

# **36 bhma abstracts, january '12**

Thirty six abstracts covering a multitude of stress, health & wellbeing related subjects including friendship & stress-buffering, manipulation or exercise for neck pain, depression treatment & work productivity, unfortunate first names, the power of benevolence, resistance training for anxiety, values affirmation for weight loss and much more.

(Adams, Santo et al. 2011; Choi, Karremans et al. 2011; Chung, Lee et al. 2011; Dewa, Thompson et al. 2011; Gebauer, Leary et al. 2011; Howell, Pchelin et al. 2011; Mikula, Riederer et al. 2011; Muir and Montero-Odasso 2011; Scarborough, Bhatnagar et al. 2011; Simpson, Shaw et al. 2011; Aydin, Krueger et al. 2012; Bohns and Wiltermuth 2012; Bronfort, Evans et al. 2012; Gray 2012; Herring, Jacob et al. 2012; Inagaki and Eisenberger 2012; Klainin-Yobas, Cho et al. 2012; Konings, Stefanis et al. 2012; Langer, Cangas et al. 2012; Laurin, Kay et al. 2012; Lewis, Pearce et al. 2012; Logel and Cohen 2012; MacCoon, Imel et al. 2012; McFarland, Smith et al. 2012; Mueller, Melwani et al. 2012; Oishi, Schimmack et al. 2012; Pletcher, Vittinghoff et al. 2012; Pressman, Avins et al. 2012; Rosenblum, Castro et al. 2012; Scott S 2012; Seritan, Hunt et al. 2012; Singh-Manoux, Kivimaki et al. 2012; Singh, Uijtdewilligen et al. 2012; Slepian and Ambady 2012; Thomas 2012; Zittermann, Iodice et al. 2012)

Adams, R. E., J. B. Santo, et al. (2011). "The presence of a best friend buffers the effects of negative experiences." *Dev Psychol* **47**(6): 1786-1791. <http://www.ncbi.nlm.nih.gov/pubmed/21895364>.

The goal of the current study was to examine how the presence of a best friend might serve as protection against the effect of negative experiences on global self-worth and the hypothalamic-pituitary-adrenocortical axis (HPA axis). A total of 103 English-speaking male (n = 55) and female (n = 48) participants from Grade 5 (M = 10.27 years) and Grade 6 (M = 11.30 years) completed booklets about their experiences that occurred 20 min previously and how they felt about themselves at the moment, and they provided saliva multiple times per day over the course of 4 consecutive days. Having a best friend present during an experience significantly buffered the effect of the negativity of the experience on cortisol and global self-worth. When a best friend was not present, there was a significant increase in cortisol and a significant decrease in global self-worth as the negativity of the experience increased. When a best friend was present, there was less change in cortisol and global self-worth due to the negativity of the experience.

Aydin, N., J. I. Krueger, et al. (2012). "'Man's best friend:' How the presence of a dog reduces mental distress after social exclusion." *Journal of Experimental Social Psychology* **48**(1): 446-449. <http://www.sciencedirect.com/science/article/pii/S0022103111002411>.

A substantial amount of research shows that social exclusion is a threat to mental health. In the research reported here, we tested the hypothesis that the presence of a companion animal can serve as a buffer against these adverse effects. In a controlled laboratory experiment, we found that only socially excluded participants who did not work in the presence of a dog reported lower mental well-being compared with socially excluded participants who performed in the presence of a dog and participants who were not socially excluded. The theoretical and practical implications of these findings are discussed.

Bohns, V. K. and S. S. Wiltermuth (2012). "It hurts when I do this (or you do that): Posture and pain tolerance." *Journal of Experimental Social Psychology* **48**(1): 341-345. <http://www.sciencedirect.com/science/article/pii/S0022103111001612>.

Recent research (Carney, Cuddy, & Yap, 2010) has shown that adopting a powerful pose changes people's hormonal levels and increases their propensity to take risks in the same ways that possessing actual power does. In the current research, we explore whether adopting physical postures associated with power, or simply interacting with others who adopt these postures, can similarly influence sensitivity to pain. We conducted two experiments. In Experiment 1, participants who adopted dominant poses displayed higher pain thresholds than those who adopted submissive or neutral poses. These findings were not explained by semantic priming. In Experiment 2, we manipulated power poses via an interpersonal interaction and found that power posing engendered a complementary (Tiedens & Fragale, 2003) embodied power experience in interaction partners. Participants who interacted with a submissive confederate displayed higher pain thresholds and greater handgrip strength than participants who interacted with a dominant confederate.

Bronfort, G., R. Evans, et al. (2012). "Spinal manipulation, medication, or home exercise with advice for acute and subacute neck pain." *Annals of Internal Medicine* **156**(1 Part 1): 1-10. [http://www.annals.org/content/156/1\\_Part\\_1/1.abstract](http://www.annals.org/content/156/1_Part_1/1.abstract).

Background: Mechanical neck pain is a common condition that affects an estimated 70% of persons at some point in their lives. Little research exists to guide the choice of therapy for acute and subacute neck pain. Objective: To determine the relative efficacy of spinal manipulation therapy (SMT), medication, and home exercise with advice (HEA) for acute and subacute neck pain in both the short and long term. Design: Randomized, controlled trial. (ClinicalTrials.gov registration number: NCT00029770) Setting: 1 university research center and 1 pain management clinic in Minnesota. Participants: 272 persons aged 18 to 65 years who had nonspecific neck pain for 2 to 12 weeks. Intervention: 12 weeks of SMT, medication, or HEA. Measurements: The primary outcome was participant-rated pain, measured at 2, 4, 8, 12, 26, and 52 weeks after randomization. Secondary measures were self-reported disability, global improvement, medication use, satisfaction, general health status (Short Form-36 Health Survey physical and mental health scales), and adverse events. Blinded evaluation of neck motion was performed at 4 and 12 weeks. Results: For pain, SMT had a statistically significant advantage over medication after 8, 12, 26, and 52 weeks ( $P \leq 0.010$ ), and HEA was superior to medication at 26 weeks ( $P = 0.02$ ). No important differences in pain were found between SMT and HEA at any time point. Results for most of the secondary outcomes were similar to those of the primary outcome. Limitations: Participants and providers could not be blinded. No specific criteria for defining clinically important group differences were prespecified or available from the literature. Conclusion: For participants with acute and subacute neck pain, SMT was more effective than medication in both the short and long term. However, a few instructional sessions of HEA resulted in similar outcomes at most time points.

Choi, Y., J. C. Karremans, et al. (2011). "The happy face of mindfulness: Mindfulness meditation is associated with perceptions of happiness as rated by outside observers." *The Journal of Positive Psychology* **7**(1): 30-35. <http://dx.doi.org/10.1080/17439760.2011.626788>.

The last decade has witnessed an enormous increase in research examining the effects of mindfulness meditation. One of the basic assumptions guiding this research is that meditation ultimately makes people happier. In this article, in two studies we tested whether meditators actually look happier. To address this question, outside raters judged the happiness of meditators and non-meditators based on a 15-s video clip of their behaviour. Study 1 demonstrated that novice meditators looked happier after an intensive 9-day meditation retreat (as compared to before the retreat), while Study 2 demonstrated that experienced mindfulness meditators looked happier as compared to controls. The interpersonal implications of these findings are discussed.

Chung, M., J. Lee, et al. (2011). "Vitamin D With or Without Calcium Supplementation for Prevention of Cancer and Fractures: An Updated Meta-analysis for the U.S. Preventive Services Task Force." *Annals of Internal Medicine* **155**(12): 827-838. <http://www.annals.org/content/155/12/827.abstract>.

