinical UTI event was prevented for every 3.2 woman-years (95% CI: 2.0, 13.1 woman-years) of the cranberry intervention. The time to UTI with culture positivity did not differ significantly between groups (HR: 0.97; 95% CI: 0.56, 1.67; P = 0.914). Conclusion: The consumption of a cranberry juice beverage lowered the number of clinical UTI episodes in women with a recent history of UTI.

McAndrew, F. T. and S. S. Koehnke (2016). **"On the nature of creepiness."** *New Ideas in Psychology* 43: 10-15. <http://www.sciencedirect.com/science/article/pii/S0732118X16300320>

Surprisingly, until now there has never been an empirical study of "creepiness." An international sample of 1341 individuals responded to an online survey. Males were perceived as being more likely to be creepy than females, and females were more likely to associate sexual threat with creepiness. Unusual nonverbal behavior and characteristics associated with unpredictability were also predictors of creepiness, as were some occupations and hobbies. The results are consistent with the hypothesis that being "creeped out" is an evolved adaptive emotional response to ambiguity about the presence of threat that enables us to maintain vigilance during times of uncertainty.

Mensah, C. A., L. Andres, et al. (2016). **"Enhancing quality of life through the lens of green spaces: A systematic review approach."** *International Journal Of Wellbeing* 6(1): 142-163

(Available in free full text) Improving citizens' quality of life is a stated priority of many governments in both the global north and south. However, efforts to achieve this often focus on socio-economic measures, with limited attention to the contributions of environmental variables such as green spaces. This paper sought to bridge this knowledge gap by tracing the linkages between green spaces and quality of life, and how these connections can inform policy development in order to assist governments to achieve positive outcomes for quality of life. The paper took a theoretical approach by utilising the systematic review method. In all, 452 publications were included in this review, and rigorous content analysis was employed to retrieve relevant data. Green spaces were found to provide various social, economic, and environmental benefits, which in turn improve physical, psychological, emotional, social, and material wellbeing of individuals and thus enhance quality of life. It is therefore strongly recommended that conservation of green spaces should be integrated into national health, environmental and socio-economic policies in order to promote effective utilisation of green spaces to enhance citizens' overall quality of life.

Mischkowski, D., J. Crocker, et al. (2016). **"From painkiller to empathy killer: Acetaminophen (paracetamol) reduces empathy for pain."** *Soc Cogn Affect Neurosci*. <http://www.ncbi.nlm.nih.gov/pubmed/27217114>

Simulation theories of empathy hypothesize that empathizing with others' pain shares some common psychological computations with the processing of one's own pain. Support for this perspective has largely relied on functional neuroimaging evidence of an overlap between activations during the experience of physical pain and empathy for other people's pain. Here, we extend the functional overlap perspective to the neurochemical level and test whether a common physical painkiller, acetaminophen (paracetamol), can reduce empathy for another's pain. In two double-blind placebo-controlled experiments, participants rated perceived pain, personal distress and empathic concern in response to reading scenarios about another's physical or social pain, witnessing ostracism in the lab, or visualizing another study participant receiving painful noise blasts. As hypothesized, acetaminophen reduced empathy in response to others' pain. Acetaminophen also reduced the unpleasantness of noise blasts delivered to the participant, which mediated acetaminophen's effects on empathy. Together, these findings suggest that the physical painkiller acetaminophen reduces empathy for pain and provide a new perspective on the neurochemical bases of empathy. Because empathy regulates prosocial and antisocial behavior, these drug-induced reductions in empathy raise concerns about the broader social side effects of acetaminophen, which is taken by almost a quarter of adults in the United States each week.

