

Combined effects of L-theanine and caffeine on cognition and mood. H. PARNELL, G.N. OWEN, J.A. RYCFROFT. *Unilever R&D, Colworth House, Sharnbrook, Bedford, MK44 1LQ, UK*

L-theanine and caffeine are present in all infusions of tea and there is evidence that this combination produces synergistic cognitive and mood benefits (Haskell, Kennedy, Milne, Wesnes & Scholey, *Behav. Pharmacol.* 16 (Suppl. 1), A9, 2005). The aim of the current study was to explore these synergies at lower doses and to investigate their effect on attention switching. In a randomised, double blind, crossover study, the effects of 50 mg caffeine with and without 100 mg of L-theanine were compared to placebo in 27 subjects. Cognitive performance and mood were measured before and 60 and 90 min, after treatment, using computerised tests of memory recognition, rapid visual information processing, attention switching and mood. Caffeine improved subjective alertness at 60 min, and response speed and accuracy on the attention-switching task at 60 and 90 min respectively. The combination of L-theanine and caffeine improved speed and accuracy simultaneously on the attention-switching task at 60 min and reduced susceptibility to distracting information in the memory task at both 60 and 90 min. These data replicate previous results and provide further support for the existence of a synergistic relationship between effects of L-theanine and caffeine.

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Of human bondage? M.L. PELCHAT. *Monell Chemical Senses Center, Philadelphia, PA 19104, USA*

There are many parallels between feeding behavior and addictive drug use (Pelchat et al., 2004). This is probably because drugs of abuse are able to “hijack” brain mechanisms for reward and learning that evolved to encourage us to eat, drink, and reproduce. Given recent increases in the incidence of overweight and obesity, it is essential to find more effective weight management techniques. Previous (only modestly successful) approaches have often focused on reduction of hunger. Why isn't this more effective? The reason is well known to addiction researchers: just as desire to use addictive drugs is only partially driven by withdrawal symptoms, desire to eat is only partially determined by hunger. Learned environmental cues trigger drug craving and compulsive drug use and the same is likely to be true of some pathological responses to food.

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Meal schemas decrease subsequent intake. P. PLINER. *Department of Psychology, 3359 Mississauga Road North, Mississauga, Ontario, Canada L5L 1C6*

Two studies examined the effects of the induction of a meal schema on participants' behavior. In the first, participants ate identical preloads either in a traditional meal context or in a non-meal (“tasting session”) context where the usual cues associated with meals, such as the use of dishes/utensils and being seated at a table, were present or absent, respectively. In a questionnaire assessing their impressions of the situation, participants in the meal condition gave evidence of the activation of a meal schema while the latter did not. That is, the former, in comparison with the latter, were more likely to spontaneously describe the situation using meal-related words, less likely to describe the situation using taste-related words, and rated the situation as feeling more like a meal. In the second study, participants eating the preload in an identical meal context, in comparison with those eating it in a non-meal context, ate less at a subsequent test meal and to some degree rated themselves as feeling less hungry. It was concluded that social cues in the form of abstract knowledge about eating in one's culture may sometimes have a greater influence on food intake than physiological cues related to nutritional status.

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Digit ratio (2D:4D) and prenatal influences on self-reported attractiveness: Evidence from the BBC internet survey. S.J. QUINTON, J.T. MANNING. *Department of Psychology, University of Central Lancashire, Preston PR1 2HE, UK*

Digit ratio (ratio of lengths of 2nd and 4th digits—2D:4D) is considered to be a proxy measure for levels of prenatal sex hormones (oestrogen, testosterone). A high ratio between the lengths of the 2nd and 4th digits suggests exposure to low levels of testosterone and high levels of oestrogen *in utero*, whilst conversely a low digit ratio indicates exposure to high levels of testosterone and low levels of oestrogen. Digit ratio is associated with various traits and pathologies, e.g., depression, schizophrenia, autism, neuroticism. Our earlier work has suggested a relationship between digit ratio and eating pathology in women both in the clinic and outside, as well as with self-esteem. There is an established relationship between self-esteem and the eating disorders. Our current research involved a large internet survey ($N = 250,000$) of males and females participating in the BBC ‘Sex’ survey. Individuals self-reported their attractiveness and digit ratio. Results indicated digit ratio to be negatively associated with self-perceptions of attractiveness in males. This also occurred in those women reporting a masculinized digit ratio having higher self-perceived attractiveness. A relationship of digit ratio (2D:4D) and early prenatal sex hormones to perceived attractiveness and self-esteem could have implications for eating pathology.

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