Background: Studies suggest that vitamin D supplementation may reduce cancer and fracture risks. Purpose: To examine the benefits and harms of vitamin D with or without calcium supplementation on clinical outcomes of cancer and fractures in adults. Data Sources: English-language studies identified from MEDLINE and the Cochrane Central Register of Controlled Trials through July 2011. Study Selection: Randomized, controlled trials (RCTs), prospective cohort studies, and nested case-control studies reporting incidence of or death from cancer and fracture outcomes. Data Extraction: Multiple reviewers extracted details about participant characteristics, including baseline vitamin D status and use of supplements; details of statistical analyses, including adjustments for confounding; and methodological quality. Differences were resolved by consensus. Data Synthesis: 19 RCTs (3 for cancer and 16 for fracture outcomes) and 28 observational studies (for cancer outcomes) were analyzed. Limited data from RCTs suggested that high-dose (1000 IU/d) vitamin D supplementation can reduce the risk for total cancer, and data from observational studies suggested that higher blood 25-hydroxyvitamin D (25-[OH]D) concentrations might be associated with increased risk for cancer. Mixed-effects dose-response meta-analyses showed that each 10-nmol/L increase in blood 25-(OH)D concentration was associated with a 6% (95% CI, 3% to 9%) reduced risk for colorectal cancer but no statistically significant dose-response relationships for prostate and breast cancer. Random-effects model meta-analysis showed that combined vitamin D and calcium supplementation reduced fracture risk (pooled relative risk, 0.88 [CI, 0.78 to 0.99]) in older adults, but the effects differed according to study setting: institution (relative risk, 0.71 [CI, 0.57 to 0.89]) versus community-dwelling (relative risk, 0.89 [CI, 0.76 to 1.04]). One RCT showed adverse outcomes associated with supplementation, including increased risk for renal and urinary tract stones. Limitations: Most trial participants were older (aged  $\geq 65$  years) postmenopausal women. Observational studies were heterogeneous and were limited by potential confounders. Conclusion: Combined vitamin D and calcium supplementation can reduce fracture risk, but the effects may be smaller among community-dwelling older adults than among institutionalized elderly persons. Appropriate dose and dosing regimens, however, require further study. Evidence is not sufficiently robust to draw conclusions regarding the benefits or harms of vitamin D supplementation for the prevention of cancer.

Dewa, C. S., A. H. Thompson, et al. (2011). "The association of treatment of depressive episodes and work productivity." *Can J Psychiatry* **56**(12): 743-750. <http://publications.cpa-apc.org/browse/documents/552>.

(Free full text available) OBJECTIVE: About one-third of the annual \$51 billion cost of mental illnesses is related to productivity losses. However, few studies have examined the association of treatment and productivity. The purpose of our research is to examine the association of depression and its treatment and work productivity. METHODS: Our analyses used data from 2737 adults aged between 18 and 65 years who participated in a large-scale community survey of employed and recently employed people in Alberta. Using the World Health Organization's Health and Work Performance Questionnaire, a productivity variable was created to capture high productivity (above the 75th percentile). We used regression methods to examine the association of mental disorders and their treatment and productivity, controlling for demographic factors and job characteristics. RESULTS: In the sample, about 8.5% experienced a depressive episode in the past year. The regression results indicated that people who had a severe depressive episode were significantly less likely to be highly productive. Compared with people who had a moderate or severe depressive episode who did not have treatment, those who did have treatment were significantly more likely to be highly productive. However, about one-half of workers with a moderate or severe depressive episode did not receive treatment. CONCLUSIONS: Our results corroborate those in the literature that indicate mental disorders are significantly associated with decreased work productivity. In addition, these findings indicate that treatment for these disorders is significantly associated with productivity. Our results also highlight the low proportion of workers with a mental disorder who receive treatment.

Gebauer, J. E., M. R. Leary, et al. (2011). "Unfortunate first names: Effects of name-based relational devaluation and interpersonal neglect." *Social psychological and personality science*. <http://spp.sagepub.com/content/early/2011/12/22/1948550611431644.abstract>.

(Available in free full text) Can negative first names cause interpersonal neglect? Study 1 (N = 968) compared extremely negatively named online-daters with extremely positively named online-daters. Study 2 (N = 4,070) compared less extreme groups—namely, online-daters with somewhat unattractive versus somewhat attractive first names. Study 3 (N = 6,775) compared online-daters with currently popular versus currently less popular first names, while controlling for name-popularity at birth. Across all studies, negatively named individuals were more neglected by other online-daters, as indicated by fewer first visits to their dating profiles. This form of neglect arguably mirrors a name-based life history of neglect, discrimination, prejudice, or even ostracism. Supporting this argument, neglect mediated the relation between negative names and lower self-esteem, more frequent smoking, and less education. These results are consistent with the name-based interpersonal neglect hypothesis: Negative names evoke negative interpersonal reactions, which in turn influence people's life outcomes for the worse.

Gray, K. (2012). "The power of good intentions: Perceived benevolence soothes pain, increases pleasure, and improves taste." *Social psychological and personality science*. <http://spp.sagepub.com/content/early/2012/01/16/1948550611433470.abstract>.

The experience of physical stimuli would seem to depend primarily on their physical characteristics—chocolate tastes good, getting slapped hurts, and snuggling is pleasurable. This research examined, however, whether physical experience is influenced by the interpersonal context in which stimuli occur. Specifically, three studies examined whether perceiving benevolent intentions behind stimuli can improve their experience. Experiment 1 tested whether benevolently intended shocks hurt less, Experiment 2 tested whether benevolently intended massages were more pleasurable, and Experiment 3 tested whether benevolently intended candy tastes sweeter. The results confirm that good intentions—even misguided ones—can soothe pain, increase pleasure, and make things taste better. More broadly, these studies suggest that basic physical experience depends upon how we perceive the minds of others. *Medical Xpress* - <http://medicalxpress.com/news/2012-01-good-intentions-ease-pain-pleasure.html> - comments "A nurse's tender loving care really does ease the pain of a medical procedure, and grandma's cookies really do taste better, if we perceive them to be made with love - suggests newly published research by a University of Maryland psychologist. The findings have many real-world applications, including in medicine, relationships, parenting and business. "The way we read another person's intentions changes our physical experience of the world," says UMD Assistant Professor Kurt Gray, author of "The Power of Good Intentions," newly published online ahead of print in the journal *Social Psychological and Personality Science*. Gray directs the Maryland Mind Perception and Morality Lab. "The results confirm that good intentions - even misguided ones - can soothe pain, increase pleasure and make things taste better," the study concludes. It describes the ability of benevolence to improve physical experience as a "vindication for the power of good." While it seems clear that good and evil intentions can change the experience of social events - think of a reaction to a mean-spirited, cutting remark compared to gentle teasing spoken with a smile - this study shows that physical events are influenced by the perceived contents of another person's mind."It seems we also use the intentions of others as a guide for basic physical