Molero, F., P. R. Shaver, et al. (2016). **"Long-term partners' relationship satisfaction and their perceptions of each other's attachment insecurities."** *Personal Relationships* 23(1): 159-171. <http://dx.doi.org/10.1111/pere.12117>

In this research, we examined actors' and partners' perceptions of each other's attachment insecurities and the associations of these perceptions with relationship satisfaction. A sample of 148 heterosexual couples completed measures of self and partner attachment insecurities and relationship satisfaction. Results indicate that partners agree in their perceptions of their own and each other's attachment insecurities (anxiety and avoidance). Based on the actor-partner interdependence model (APIM), we also found that both actors' scores on avoidance and their perceptions of their partner's degree of avoidance are associated with lower relationship satisfaction. Finally, we found that the way an actor perceives his or her partner's avoidance plays a mediational role in the association between partner's self-reported avoidance and actor's relationship satisfaction.

Moore, S. C., I. Lee, et al. (2016). **"Association of leisure-time physical activity with risk of 26 types of cancer in 1.44 million adults."** *JAMA Internal Medicine* 176(6): 816-825. <http://dx.doi.org/10.1001/jamainternmed.2016.1548>

**Importance** Leisure-time physical activity has been associated with lower risk of heart-disease and all-cause mortality, but its association with risk of cancer is not well understood. **Objective** To determine the association of leisure-time physical activity with incidence of common types of cancer and whether associations vary by body size and/or smoking. **Design, Setting, and Participants** We pooled data from 12 prospective US and European cohorts with self-reported physical activity (baseline, 1987-2004). We used multivariable Cox regression to estimate hazard ratios (HRs) and 95% confidence intervals for associations of leisure-time physical activity with incidence of 26 types of cancer. Leisure-time physical activity levels were modeled as cohort-specific percentiles on a continuous basis and cohort-specific results were synthesized by random-effects meta-analysis. Hazard ratios for high vs low levels of activity are based on a comparison of risk at the 90th vs 10th percentiles of activity. The data analysis was performed from January 1, 2014, to June 1, 2015. **Exposures** Leisure-time physical activity of a moderate to vigorous intensity. **Main Outcomes and Measures** Incident cancer during follow-up. **Results** A total of 1.44 million participants (median [range] age, 59 [19-98] years; 57% female) and 186 932 cancers were included. High vs low levels of leisure-time physical activity were associated with lower risks of 13 cancers: esophageal adenocarcinoma (HR, 0.58; 95% CI, 0.37-0.89), liver (HR, 0.73; 95% CI, 0.55-0.98), lung (HR, 0.74; 95% CI, 0.71-0.77), kidney (HR, 0.77; 95% CI, 0.70-0.85), gastric cardia (HR, 0.78; 95% CI, 0.64-0.95), endometrial (HR, 0.79; 95% CI, 0.68-0.92), myeloid leukemia (HR, 0.80; 95% CI, 0.70-0.92), myeloma (HR, 0.83; 95% CI, 0.72-0.95), colon (HR, 0.84; 95% CI, 0.77-0.91), head and neck (HR, 0.85; 95% CI, 0.78-0.93), rectal (HR, 0.87; 95% CI, 0.80-0.95), bladder (HR, 0.87; 95% CI, 0.82-0.92), and breast (HR, 0.90; 95% CI, 0.87-0.93). Body mass index adjustment modestly attenuated associations for several cancers, but 10 of 13 inverse associations remained statistically significant after this adjustment. Leisure-time physical activity was associated with higher risks of malignant melanoma (HR, 1.27; 95% CI, 1.16-1.40) and prostate cancer (HR, 1.05; 95% CI, 1.03-1.08). Associations were generally similar between overweight/obese and normal-weight individuals. Smoking status modified the association for lung cancer but not other smoking-related cancers. **Conclusions and Relevance** Leisure-time physical activity was associated with lower risks of many cancer types. Health care professionals counseling inactive adults should emphasize that most of these associations were evident regardless of body size or smoking history, supporting broad generalizability of findings.

