

PERIMETER LETTER 6.14.05

GERIATRICS

Vitamin E and donepezil for the treatment of mild cognitive impairment.

Petersen RC, Thomas RG, Grundman M, Bennett D, Doody R, Ferris S, Galasko D, Jin S, Kaye J, Levey A, Pfeiffer E, Sano M, van Dyck CH, Thal LJ; Alzheimer's Disease Cooperative Study Group.

N Engl J Med. 2005 Jun 9;352:2379-88.

No difference in progression from mild cognitive impairment to Alzheimer's disease over 3 years was seen in 769 patients randomized to daily donepezil 10 mg, vitamin E 2000 IU, or placebo; in the 424 patients with an APOE ϵ 4 allele, donepezil appeared to be superior to placebo after 3 years ($p=.04$). See Figure 1.

The Alzheimer's Disease Assessment Scale Cognitive Subscale has been used to discriminate patients with mild cognitive impairment from healthy controls and patients with Alzheimer's (*Arch Neurol.* 2004 Jan;61:59-66). Compared to placebo, donepezil improves cognition and functionality in patients with Alzheimer's and the benefit may persist to 52 weeks of treatment (*Cochrane Database Syst Rev.* 2003;(3):CD001190).

TRAUMA

Americans as survivors.

Lifton RJ.

N Engl J Med. 2005 Jun 2;352:2263-5.

The concept of the survivor mission is used to explain the wars in Iraq as national reactions to American losses in Vietnam and on September 11, 2001.

Suicidal behavior in Vietnam combat veterans with PTSD has been linked to feelings of guilt over actions committed during combat, such as killing women and children (*Am J Psychiatry.* 1991 May;148:586-91). Psychotherapy that directly addresses the trauma appears to reduce symptoms of PTSD (*Cochrane Database Syst Rev.* 2005 Apr 18;(2):CD003388).

PSYCHOLOGY

Oxytocin increases trust in humans.

Kosfeld M, Heinrichs M, Zak PJ, Fischbacher U, Fehr E.

Nature. 2005 Jun 2;435:673-6.

A 17% higher relative financial investment (one-sided $p=.03$) was made by 29 healthy individuals receiving a single dose of intranasal oxytocin versus 29 individuals receiving placebo in an economic game of trust, but an equivalent investment was made in a game of financial risk, in this randomized, double-blind study of male college students. See Figure 2.

Several lines of evidence suggest that oxytocin release in the brain promotes social bonding (*Psychoneuroendocrinology.* 1992;17:3-35). Centrally acting oxytocin, like some other neuropeptides, appears to have an anxiolytic effect in animal studies (*Basic Neurochemistry, 6 ed.*).

Inferences of competence from faces predict election outcomes.

Todorov A, Mandisodza AN, Goren A, Hall CC. *Science.* 2005 Jun 10;308:1623-6.

Perceived competence of a candidate, but not age, attractiveness, or familiarity, based on viewing a face for 1 second, predicted 72% ($p<.001$) of recent Senatorial races and 67% ($p<.001$) of races in the House, with magnitude of perceived competence directly proportional to the margin of victory, in this study of 40 volunteers viewing paired pictures of winners and runners-up. See Table 1.

In Kennedy's 1960 presidential campaign, he appeared to have used results from private opinion polls to choose policy issues that would prime the public to attend to his personal image (*Amer Pol Sci Rev.* 1994 Sep;88:527-40).

Emotion expression in human punishment behavior.

Xiao E, Houser D.

Proc Natl Acad Sci U S A. 2005 May 17; 102:7398-401.

Subjects were more likely to reject an offer of 20% of a divided sum, thereby forfeiting money for themselves and the paired subject who proposed to keep 80%, when they were unable to express their emotions regarding the deal to the paired subject, compared to when they could express their emotions in writing, in this study of 296 undergraduates and \$20 sums. See Figure 1.

Monetary rewards and losses during a learning task have been correlated with activation in separate areas of orbitofrontal

cortex on fMRI (*Nat Neurosci.* 2001 Jan;4:95-102). The amygdala is thought to mediate between learned associations and emotional responses (*Neuroscience*, 2 ed.).

GENETICS

Microsatellite instability generates diversity in brain and sociobehavioral traits.

Hammock EA, Young LJ.
Science. 2005 Jun 10;308:1630-4.

Greater social engagement and bonding were seen in male prairie voles with long versus short repeats of a microsatellite 5' to the vasopressin 1a receptor gene and there was differential neural distribution of this protein between groups; humans and bonobos share a microsatellite region 5' to the same gene which chimpanzees, considered less socially engaging, lack. See Figure 3.

Mice transgenic for the prairie vole vasopressin 1a receptor gene showed neural

distribution of the receptor similar to that in voles and had increased social behavior after central administration of vasopressin (*Nature.* 1999 Aug 19;400:766-8). Vasopressin and other neuropeptides appear to modulate anxiety (*Basic Neurochemistry*, 6 ed.).



PAIN

In search of pain.

Dixon KE, Thorn BE, Ward LC.
J Pain. 2005 Jun;6:407.



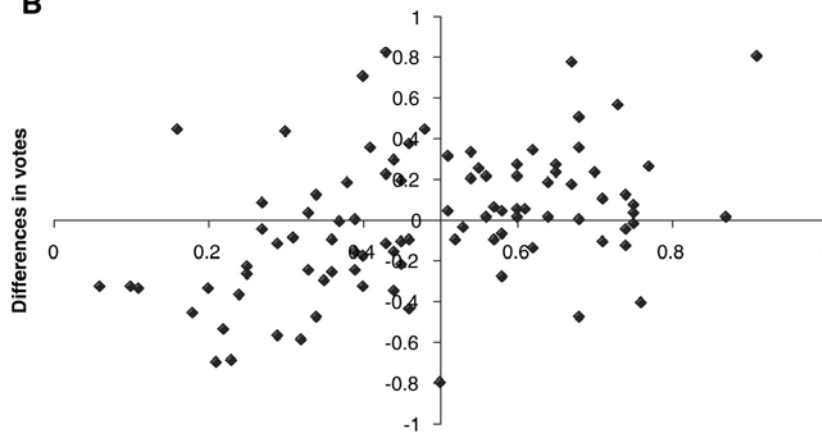
FIGURE OF THE WEEK

A



Which person is the more competent?

B



Inferred competence from faces

Science. 2005 Jun 10;308:1623-6. Figure 1.