experience," Gray writes in the journal. **SPECIFIC FINDINGS** The power of good intentions to shape physical experience was demonstrated in three separate experiments: the first examined pain, the second examined pleasure, and the third examined the taste of a sweet treat. **PAIN: EXPERIMENT 1. Does kindness reduce pain?** Three groups of participants received identical electric shocks at the hand of a partner. Members of the first group were in the "accidental" condition: They thought they were being shocked without their partner's awareness. The second, or "malicious condition, group thought they were being shocked on purpose, for no good reason. The final group ("benevolent" condition), also thought they were being shocked on purpose, but because another person was trying to help them win money. The result: Participants in the "benevolent" group experienced significantly less pain than both the "malicious" and "accident" participants. This finding should "provide relief to doctors and even those caring parents who are sometimes compelled to inflict pain on their charges for their [charges] own good," Gray writes in the paper. **PLEASURE: EXPERIMENT 2. Do good intentions also heighten the experience of pleasure?** People sat on an electric massage pad in an easy chair which was repeatedly turned on - either by an indifferent computer or a caring partner. Although the massages were identical, Gray found that partner massages caused significantly more pleasure than those administered by a computer. "Although computers may be more efficient than humans at many things, pleasure is still better coming from another person," the study concludes. **TASTE: EXPERIMENT 3. Does benevolence improve how things taste?** Subjects were given candy in a package with a note attached. For the benevolent group, the note read: "I picked this just for you. Hope it makes you happy. The non-benevolent (indifferent) version read: "Whatever. I just don't care. I just picked it randomly." The candy not only tasted better to the benevolent group, but it also tasted significantly sweeter. "Perceived benevolence not only improves the experience of pain and pleasure, but can also make things taste better," the study concludes. **APPLICATIONS** The findings of these studies suggest clear applications. For example, the first experiment suggests that medical personnel should make sure to brush up on their bedside manner. "How painful people find medical procedures depends in part upon the perceived intentions of the person administering it," says Gray. "Getting blood taken from stony-faced nurse hurts more than from an empathic one." For those in relationships, which is pretty much everyone, the message is to make sure your partner, sibling, friend, etc. knows you care. Gray notes, "It's not enough just to do good things for your partner - they have to know you want them to feel good. Just imagine saying, 'fine, here's your stupid hug,' - hardly comforting." The same would also seem to apply to cooking, where emphasizing your concern about the experience of the diners makes things taste better. Relatedly, these results also apply to business strategy. "It's no surprise," says Gray, "that food companies always pair their products with kindly old grandfathers and smiling mothers - thinking of this make believe benevolence likely increases our enjoyment." The study also suggests the general benefits of thinking that others mean well - including God. "Painful events attributed to a benevolent God should seem to hurt less than those attributed to a vengeful God, says Gray. "To the extent that we view others as benevolent instead of malicious, the harms they inflict upon us should hurt less, and the good things they do for us should cause more pleasure," the paper concludes. "Stolen parking places cut less deep and home-cooked meals taste better when we think well of others."

Herring, M. P., M. L. Jacob, et al. (2012). "Feasibility of exercise training for the short-term treatment of generalized anxiety disorder: a randomized controlled trial." *Psychother Psychosom* **81**(1): 21-28.

<http://content.karger.com/ProdukteDB/produkte.asp?typ=pdf&doi=327898>.

**BACKGROUND:** Exercise training may be especially helpful for patients with generalized anxiety disorder (GAD). We conducted a randomized controlled trial to quantify the effects of 6 weeks of resistance (RET) or aerobic exercise training (AET) on remission and worry symptoms among sedentary patients with GAD. **METHODS:** Thirty sedentary women aged 18-37 years, diagnosed by clinicians blinded to treatment allocation with a primary DSM-IV diagnosis of GAD and not engaged in any treatment other than pharmacotherapy, were randomly allocated to RET, AET, or a wait list (WL). RET involved 2 weekly sessions of lower-body weightlifting. AET involved 2 weekly sessions of leg cycling matched with RET for body region, positive work, time actively engaged in exercise, and load progression. Remission was measured by the number needed to treat (NNT). Worry symptoms were measured by the Penn State Worry Questionnaire. Results: There were no adverse events. Remission rates were 60%, 40%, and 30% for RET, AET, and WL, respectively. The NNT was 3 (95% CI 2 to 56) for RET and 10 (95% CI - 7 to 3) for AET. A significant condition-by-time interaction was found for worry symptoms. A follow-up contrast showed significant reductions in worry symptoms for combined exercise conditions versus the WL. **CONCLUSIONS:** Exercise training, including RET, is a feasible, low-risk treatment that can potentially reduce worry symptoms among GAD patients and may be an effective adjuvant, short-term treatment or augmentation for GAD. Preliminary findings warrant further investigation. *MedicalXpress* - <http://medicalxpress.com/news/2012-01-anxiety-symptoms-women.html> - comments "Approximately 3 percent of the U.S. population suffers from excessive, uncontrollable worry that reduces their health and quality of life. The condition, known as Generalized Anxiety Disorder, is difficult to overcome and is accompanied by a host of physical symptoms, including fatigue, muscle tension, irritability and poor sleep. However, a new University of Georgia study shows that regular exercise can significantly reduce anxiety symptoms in patients with GAD. In a study published online in the Nov. 22 edition of *Psychotherapy and Psychosomatics*, researchers randomly assigned 30 sedentary women, ages 18-37 who were diagnosed with GAD, to either a control group or six weeks of strength or aerobic exercise training. Women in the exercise conditions completed two weekly sessions of either weight lifting or leg cycling exercise. Remission of the disorder, determined by psychologists who were unaware of the treatment each client received, was higher among exercisers and best among those who performed weight lifting exercise. Worry symptoms, the primary problem among individuals with GAD, were significantly reduced among the exercisers, and moderate-to-large improvements in other symptoms, such as irritability, feelings of tension, low energy and pain, were found. Matthew Herring, now a research associate in the department of epidemiology at the University of Alabama, Birmingham, led the study during his dissertation research as a doctoral student in the UGA College of Education's department of kinesiology. The team also included Patrick O'Connor and Rodney Dishman, co-directors of the UGA exercise psychology laboratory, psychology professor Cynthia Suveg and doctoral student Marni Jacob. "Our findings add to the growing body of evidence of the positive effects of exercise training on anxiety," said Herring. "Our study is the first randomized controlled trial focused on the effects of exercise training among individuals diagnosed with GAD. Given the prevalence of GAD and drawbacks of current treatments, including expense and potential negative side effects, our findings are particularly exciting, because they suggest that exercise training is a feasible, well-tolerated potential adjuvant therapy with low risk that can reduce the severity of signs and symptoms of GAD. Future research should confirm these findings with large trials and explore potential underlying mechanisms of exercise effects among individuals with GAD." The study also examined potential interactions between exercise and drugs used to treat GAD. Half of the participants in each group were taking a medication to treat GAD during the exercise program. Exercise training lessened anxiety symptoms to the same degree among those taking medication compared to those not taking medication. "The large improvements found in this small investigation show that regular exercise has the power to help calm women suffering from GAD, even among those who appear to be resistant to treatment using medication," said O'Connor. "The results of this research are very exciting because exercise is available to everyone, is relatively inexpensive and has beneficial effects beyond the reduction of anxious and depressive symptoms," said Suveg. "For individuals suffering from impairing symptoms, these preliminary findings suggest that exercise may offer another potential treatment option that has few, if any, negative side effects. Future research needs to explore the long-term benefits of exercise as well as the conditions under which exercise may be most beneficial and for whom."

Howell, R. T., P. Pchelin, et al. (2011). "The preference for experiences over possessions: Measurement and construct validation of the Experiential Buying Tendency Scale." *The Journal of Positive Psychology* **7**(1): 57-71. <http://dx.doi.org/10.1080/17439760.2011.626791>.

There is growing support that money spent on experiential items increases an individual's happiness. However, there is minimal research on the causes and long-term consequences of the tendency to make experiential purchases. Given the importance of experiential buying for improving well-being, an understanding of the preference for experiential purchasing is imperative. Thus, we developed the Experiential Buying Tendency Scale (EBTS) to measure habitual experiential purchasing. Across eight samples ( $n=9634$ ), the EBTS was developed, and shown to be reliable, valid, and predictive of consumer behavior and psychological well-being. An experiential purchasing tendency was related to higher extraversion, openness, empathic concern, and reward seeking. Further, non-materialistic values predicted a preference for experiential purchasing, which led to increased psychological need satisfaction, and, ultimately, increased subjective well-being. The discussion proposes that experiential purchasing may be a function of one's sensitivity to rewards, emotional responsiveness to events, and appreciation of the world's beauty.

Inagaki, T. K. and N. I. Eisenberger (2012). "Neural correlates of giving support to a loved one." *Psychosomatic Medicine* **74**(1): 3-7. <http://www.psychosomaticmedicine.org/content/74/1/3.abstract>.