Okonofua, J. A., D. Paunesku, et al. (2016). **"Brief intervention to encourage empathic discipline cuts suspension rates in half among adolescents."** *Proc Natl Acad Sci U S A* 113(19): 5221-5226. <http://www.pnas.org/content/113/19/5221.abstract>

Growing suspension rates predict major negative life outcomes, including adult incarceration and unemployment. Experiment 1 tested whether teachers (n = 39) could be encouraged to adopt an empathic rather than punitive mindset about discipline—to value students' perspectives and sustain positive relationships while encouraging better behavior. Experiment 2 tested whether an empathic response to misbehavior would sustain students' (n = 302) respect for teachers and motivation to behave well in class. These hypotheses were confirmed. Finally, a randomized field experiment tested a brief, online intervention to encourage teachers to adopt an empathic mindset about discipline. Evaluated at five middle schools in three districts (Nteachers = 31; Nstudents = 1,682), this intervention halved year-long student suspension rates from 9.6% to 4.8%. It also bolstered respect the most at-risk students, previously suspended students, perceived from teachers. Teachers' mindsets about discipline directly affect the quality of teacher-student relationships and student suspensions and, moreover, can be changed through scalable intervention.

Rikoon, S. H., M. Brennenman, et al. (2016). **"Facets of conscientiousness and their differential relationships with cognitive ability factors."** *Journal of Research in Personality* 61: 22-34. <http://www.sciencedirect.com/science/article/pii/S0092656616300022>

This study examined relationships between conscientiousness facets and both broad factors of cognitive ability and collegiate GPA. Students responded to 117 Conscientiousness items and 15 cognitive tests demarcating fluid intelligence, crystallized intelligence, quantitative reasoning, visual processing, and broad retrieval ability. Confirmatory factor analysis replicated the eight-factor model found in MacCann, Duckworth, and Roberts (2009). Conscientiousness facet correlations with Cognitive Ability and GPA revealed that Cautiousness exhibited the highest correlation with Cognitive Ability, while Industriousness showed the strongest relationship with GPA. Procrastination Refrainment was the only facet negatively related to Cognitive Ability. Implications of these results are discussed in light of previous research and the potentially moderating effect of high- versus low-stakes testing on the relationship between conscientiousness and cognitive ability.

Roster, C. A., J. R. Ferrari, et al. (2016). **"The dark side of home: Assessing possession 'clutter' on subjective well-being."** *Journal of Environmental Psychology* 46: 32-41. <http://www.sciencedirect.com/science/article/pii/S0272494416300159>

This research investigates a "dark side of home," created when the experiential quality of home is compromised by 'clutter,' defined as an overabundance of possessions that collectively create chaotic and disorderly living spaces. Based on relationships among constructs largely developed by phenomenologists, we conceptualize psychological home as a reflection of one's need to identify self with a physical environment. Clutter was proposed as an antagonist to the normally positive benefits and consequences of home for subjective well-being. An online survey was conducted with a population of U.S. and Canadian adults. A structural equation model was used to test hypotheses. Findings reveal that place attachment and self-extension tendencies toward possessions positively contribute to psychological home. Clutter had a negative impact on psychological home and subjective well-being. These findings contribute to a broader understanding of how meanings of home are both cultivated and undermined by individuals' place-making efforts.

Svedholm-Häkkinen, A. M. and M. Lindeman (2016). **"Testing the empathizing-systemizing theory in the general population: Occupations, vocational interests, grades, hobbies, friendship quality, social intelligence, and sex role identity."** *Personality and Individual Differences* 90: 365-370. <http://www.sciencedirect.com/science/article/pii/S0191886915300647>

The Empathizing–Systemizing (E–S) theory holds that our ability to understand people and to understand lawful systems account for individual differences in a host of cognitive, social and personality factors. However, evidence concerning variation within the nonclinical population is scarce. The present study tested the theory's central predictions concerning occupations, vocational interests, grades in mathematics and physics, hobbies, friendship quality, social intelligence, and sex role identity in a large sample (N = 3084). For most factors, the results were in line with the E–S theory, and empathizing and systemizing accounted for sex differences almost completely. However, there were also important differences between those who were strong on both empathizing and systemizing, and those who were weak on both. The High–High group shared many of the strengths of those in whom one dimension dominated. The present results provide strong support for the explanatory power of the E–S theory in explaining individual differences in cognition, personality, and social characteristics in the normal population, but highlight the importance of studying different combinations of empathizing and systemizing.