Objective Social support may benefit mental and physical well-being, but most research has focused on the receipt, rather than the provision, of social support. We explored the potentially beneficial effects of support giving by examining the neural substrates of giving support to a loved one. We focused on a priori regions of interest in the ventral striatum and septal area (SA) because of their role in maternal caregiving behavior in animals. Methods Twenty romantic couples completed a functional magnetic resonance imaging session in which the female partner underwent a scan while her partner stood just outside the scanner and received unpleasant electric shocks. Results Support giving (holding a partner's arm while they experienced physical pain), compared with other control conditions, led to significantly more activity in the ventral striatum, a reward-related region also involved in maternal behavior ( $p$  values  $< .05$ ). Similar effects were observed for the SA, a region involved in both maternal behavior and fear attenuation. Greater activity in each of these regions during support giving was associated with greater self-reported support giving effectiveness and social connection ( $r$  values = 0.55–0.64,  $p$  values  $< .05$ ). In addition, in line with the SA's role in fear attenuation (presumably to facilitate caregiving during stress), increased SA activity during support giving was associated with reduced left ( $r = -0.44$ ,  $p < .05$ ) and right ( $r = -0.42$ ,  $p < .05$ ) amygdala activity. Conclusions Results suggest that support giving may be beneficial not only for the receiver but also for the giver. Implications for the possible stress-reducing effects of support giving are discussed.

Klainin-Yobas, P., M. A. A. Cho, et al. (2012). "Efficacy of mindfulness-based interventions on depressive symptoms among people with mental disorders: A meta-analysis." *International journal of nursing studies* **49**(1): 109-121. <http://linkinghub.elsevier.com/retrieve/pii/S0020748911003373?showall=true>.

Objectives: Depression, a common mental health problem, is projected to be the second leading cause of disability for adults by year 2020. Mindfulness-based interventions (MFIs) have been integrated into therapeutic work on depression, but limited systematic reviews reported their efficacy on heterogeneous groups of mental disorders. This meta-analysis aimed to examine the efficacy of the MFIs on depressive symptoms in people with various mental disorders. Design: A meta-analysis of experimental and quasi-experimental studies was undertaken. Data sources: Multiple search strategies were undertaken to identify published and unpublished studies conducted between 1995 and 2011. Electronic databases used were Scopus, CINAHL, PubMed, ScienceDirect, PsycINFO, Dissertation Abstract International, Web of Science Index, Controlled-trial.com, and clinicaltrials.gov. Review methods: Data were extracted and appraised by two reviewers. For each study, the Quality Rating Index (QRI) and Code Sheet for Randomized Controlled Trials (CS-RCT) were used to assess methodological quality and extract relevant data respectively. Data were analysed and synthesized using PASW statistic 17.0 and Comprehensive Meta Analyses Software 2.0. Results: Thirty-nine studies conducted in ten countries were included and 105 effect sizes were calculated. Most studies utilised single group pretest–posttest quasi-experimental design, convenience sampling, and self-reported questionnaires. Between-group comparisons indicated that MFIs are superior to standard care in reducing depressive symptoms and preventing relapse with effect sizes ranging from 0.11 to 1.65. Exposure-based cognitive therapy ( $d=2.09$ ) appeared to be the most efficacious intervention, followed by mindfulness-based stress reduction programme ( $d=1.92$ ), acceptance-based behaviour therapy ( $d=1.33$ ), and stress less with mindfulness ( $d=1.31$ ). Effect sizes were significantly associated with the length of intervention sessions but not related to methodological quality of studies. Conclusion: The mindfulness-based interventions are efficacious for alleviating depressive symptoms in adults with mental disorders. The interventions could be used in conjunction with other treatments in clinical settings.

Konings, M., N. Stefanis, et al. (2012). "Replication in two independent population-based samples that childhood maltreatment and cannabis use synergistically impact on psychosis risk." *Psychological Medicine* **42**(01): 149-159. <http://dx.doi.org/10.1017/S0033291711000973>.

Background: There may be biological plausibility to the notion that cannabis use and childhood trauma or maltreatment synergistically increase the risk for later development of psychotic symptoms. To replicate and further investigate this issue, prospective data from two independent population-based studies, the Greek National Perinatal Study ( $n=1636$ ) and The Netherlands Mental Health Survey and Incidence Study (NEMESIS) ( $n=4842$ ), were analyzed. Method: Two different data sets on cannabis use and childhood maltreatment were used. In a large Greek population-based cohort study, data on cannabis use at age 19 years and childhood maltreatment at 7 years were assessed. In addition, psychotic symptoms were assessed using the Community Assessment of Psychic Experiences (CAPE). In NEMESIS, the Composite International Diagnostic Interview (CIDI) was used to assess psychotic symptoms at three different time points along with childhood maltreatment and lifetime cannabis use. Results: A significant adjusted interaction between childhood maltreatment and later cannabis use was evident in both samples, indicating that the psychosis-inducing effects of cannabis were stronger in individuals exposed to earlier sexual or physical mistreatment [Greek National Perinatal Study: test for interaction  $F(2, 1627)=4.18$ ,  $p=0.02$ ; NEMESIS: test for interaction  $\chi^2(3)=8.08$ ,  $p=0.04$ ]. Conclusions: Cross-sensitivity between childhood maltreatment and cannabis use may exist in pathways that shape the risk for expression of positive psychotic symptoms.

Langer, Á. I., A. J. Cangas, et al. (2012). "Applying Mindfulness Therapy in a Group of Psychotic Individuals: A Controlled Study." *Behavioural and Cognitive Psychotherapy* **40**(01): 105-109. <http://dx.doi.org/10.1017/S1352465811000464>.

Background: There are already several existing studies that show the effectiveness of mindfulness-based approaches in varying types of disorders. Only a few studies, however, have analyzed the effectiveness of this intervention in psychosis, and without finding, up to now, significant differences from the control group. Aims: The aim of this study is two-fold: to replicate previous studies, and to focus on analyzing the feasibility and effectiveness of applying mindfulness in a group of people with psychosis. Method: Eighteen patients with psychosis were randomly assigned to experimental and control groups. The

experimental group received eight 1-hour sessions of Mindfulness-Based Cognitive Therapy (MBCT), while the control group was relegated to a waiting list to receive MBCT therapy. Results: The experimental group scored significantly higher than the control group in their ability to respond mindfully to stressful internal events. Conclusions: Both the usefulness and effectiveness of implementing a mindfulness-based program have been replicated in a controlled manner in patients with psychosis.

Laurin, K., A. C. Kay, et al. (2012). "Divergent effects of activating thoughts of god on self-regulation." *J Pers Soc Psychol* **102**(1): 4-21. <http://psycnet.apa.org/journals/psp/102/1/4/>.

Despite the cultural ubiquity of ideas and images related to God, relatively little is known about the effects of exposure to God representations on behavior. Specific depictions of God differ across religions, but common to most is that God is (a) an omnipotent, controlling force and (b) an omniscient, all-knowing being. Given these 2 characteristic features, how might exposure to the concept of God influence behavior? Leveraging classic and recent theorizing on self-regulation and social cognition, we predict and test for 2 divergent effects of exposure to notions of God on self-regulatory processes. Specifically, we show that participants reminded of God (vs. neutral or positive concepts) demonstrate both decreased active goal pursuit (Studies 1, 2, and 5) and increased temptation resistance (Studies 3, 4, and 5). These findings provide the first experimental evidence that exposure to God influences goal pursuit and suggest that the ever-present cultural reminders of God can be both burden and benefit for self-regulation.

Lewis, C., J. Pearce, et al. (2012). "Efficacy, cost-effectiveness and acceptability of self-help interventions for anxiety disorders: systematic review." *The British Journal of Psychiatry* **200**(1): 15-21. <http://bjp.rcpsych.org/content/200/1/15.abstract>.

Background: Self-help interventions for psychiatric disorders represent an increasingly popular alternative to therapist-administered psychological therapies, offering the potential of increased access to cost-effective treatment. Aims: To determine the efficacy, cost-effectiveness and acceptability of self-help interventions for anxiety disorders. Method: Randomised controlled trials (RCTs) of self-help interventions for anxiety disorders were identified by searching nine online databases. Studies were grouped according to disorder and meta-analyses were conducted where sufficient data were available. Overall meta-analyses of self-help v. waiting list and therapist-administered treatment were also undertaken. Methodological quality was assessed independently by two researchers according to criteria set out by the Cochrane Collaboration. Results: Thirty-one RCTs met inclusion criteria for the review. Results of the overall meta-analysis comparing self-help with waiting list gave a significant effect size of 0.84 in favour of self-help. Comparison of self-help with therapist-administered treatments revealed a significant difference in favour of the latter with an effect size of 0.34. The addition of guidance and the presentation of multimedia or web-based self-help materials improved treatment outcome. Conclusions: Self-help interventions appear to be an effective way of treating individuals diagnosed with social phobia and panic disorder. Further research is required to evaluate the cost-effectiveness and acceptability of these interventions.

Logel, C. and G. L. Cohen (2012). "The Role of the Self in Physical Health: Testing the Effect of a Values-Affirmation Intervention on Weight Loss." *Psychological Science* **23**(1): 53-55. <http://pss.sagepub.com/content/23/1/53.short>.

MedXpress - <http://medicalxpress.com/news/2012-01-good-waistline-.html> - commented on this paper: *"Is losing weight as simple as doing a 15-minute writing exercise? In a new study published in Psychological Science, a journal of the Association for Psychological Science, women who wrote about their most important values, like close relationships, music, or religion, lost more weight over the next few months than women who did not have that experience. "We have this need to feel self-integrity," says Christine Logel of Renison University College at the University of Waterloo, who cowrote the new study with Geoffrey L. Cohen of Stanford University. When something threatens your sense that you're a good person, like failing a test or having a fight with a friend, "We can buffer that self-integrity by reminding ourselves how much we love our children, for example," she says. For this study, the researchers recruited 45 female undergraduates who had a body mass index of 23 or higher. A body mass index of 18.5 to 24.9 is considered normal weight; 58% of the women were overweight or obese. Each woman was weighed, and was then given a list of important values, like creativity, politics, music, and relationships with friends and family members. Each woman ranked the values in order of how important they were to her. Then half the women were told to write for 15 minutes about the value that was most important to her. The other half, a control group, were told to write about why a value far down on their list might be important to someone else. The women came back between one and four months later to be weighed again. Women who had written about an important value lost an average of 3.41 pounds, while women in the control group gained an average of 2.76 pounds, a pattern of weight gain that is typical for undergraduates. "How we feel about ourselves can have a big effect," Logel says. "We think it sort of kicks off a recursive process." Maybe when one of the women who wrote about an important value went home that night, she felt good about herself and didn't eat to make herself feel better. Then the next day snacking wasn't as much of a habit, so she skipped it. Over a few months, that could make a real difference in her life. Many studies have found that even briefly thinking about values can have a big effect on situations where people feel a threat to their integrity. For example, Cohen used the same technique on minority seventh-graders who were underperforming relative to their white peers. Those who did the exercise were still performing better years later. It's too soon to say whether this could work for everybody; the women in the study didn't know that writing about values was supposed to help them live better (although they may have wondered why this psychology study required a weigh-in). "My dream, and my research goal, is to get this to the point where people can do it deliberately to benefit themselves," Logel says. In the meantime, she carries around a keychain that reminds her of a value that she considers to be important. And everyone else can do that, too. "There's certainly no harm in taking time to reflect on important values and working activities you value into your daily life," Logel says.*

MacCoon, D. G., Z. E. Imel, et al. (2012). "The validation of an active control intervention for Mindfulness Based Stress Reduction (MBSR)." *Behaviour Research and Therapy* **50**(1): 3-12. <http://www.sciencedirect.com/science/article/pii/S0005796711002476>.

(Available as free full text): Most of the extant literature investigating the health effects of mindfulness interventions relies on wait-list control comparisons. The current article specifies and validates an active control condition, the Health Enhancement Program (HEP), thus providing the foundation necessary for rigorous investigations of the relative efficacy of Mindfulness Based Stress Reduction (MBSR) and for testing mindfulness as an active ingredient. 63 participants were randomized to either MBSR (n = 31) or HEP (n = 32). Compared to HEP, MBSR led to reductions in thermal pain ratings in the mindfulness- but not the HEP-related instruction condition ( $\eta^2 = .18$ ). There were significant improvements over time for general distress ( $\eta^2 = .09$ ), anxiety ( $\eta^2 = .08$ ), hostility ( $\eta^2 = .07$ ), and medical symptoms ( $\eta^2 = .14$ ), but no effects of intervention. Practice was not related to change. HEP is an active control condition for MBSR while remaining inert to mindfulness. These claims are supported by results from a pain task. Participant-reported outcomes (PROs) replicate previous improvements to well-being in MBSR, but indicate that MBSR is no more effective than a rigorous active control in improving these indices. These results emphasize the importance of using an active control condition like HEP in studies evaluating the effectiveness of MBSR.

McFarland, M. J., C. A. Smith, et al. (2012). "Forgiveness of others and health: do race and neighborhood matter?" *J Gerontol B Psychol Sci Soc Sci* **67**(1): 66-75. <http://www.ncbi.nlm.nih.gov/pubmed/22156629>.

**Objectives.** This study examines the relationship between interpersonal forgiveness and health for older Blacks and Whites. We outline a series of arguments concerning the following: (a) how forgiveness can affect health, (b) how forgiveness may be more protective for Blacks, and (c) how the relationship between forgiveness and health may vary by neighborhood deterioration. **Method.** Two waves (2001 and 2004) of the Religion, Aging, and Health Survey provided data from a nationally representative elderly sample of 436 Blacks and 500 Whites. Measures included sociodemographics, forgiveness, and three dimensions of health: self-reported health, alcohol use, and chronic conditions. We employ both longitudinal and cross-sectional analyses. **RESULTS:** Results suggest that forgiveness of others was protective of health for Blacks but not Whites. Moreover, among Blacks, we found the following: (a) forgiveness was positively associated with self-reported health over time, (b) forgiveness was negatively associated with alcohol use and number of chronic conditions, and (c) forgiveness interacted with neighborhood deterioration such that the beneficial effects of forgiveness for self-reported health did not extend to those living in run-down neighborhoods. **Discussion.** Race and neighborhood were shown to be important for understanding the forgiveness-health connection. Forgiveness was associated with better health for Blacks but not Whites, consistent with McCullough's evolutionary framework (McCullough, M. E. (2008). *Beyond revenge: The evolution of the forgiveness instinct*. San Francisco, CA: Jossey-Bass), forgiveness was beneficial in some settings but had a deleterious impact in more noxious environments. This study suggests that researchers should give more consideration to race and social context in attempting to more fully understand the relationship between forgiveness and health.

Mikula, G., B. Riederer, et al. (2011). "Perceived justice in the division of domestic labor: Actor and partner effects." *Personal Relationships*: no-no. <http://dx.doi.org/10.1111/j.1475-6811.2011.01385.x>.