Twenge, J. M. and K. Donnelly (2016). **"Generational differences in american students' reasons for going to college, 1971-2014: The rise of extrinsic motives."** *J Soc Psychol*: 1-10. <http://www.ncbi.nlm.nih.gov/pubmed/26886402>

We examined generational differences in reasons for attending college among a nationally representative sample of college students (N = 8 million) entering college between 1971-2014. We validated the items on reasons for attending college against an established measure of extrinsic and intrinsic values among college students in 2014 (n = 189). Millennials (in college 2000s-2010s) and Generation X (1980s-1990s) valued extrinsic reasons for going to college ("to make more money") more, and anti-extrinsic reasons ("to gain a general education and appreciation of ideas") less than Boomers when they were the same age in the 1960s-1970s. Extrinsic reasons for going to college were higher in years with more income inequality, college enrollment, and intrinsic values. These results mirror previous research finding generational increases in extrinsic values begun by GenX and continued by Millennials, suggesting that more recent generations are more likely to favor extrinsic values in their decision-making.

Twenge, J. M., R. A. Sherman, et al. (2016). **"Changes in american adults' reported same-sex sexual experiences and attitudes, 1973-2014."** *Arch Sex Behav*. <http://www.ncbi.nlm.nih.gov/pubmed/27251639>

We examined change over time in the reported prevalence of men having sex with men and women having sex with women and acceptance of those behaviors in the nationally representative General Social Survey of U.S. adults (n's = 28,161-33,728, ages 18-96 years), 1972-2014. The number of U.S. adults who had at least one same-sex partner since age 18 doubled between the early 1990s and early 2010s (from 3.6 to 8.7 % for women and from 4.5 to 8.2 % for men). Bisexual behavior (having sex with both male and female partners) increased from 3.1 to 7.7 %, accounting for much of the rise, with little consistent change in those having sex exclusively with same-sex partners. The increase in same-sex partners was larger for women than for men, consistent with erotic plasticity theory. Attitudes toward same-sex sexual behavior also became substantially more accepting,  $d = .75$ , between the early 1970s and early 2010s. By 2014, 49 % of American adults believed that same-sex sexual activity was "not wrong at all," up from 11 % in 1973 and 13 % in 1990. Controlling for acceptance reduced, but did not eliminate, the increase in same-sex behavior over time. Mixed effects (hierarchical linear modeling) analyses separating age, time period, and cohort showed that the trends were primarily due to time period. Increases in same-sex sexual behavior were largest in the South and Midwest and among Whites, were mostly absent among Blacks, and were smaller among the religious. Overall, same-sex sexual behavior has become both more common (or at least more commonly reported) and more accepted.

Valtorta, N. K., M. Kanaan, et al. (2016). **"Loneliness and social isolation as risk factors for coronary heart disease and stroke: Systematic review and meta-analysis of longitudinal observational studies."** *Heart*. <http://heart.bmj.com/content/early/2016/03/15/heartjnl-2015-308790.abstract>

(Available in free full text) Background The influence of social relationships on morbidity is widely accepted, but the size of the risk to cardiovascular health is unclear. Objective We undertook a systematic review and meta-analysis to investigate the association between loneliness or social isolation and incident coronary heart disease (CHD) and stroke. Methods Sixteen electronic databases were systematically searched for longitudinal studies set in high-income countries and published up until May 2015. Two independent reviewers screened studies for inclusion and extracted data. We assessed quality using a component approach and pooled data for analysis using random effects models. Results Of the 35 925 records retrieved, 23 papers met inclusion criteria for the narrative review. They reported data from 16 longitudinal datasets, for a total of 4628 CHD and 3002 stroke events recorded over follow-up periods ranging from 3 to 21 years. Reports of 11 CHD studies and 8 stroke studies provided data suitable for meta-analysis. Poor social relationships were associated with a 29% increase in risk of incident CHD (pooled relative risk: 1.29, 95% CI 1.04 to 1.59) and a 32% increase in risk of stroke (pooled relative risk: 1.32, 95% CI 1.04 to 1.68). Subgroup analyses did not identify any differences by gender. Conclusions Our findings suggest that deficiencies in social relationships are associated with an increased risk of developing CHD and stroke. Future studies are needed to investigate whether interventions targeting loneliness and social isolation can help to prevent two of the leading causes of death and disability in high-income countries.