This study analyzed the division of domestic labor as a relational phenomenon. Using structural equation modeling with data of dual-earner couples from Austria, Germany, and Switzerland (N = 389), actor and partner effects of perceived distributive and procedural justice in the division on relationship satisfaction were investigated. Experience of relationship conflict was considered as possible mediator between perceived justice and relationship satisfaction. Results with actor effects indicate that perceived justice is relevant only to wives' but not to husbands' relationship satisfaction. Results with partner effects, however, show that wives' perceived justice is associated with husbands' relationship satisfaction through the relationship conflict experienced by husbands. Altogether, this study illustrates the importance of considering the relational character of the division of domestic labor. The excellent BPS blog - <http://www.bps-research-digest.blogspot.com/> - commented on 19th January "More women than ever go out to work and yet surveys in Western countries show that wives continue to take on the lion's share of domestic chores. A new study has quizzed 389 couples in Austria, Germany and Switzerland to build up the most comprehensive picture yet of how this uneven distribution of domestic chores is associated with men's and women's marital satisfaction. These were all dual-earning couples with young children, with both spouses working at least 15 hours per week. Eighty-nine per cent of the couples were married. The average professional work load for women was 30.2 hours per week; for men it was 48.6 hours. Consistent with past surveys, the women in this sample took on nearly two thirds of the domestic chores. The researchers Gerold Mikula, Bernhard Riederer and Otto Bodi asked their participants several things: what share of the chores they took on; whether they thought that was fair; whether they felt the way the share had been decided was fair (so-called "procedural justice"); how much conflict they experienced in their relationship; and how happy they were with their relationship. They threw all these factors into a statistical pot and looked to see how they related to each other. First, Mikula and co focused only on the direct associations between housework distribution and women's and men's answers. For women, it wasn't the precise share of housework they did that was correlated with their experience of conflict and satisfaction, but rather how fair they thought that share was. Women who thought the division of household chores was unfair tended to experience more relationship conflict and less marital satisfaction. Women's sense of whether the decision process for housework had been fair also had its own independent link with levels of conflict. So feeling that they did an unfair amount of housework was bad enough, but conflict was even more likely when women felt the unfair arrangement had been arrived at unfairly. Men, by contrast, seemed largely detached from the way housework was shared. There was no direct correlation between the division of housework and their reports of fairness. And even men who said the arrangement was unfair didn't tend to report more relationship conflict or less satisfaction - no doubt because the unfair arrangement was usually in their favour. In fact, the only direct association of housework distribution with men's answers, was that the greater share their female partners took on, the more satisfied they tended to be. But here's where the picture gets more complicated. The researchers also looked at associations between participants' answers and their partners' reported sense of justice and experience of conflict and satisfaction. This suggested that men suffered when their female partners believed the housework arrangements were unfair. In fact, the negative correlates for men (more conflict, less satisfaction) of having a female partner who sensed injustice in the division of housework, outweighed the satisfaction associated with having a female partner who did lots of housework. "The results support the proposition that it is not the balance of the division of labour itself but rather the subjective sense of justice associated with the division that matters primarily to the relationship satisfaction of the persons concerned," the researchers concluded. "Spouses should exchange their personal views and preferences in open discussions to arrive at an agreement that considers the wishes of both parties ... "

Mueller, J. S., S. Melwani, et al. (2012). "The bias against creativity." *Psychological Science* **23**(1): 13-17. <http://pss.sagepub.com/content/23/1/13.abstract>.

People often reject creative ideas, even when espousing creativity as a desired goal. To explain this paradox, we propose that people can hold a bias against creativity that is not necessarily overt and that is activated when people experience a motivation to reduce uncertainty. In two experiments, we manipulated uncertainty using different methods, including an uncertainty-reduction prime. The results of both experiments demonstrated the existence of a negative bias against creativity (relative to practicality) when participants experienced uncertainty. Furthermore, this bias against creativity interfered with participants' ability to recognize a creative idea. These results reveal a concealed barrier that creative actors may face as they attempt to gain acceptance for their novel ideas.

Muir, S. W. and M. Montero-Odasso (2011). "Effect of vitamin D supplementation on muscle strength, gait and balance in older adults: a systematic review and meta-analysis." *J Am Geriatr Soc* **59**(12): 2291-2300. <http://www.ncbi.nlm.nih.gov/pubmed/22188076>.

**OBJECTIVES:** To systematically review and quantitatively synthesize the effect of vitamin D supplementation on muscle strength, gait, and balance in older adults. **DESIGN:** Systematic review and meta-analysis. **SETTING:** MEDLINE, EMBASE, Cochrane Library, bibliographies of selected articles, and previous systematic reviews were searched between January 1980 and November 2010 for eligible articles. **PARTICIPANTS:** Older adults (>=60) participating in randomized controlled trials of the effect of supplemental vitamin D without an exercise intervention on muscle strength, gait, and balance. **MEASUREMENTS:** Data were independently extracted, and study quality was evaluated. Meta-analysis using a fixed-effects model was performed and the I(2) statistic was used to assess heterogeneity. **RESULTS:** Of 714 potentially relevant articles, 13 met the inclusion criteria.

In the pooled analysis, vitamin D supplementation yielded a standardized mean difference of -0.20 (95% confidence interval (CI) = -0.39 to -0.01, P = .04, I(2) = 0%) for reduced postural sway, -0.19 (95% CI = -0.35 to -0.02, P = .03, I(2) = 0%) for decreased time to complete the Timed Up and Go Test, and 0.05 (95% CI = -0.11 to 0.20, P = .04, I(2) = 0%) for lower extremity strength gain. Regarding dosing frequency regimen, only one study demonstrated a beneficial effect on balance with a single large dose. All studies with daily doses of 800 IU or more demonstrated beneficial effects on balance and muscle strength. CONCLUSION: Supplemental vitamin D with daily doses of 800 to 1,000 IU consistently demonstrated beneficial effects on strength and balance. An effect on gait was not demonstrated, although further evaluation is recommended.

Oishi, S., U. Schimmack, et al. (2012). "Progressive taxation and the subjective well-being of nations." *Psychological Science* **23**(1): 86-92. <http://pss.sagepub.com/content/23/1/86.abstract>.

Using data from the Gallup World Poll, we examined whether progressive taxation is associated with increased levels of subjective well-being. Consistent with Rawls's theory of justice, our results showed that progressive taxation was positively associated with the subjective well-being of nations. However, the overall tax rate and government spending were not associated with the subjective well-being of nations. Furthermore, controlling for the wealth of nations and income inequality, we found that respondents living in a nation with more-progressive taxation evaluated their lives as closer to the best possible life and reported having more positive and less negative daily experiences than did respondents living in a nation with less-progressive taxation. Finally, we found that the association between more-progressive taxation and higher levels of subjective well-being was mediated by citizens' satisfaction with public goods, such as education and public transportation.

Pletcher, M. J., E. Vittinghoff, et al. (2012). "Association Between Marijuana Exposure and Pulmonary Function Over 20 Years." *JAMA: The Journal of the American Medical Association* **307**(2): 173-181. <http://jama.ama-assn.org/content/307/2/173.abstract>.

Context Marijuana smoke contains many of the same constituents as tobacco smoke, but whether it has similar adverse effects on pulmonary function is unclear. Objective To analyze associations between marijuana (both current and lifetime exposure) and pulmonary function. Design, Setting, and Participants The Coronary Artery Risk Development in Young Adults (CARDIA) study, a longitudinal study collecting repeated measurements of pulmonary function and smoking over 20 years (March 26, 1985-August 19, 2006) in a cohort of 5115 men and women in 4 US cities. Mixed linear modeling was used to account for individual age-based trajectories of pulmonary function and other covariates including tobacco use, which was analyzed in parallel as a positive control. Lifetime exposure to marijuana joints was expressed in joint-years, with 1 joint-year of exposure equivalent to smoking 365 joints or filled pipe bowls. Main Outcome Measures Forced expiratory volume in the first second of expiration (FEV1) and forced vital capacity (FVC). Results Marijuana exposure was nearly as common as tobacco exposure but was mostly light (median, 2-3 episodes per month). Tobacco exposure, both current and lifetime, was linearly associated with lower FEV1 and FVC. In contrast, the association between marijuana exposure and pulmonary function was nonlinear (P < .001): at low levels of exposure, FEV1 increased by 13 mL/joint-year (95% CI, 6.4 to 20; P < .001) and FVC by 20 mL/joint-year (95% CI, 12 to 27; P < .001), but at higher levels of exposure, these associations leveled or even reversed. The slope for FEV1 was -2.2 mL/joint-year (95% CI, -4.6 to 0.3; P = .08) at more than 10 joint-years and -3.2 mL per marijuana smoking episode/mo (95% CI, -5.8 to -0.6; P = .02) at more than 20 episodes/mo. With very heavy marijuana use, the net association with FEV1 was not significantly different from baseline, and the net association with FVC remained significantly greater than baseline (eg, at 20 joint-years, 76 mL [95% CI, 34 to 117]; P < .001). Conclusion Occasional and low cumulative marijuana use was not associated with adverse effects on pulmonary function.

Pressman, A., A. L. Avins, et al. (2012). "Adherence to placebo and mortality in the Beta Blocker Evaluation of Survival Trial (BEST)." *Contemporary Clinical Trials*(0). <http://www.sciencedirect.com/science/article/pii/S1551714412000213>.

Background Randomized controlled trials have reported lower mortality among patients who adhere to placebo compared with those who do not. We explored this phenomenon by reanalyzing data from the placebo arm of the Beta Blocker Evaluation of Survival Trial (BEST), a randomized, double-blind, placebo-controlled trial of bucindolol and mortality. Aims Our primary aim was to measure and explain the association between adherence to placebo and total mortality among the placebo-allocated participants in the BEST trial. Secondary aims included assessment of the association between placebo adherence and cause-specific mortality. Methods Participants with "higher placebo adherence" were defined as having taken at least 75% of their placebo study medication over the entire course of each individual's participation in the study, while those with "lower placebo adherence" took <75%. Primary outcome was in-study all-cause mortality. To account for confounding, we adjusted for all available modifiable, non-modifiable and psychosocial variables. Results Adherent participants had a significantly lower total mortality compared to less-adherent participants (HR=;0.61, 95% Confidence Interval: 0.46-0.82). Adjusting for available confounders did not change the magnitude or significance of the estimates. When considering cause-specific mortality, CVD and pump failure showed similar associations. Conclusions Analyses of the BEST trial data support a strong association between adherence to placebo study medication and total mortality. While probably not due to publication bias or simple confounding by healthy lifestyle factors, the underlying explanation for the association remains a mystery. Prospective examination of this association is necessary to better understand the underlying mechanism of this observation.

Rosenblum, J. L., V. M. Castro, et al. (2012). "Calcium and vitamin D supplementation is associated with decreased abdominal visceral adipose tissue in overweight and obese adults." *Am J Clin Nutr* **95**(1): 101-108. <http://www.ajcn.org/content/95/1/101.abstract>.

Background: Several studies suggest that calcium and vitamin D (CaD) may play a role in the regulation of abdominal fat mass. Objective: This study investigated the effect of CaD-supplemented orange juice (OJ) on weight loss and reduction of visceral adipose tissue (VAT) in overweight and obese adults (mean  $\pm$  SD age: 40.0  $\pm$  12.9 y). Design: Two parallel, double-blind, placebo-controlled trials were conducted with either regular or reduced-energy (lite) orange juice. For each 16-wk trial, 171 participants were randomly assigned to 1 of 2 groups. The treatment groups consumed three 240-mL glasses of OJ (regular or lite) fortified with 350 mg Ca and 100 IU vitamin D per serving, and the control groups consumed either unfortified regular or lite OJ. Computed tomography scans of VAT and subcutaneous adipose tissue were performed by imaging a single cut at the lumbar 4 level. Results: After 16 wk, the average weight loss ( $\sim$ 2.45 kg) did not differ significantly between groups. In the regular OJ trial, the reduction of VAT was significantly greater (P = 0.024) in the CaD group ( $-12.7 \pm 25.0$  cm<sup>2</sup>) than in the control group ( $-1.3 \pm 13.6$  cm<sup>2</sup>). In the lite OJ trial, the reduction of VAT was significantly greater (P = 0.039) in the CaD group ( $-13.1 \pm 18.4$  cm<sup>2</sup>) than in the control group ( $-6.4 \pm 17.5$  cm<sup>2</sup>) after control for baseline VAT. The effect of calcium and vitamin D on VAT remained highly significant when the results of the 2 trials were combined (P = 0.007). Conclusions: The findings suggest that calcium and/or vitamin D supplementation contributes to a beneficial reduction of VAT.

Scarborough, P., P. Bhatnagar, et al. (2011). "The economic burden of ill health due to diet, physical inactivity, smoking, alcohol and obesity in the UK: an update to 2006-07 NHS costs." *Journal of Public Health* **33**(4): 527-535. <http://jpubhealth.oxfordjournals.org/content/33/4/527.abstract>.

Background Estimates of the economic cost of risk factors for chronic disease to the NHS provide evidence for prioritization of resources for prevention and public health. Previous comparable estimates of the economic costs of poor diet, physical inactivity, smoking, alcohol and overweight/obesity were based on economic data from 1992–93. Methods Diseases associated with poor diet, physical inactivity, smoking, alcohol and overweight/obesity were identified. Risk factor-specific population attributable fractions for these diseases were applied to disease-specific estimates of the economic cost to the NHS in the UK in 2006–07. Results In 2006–07, poor diet-related ill health cost the NHS in the UK £5.8 billion. The cost of physical inactivity was £0.9 billion. Smoking cost was £3.3 billion, alcohol cost £3.3 billion, overweight and obesity cost £5.1 billion. Conclusion The estimates of the economic cost of risk factors for chronic disease presented here are based on recent financial data and are directly comparable. They suggest that poor diet is a behavioural risk factor that has the highest impact on the budget of the NHS, followed by alcohol consumption, smoking and physical inactivity.

Scott S, W. (2012). "Synchronous activity boosts compliance with requests to aggress." *Journal of Experimental Social Psychology* **48**(1): 453-456. <http://www.sciencedirect.com/science/article/pii/S0022103111002502>.

An experiment demonstrates that cultural practices involving physical synchrony can emotionally bind people together, making those people more likely to comply with others' requests to engage in aggressive behavior. Participants who acted in synchrony with a confederate were more likely than were participants in the asynchronous and control conditions to comply with the confederate's request to administer a noise blast to another group of participants. Increased feelings of emotional connection with the confederate mediated the relationship between synchrony and heightened compliance with the request to engage in aggressive behavior.

Seritan, A., J. Hunt, et al. (2012). "The State of Medical Student Wellness: A Call for Culture Change." *Academic Psychiatry* **36**(1): 7-10. <http://dx.doi.org/10.1176/appi.ap.10030042>.

(Free full text): In recent years, multiple studies exploring medical student mental health highlight the increased frequency and severity of emotional problems during physicians' formative years. Although these studies demonstrate a clear burden on medical students, we have not achieved a broader understanding of malleable factors in student wellness, and, thus, effective interventions to promote wellness are lagging behind. The development of evidence-based preventive and clinical programs in academic centers requires an appropriate focus on overall medical student wellness, encompassing academic and institutional elements. Successful models of student wellness programs exist (+1); however, best-practices in this area have not yet been developed. A systematic review of studies among U.S. and Canadian medical students showed a higher prevalence of anxiety and depression among these students than in their age-matched peers (+2). Even more worrisome, 11% of students in a longitudinal cohort from seven medical schools admitted to having had suicidal thoughts in the previous year (+3). Over time, medical student health centers have seen an increased utilization of services (+4, +5). It is unclear whether this is due to a higher prevalence and/or severity of mental disorders, increased identification of disorders, improved availability of services, reduced stigma, or a combination of these factors. This commentary will review factors that may contribute to student distress and discuss suggestions for effective interventions to address these. Our purpose is to provoke thought and debate about student wellness and to inspire action through the development of evidence-based interventions to improve wellness at medical schools across the country.

Simpson, S. A., C. Shaw, et al. (2011). "What is the most effective way to maintain weight loss in adults?" *BMJ* **343**.