van Zuuren, E. J., Z. Fedorowicz, et al. (2016). **"Interventions for female pattern hair loss."** *Cochrane Database of Systematic Reviews*(5). <http://dx.doi.org/10.1002/14651858.CD007628.pub4>

Background: Female pattern hair loss (FPHL), or androgenic alopecia, is the most common type of hair loss affecting women. It is characterised by progressive shortening of the duration of the growth phase of the hair with successive hair cycles, and progressive follicular miniaturisation with conversion of terminal to vellus hair follicles (terminal hairs are thicker and longer, while vellus hairs are soft, fine, and short). The frontal hair line may or may not be preserved. Hair loss can have a serious psychological impact on women. Objectives: To determine the efficacy and safety of the available options for the treatment of female pattern hair loss in women. Search methods: We updated our searches of the following databases to July 2015: the Cochrane Skin Group Specialised Register, CENTRAL in the Cochrane Library (2015, Issue 6), MEDLINE (from 1946), EMBASE (from 1974), PsycINFO (from 1872), AMED (from 1985), LILACS (from 1982), PubMed (from 1947), and Web of Science (from 1945). We also searched five trial registries and checked the reference lists of included and excluded studies. Selection criteria: We included randomised controlled trials that assessed the efficacy of interventions for FPHL in women. Data collection and analysis: Two review authors independently assessed trial quality, extracted data and carried out analyses. Main results: We included 47 trials, with 5290 participants, of which 25 trials were new to this update. Only five trials were at 'low risk of bias', 26 were at 'unclear risk', and 16 were at 'high risk of bias'. The included trials evaluated a wide range of interventions, and 17 studies evaluated minoxidil. Pooled data from six studies indicated that a greater proportion of participants (157/593) treated with minoxidil (2% and one study with 1%) reported a moderate to marked increase in their hair regrowth when compared with placebo (77/555) (risk ratio (RR) = 1.93, 95% confidence interval (CI) 1.51 to 2.47; moderate quality evidence). These results were confirmed by the investigator-rated assessments in seven studies with 1181 participants (RR 2.35, 95% CI 1.68 to 3.28; moderate quality evidence). Only one study reported on quality of life (QoL) (260 participants), albeit inadequately (low quality evidence). There was an important increase of 13.18 in total hair count per cm<sup>2</sup> in the minoxidil group compared to the placebo group (95% CI 10.92 to 15.44; low quality evidence) in eight studies (1242 participants). There were 40/407 adverse events in the twice daily minoxidil 2% group versus 28/320 in the placebo group (RR 1.24, 95% CI 0.82 to 1.87; low quality evidence). There was also no statistically significant difference in adverse events between any of the individual concentrations against placebo. Four studies (1006 participants) evaluated minoxidil 2% versus 5%. In one study, 25/57 participants in the minoxidil 2% group experienced moderate to greatly increased hair regrowth versus 22/56 in the 5% group (RR 1.12, 95% CI 0.72 to 1.73). In another study, 209 participants experienced no difference based on a visual analogue scale (P = 0.062; low quality evidence). The assessments of the investigators based on three studies (586 participants) were in agreement with these findings (moderate quality evidence). One study assessed QoL (209 participants) and reported limited data (low quality evidence). Four trials (1006 participants) did not show a difference in number of adverse events between the two concentrations (RR 1.02, 95% CI 0.91 to 1.20; low quality evidence). Both concentrations did not show a difference in increase in total hair count at end of study in three trials with 631 participants (mean difference (MD) -2.12, 95% CI -5.47 to 1.23; low quality evidence). Three

studies investigated finasteride 1 mg compared to placebo. In the finasteride group 30/67 participants experienced improvement compared to 33/70 in the placebo group (RR 0.95, 95% CI 0.66 to 1.37; low quality evidence). This was consistent with the investigators' assessments (RR 0.77, 95% CI 0.31 to 1.90; low quality evidence). QoL was not assessed. Only one study addressed adverse events (137 participants) (RR 1.03, 95% CI 0.45 to 2.34; low quality evidence). In two studies (219 participants) there was no clinically meaningful difference in change of hair count, whilst one study (12 participants) favoured finasteride (low quality evidence). Two studies (141 participants) evaluated low-level laser comb therapy compared to a sham device. According to the participants, the low-level laser comb was not more effective than the sham device (RR 1.54, 95% CI 0.96 to 2.49; and RR 1.18, 95% CI 0.74 to 1.89; moderate quality evidence). However, there was a difference in favour of low-level laser comb for change from baseline in hair count (MD 17.40, 95% CI 9.74 to 25.06; and MD 17.60, 95% CI 11.97 to 23.23; low quality evidence). These studies did not assess QoL and did not report adverse events per treatment arm and only in a generic way (low quality evidence). Low-level laser therapy against sham comparisons in two separate studies also showed an increase in total hair count but with limited further data. Single studies addressed the other comparisons and provided limited evidence of either the efficacy or safety of these interventions, or were unlikely to be examined in future trials. Authors' conclusions: Although there was a predominance of included studies at unclear to high risk of bias, there was evidence to support the efficacy and safety of topical minoxidil in the treatment of FPHL (mainly moderate to low quality evidence). Furthermore, there was no difference in effect between the minoxidil 2% and 5% with the quality of evidence rated moderate to low for most outcomes. Finasteride was no more effective than placebo (low quality evidence). There were inconsistent results in the studies that evaluated laser devices (moderate to low quality evidence), but there was an improvement in total hair count measured from baseline. Further randomised controlled trials of other widely-used treatments, such as spironolactone, finasteride (different dosages), dutasteride, cyproterone acetate, and laser-based therapy are needed.

Wammes, J. D., M. E. Meade, et al. (2016). **"The drawing effect: Evidence for reliable and robust memory benefits in free recall."** *Q J Exp Psychol (Hove)* 69(9): 1752-1776.

<http://www.tandfonline.com/doi/abs/10.1080/17470218.2015.1094494?journalCode=pqje20>

In 7 free-recall experiments, the benefit of creating drawings of to-be-remembered information relative to writing was examined as a mnemonic strategy. In Experiments 1 and 2, participants were presented with a list of words and were asked to either draw or write out each. Drawn words were better recalled than written. Experiments 3-5 showed that the memory boost provided by drawing could not be explained by elaborative encoding (deep level of processing, LoP), visual imagery, or picture superiority, respectively. In Experiment 6, we explored potential limitations of the drawing effect, by reducing encoding time and increasing list length. Drawing, relative to writing, still benefited memory despite these constraints. In Experiment 7, the drawing effect was significant even when encoding trial types were compared in pure lists between participants, inconsistent with a distinctiveness account. Together these experiments indicate that drawing enhances memory relative to writing, across settings, instructions, and alternate encoding strategies, both within- and between-participants, and that a deep LoP, visual imagery, or picture superiority, alone or collectively, are not sufficient to explain the observed effect. We propose that drawing improves memory by encouraging a seamless integration of semantic, visual, and motor aspects of a memory trace. [Nice discussion in BPS Digest - <http://digest.bps.org.uk/2016/04/want-to-remember-something-draw-it.html> - If you've got some revision to do, get yourself a sketch pad and start drawing out the words or concepts that you want to remember. That's the clear message from a series of studies in the Quarterly Journal of Experimental Psychology that demonstrates drawing is a powerful memory aid. Jeffrey Wammes and his colleagues first presented dozens of students with 30 easily drawable words such as "apple". For each word, they had to spend 40 seconds writing it out repeatedly, or drawing it. The students then completed a filler task for a couple of minutes, which involved classifying the pitch of different tones. Then they were given a surprise memory test and asked to recall as many of the earlier words as possible. Participants recalled more than double the proportion of drawn words than written words. The drawing advantage held in a variation of the experiment in which the 40 seconds were spent either drawing each word repeatedly, or writing out each word just once and then spending additional time adding visual detail, such as shading. In further experiments with dozens more students, the researchers showed that drawing was a better memory aid than visualising the words, than writing a description of the physical characteristics of each word's meaning (designed to encourage deep-level encoding of the words), and more effective than looking at pictures of the words. The drawing advantage also remained when participants were given just four seconds to draw each word, and whether they performed the tasks alone or together in a lecture hall. The researchers think that drawing has this effect because it involves lots of different mental processes that are known to benefit memory, such as visualization and deep-level elaboration. "We propose that drawing, through the seamless integration of its constituent parts, produces a synergistic effect, whereby the whole benefit is greater than the sum of the benefit of each component," they said. They acknowledged more research is needed to show the usefulness of these findings to real life: "While we did show that the drawing effect is reliable in group testing in our experiments, the content was still only single words and hardly representative of an academic setting."]