Although weight loss is achievable for many adults, weight maintenance is elusive. After completing weight loss programmes, around a third of the weight lost is regained in the following year, with small differences between groups that received an intervention and controls Randomised controlled trials have suggested that maintenance interventions can improve longer term weight loss maintenance but it is unclear what form these interventions should take and how they should be delivered. NICE guidance currently recommends a low fat, fibre rich diet, increasing physical activity, minimising sedentary activities and regular self monitoring of weight or waist size ... Evidence from trials is often contradictory; they are heterogeneous in terms of setting, length of follow up, and type and duration of intervention, and many have methodological flaws. This makes it difficult to draw conclusions about what works in weight loss maintenance. High levels of attrition are problematic in these long term trials, and this is likely associated with weight loss maintenance failure. The issue of translation of trial findings to clinical practice is also problematic, not least because trial recruits are likely to be highly selected and more motivated than the general population. However, current evidence indicates that these interventions are likely to be helpful: Ongoing regular support/follow-up; Behavioural techniques such as goal setting, relapse prevention, self monitoring of weight, as well as diet and physical activity; Increase in physical activity levels, alongside a moderately calorie reduced diet; A lower fat, higher protein diet; A low energy diet (600 kcal deficit); orlistat in the short term; however, patients need to develop healthy lifestyles for successful weight loss maintenance; Bariatric surgery for appropriate patients. Obesity should be viewed as a chronic condition for which longer term support is needed. The development of healthy habits is crucial for weight loss maintenance and weight loss can only be maintained by behaviours that fit with individual lifestyles, motivations, and preferences.

Singh-Manoux, A., M. Kivimaki, et al. (2012). "Timing of onset of cognitive decline: results from Whitehall II prospective cohort study." *BMJ* **344**.

(Free full text available) Objectives To estimate 10 year decline in cognitive function from longitudinal data in a middle aged cohort and to examine whether age cohorts can be compared with cross sectional data to infer the effect of age on cognitive decline. Design Prospective cohort study. At study inception in 1985-8, there were 10 308 participants, representing a recruitment rate of 73%. Setting Civil service departments in London, United Kingdom. Participants 5198 men and 2192 women, aged 45-70 at the beginning of cognitive testing in 1997-9. Main outcome measure Tests of memory, reasoning, vocabulary, and phonemic and semantic fluency, assessed three times over 10 years. Results All cognitive scores, except vocabulary, declined in all five age categories (age 45-49, 50-54, 55-59, 60-64, and 65-70 at baseline), with evidence of faster decline in older people. In men, the 10 year decline, shown as change/range of test $\times$ 100, in reasoning was -3.6% (95% confidence interval -4.1% to -3.0%) in those aged 45-49 at baseline and -9.6% (-10.6% to -8.6%) in those aged 65-70. In women, the corresponding decline was -3.6% (-4.6% to -2.7%) and -7.4% (-9.1% to -5.7%). Comparisons of longitudinal and cross sectional effects of age suggest that the latter overestimate decline in women because of cohort differences in education. For example, in women aged 45-49 the longitudinal analysis showed reasoning to have declined by -3.6% (-4.5% to -2.8%) but the cross sectional effects suggested a decline of -11.4% (-14.0% to -8.9%). Conclusions Cognitive decline is already evident in middle age (age 45-49). (And in the "Implications" section of this paper the authors write "Adverse cognitive outcomes like dementia are now thought to be the result of long term processes over at least 20-30 years, leading some authors to argue for the importance of approaches during life. Despite much research on early diagnosis, pathophysiological and clinical studies have yet to identify biomarkers or cognitive profiles that accurately predict dementia. Nevertheless, there is enough evidence to show the importance of healthy lifestyles and cardiovascular risk factors in adulthood for dementia. For some of these risk factors, such as obesity, hypertension, and hypercholesterolaemia, it is mid-life levels that seem to be more important

than those measured at older ages. There is emerging consensus that "what is good for our hearts is also good for our heads," making aggressive control of behavioural and cardiovascular risk factors as early as possible key targets for clinical practice and public health.").

Singh, A., L. Uijtewilligen, et al. (2012). "Physical activity and performance at school: A systematic review of the literature including a methodological quality assessment." *Arch Pediatr Adolesc Med* **166**(1): 49-55. <http://archpedi.ama-assn.org/cgi/content/abstract/166/1/49>.

**Objective** To describe the prospective relationship between physical activity and academic performance. **Data Sources** Prospective studies were identified from searches in PubMed, PsycINFO, Cochrane Central, and Sportdiscus from 1990 through 2010. **Study Selection** We screened the titles and abstracts for eligibility, rated the methodological quality of the studies, and extracted data. **Main Exposure** Studies had to report at least 1 physical activity or physical fitness measurement during childhood or adolescence. **Main Outcome Measures** Studies had to report at least 1 academic performance or cognition measure during childhood or adolescence. **Results** We identified 10 observational and 4 intervention studies. The quality score of the studies ranged from 22% to 75%. Two studies were scored as high quality. Methodological quality scores were particularly low for the reliability and validity of the measurement instruments. Based on the results of the best-evidence synthesis, we found evidence of a significant longitudinal positive relationship between physical activity and academic performance. **Conclusions** Participation in physical activity is positively related to academic performance in children. Because we found only 2 high-quality studies, future high-quality studies are needed to confirm our findings. These studies should thoroughly examine the dose-response relationship between physical activity and academic performance as well as explanatory mechanisms for this relationship.

Slepian, M. L. and N. Ambady (2012). "Fluid Movement and Creativity." *J Exp Psychol Gen.* <http://www.ncbi.nlm.nih.gov/pubmed/22352395>.

Cognitive scientists describe creativity as fluid thought. Drawing from findings on gesture and embodied cognition, we hypothesized that the physical experience of fluidity, relative to nonfluidity, would lead to more fluid, creative thought. Across 3 experiments, fluid arm movement led to enhanced creativity in 3 domains: creative generation, cognitive flexibility, and remote associations. Alternative mechanisms such as enhanced mood and motivation were also examined. These results suggest that creativity can be influenced by certain types of physical movement.

Thomas, P. A. (2012). "Trajectories of Social Engagement and Mortality in Late Life." *J Aging Health.* <http://www.ncbi.nlm.nih.gov/pubmed/22219207>.

**OBJECTIVE:** There is a dearth of empirical research examining how patterns of stability and change in social engagement affect mortality. This study uses social integration theory within a life course framework to examine trajectories of social engagement over time and how those patterns relate to mortality. **METHOD:** Data are drawn from the Americans' Changing Lives survey, a nationally representative panel study, with mortality information spanning from 1986 to 2005. **RESULTS:** Even after controlling for known predictors of mortality, membership in a trajectory of high and slightly increasing social engagement was related to lower risk of mortality. Sociodemographic, health condition, and health behavior variables mediated the impact of the other social engagement trajectories on mortality. **DISCUSSION:** Findings suggest the importance of maintaining high levels of social engagement over time for the health of older adults.

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**Background:** Low vitamin D status may increase mortality risk. **Objective:** We used nonparametric ("highest compared with lowest" categories) and parametric (>2 categories) statistical models to evaluate associations of 25-hydroxyvitamin D [25(OH)D] serum concentrations and mortality in observational studies among general populations. **Design:** We searched PubMed, EMBASE, Web of Science, and reference lists for relevant articles. We included studies that contained data on relative risks (RRs) for mortality for different 25(OH)D concentrations, which included a corresponding measure of uncertainty, and this yielded 14 prospective cohort studies that involved 5562 deaths out of 62,548 individuals. We applied log-transformed RRs and CIs, adjusted for the maximal number of confounding variables. In the parametric model, which is based on 11 studies and 59,231 individuals, we used the lowest quantile as the reference category. **Results:** For "highest compared with lowest" categories of 25(OH)D, the estimated summary RR of mortality was 0.71 (95% CI: 0.50, 0.91). In the parametric model, the estimated summary RRs (95% CI) of mortality were 0.86 (0.82, 0.91), 0.77 (0.70, 0.84), and 0.69 (0.60, 0.78) for individuals with an increase of 12.5, 25, and 50 nmol 25(OH)D serum values/L, respectively, from a median reference category of ~27.5 nmol/L. There was, however, no significant decrease in mortality when an increase of ~87.5 nmol/L above the reference category occurred. **Conclusion:** Data suggest a nonlinear decrease in mortality risk as circulating 25(OH)D increases, with optimal concentrations ~75-87.5 nmol/L.