Wang, C., C. H. Schmid, et al. (2016). **"Comparative effectiveness of tai chi versus physical therapy for knee osteoarthritis randomized trial tai chi versus physical therapy for knee osteoarthritis."** *Annals of Internal Medicine* N/A(N/A): N/A-N/A. <http://dx.doi.org/10.7326/M15-2143>

Background: Few remedies effectively treat long-term pain and disability from knee osteoarthritis. Studies suggest that Tai Chi alleviates symptoms, but no trials have directly compared Tai Chi with standard therapies for osteoarthritis. Objective: To compare Tai Chi with standard physical therapy for patients with knee osteoarthritis. Design: Randomized, 52-week, single-blind comparative effectiveness trial. (ClinicalTrials.gov: NCT01258985) Setting: An urban tertiary care academic hospital. Patients: 204 participants with symptomatic knee osteoarthritis (mean age, 60 years; 70% women; 53% white). Intervention: Tai Chi (2 times per week for 12 weeks) or standard physical therapy (2 times per week for 6 weeks, followed by 6 weeks of monitored home exercise). Measurements: The primary outcome was Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score at 12 weeks. Secondary outcomes included physical function, depression, medication use, and quality of life. Results: At 12 weeks, the WOMAC score was substantially reduced in both groups (Tai Chi, 167 points [95% CI, 145 to 190 points]; physical therapy, 143 points [CI, 119 to 167 points]). The between-group difference was not significant (24 points [CI, -10 to 58 points]). Both groups also showed similar clinically significant improvement in most secondary outcomes, and the benefits were maintained up to 52 weeks. Of note, the Tai Chi group had significantly greater improvements in depression and the physical component of quality of life. The benefit of Tai Chi was consistent across instructors. No serious adverse events occurred. Limitation: Patients were aware of their treatment group assignment, and the generalizability of the findings to other settings remains undetermined. Conclusion: Tai Chi produced beneficial effects similar to those of a standard course of physical therapy in the treatment of knee osteoarthritis. Primary Funding Source: National Center for Complementary and Integrative Health of the National Institutes of Health.

Wickham, R. E., R. E. Williamson, et al. (2016). **"Authenticity attenuates the negative effects of interpersonal conflict on daily well-being."** *Journal of Research in Personality* 60: 56-62.

<http://www.sciencedirect.com/science/article/pii/S0092656615300283>

(Available in free full text) Prior research has established a consistent relationship between felt authenticity and greater psychological and physical well-being. Nevertheless, a number of important questions remain regarding the role of authenticity in shaping individuals' responses to stressful events in daily life. Interpersonal conflict in particular, has been established as one of the strongest contributors to daily stress, and a number of prior studies suggest that the negative effects of interpersonal conflict may be moderated by personality factors. The present work used a diary design to examine the role of trait authenticity in buffering individuals from the negative effects of interpersonal conflict. More importantly, we show that the protective role of trait authenticity functions independently from the previously established effects of agreeableness and neuroticism.