

Government to create public health observatories based on University's pioneering model

Wirral company wins SMART award with University's help

University plays a key role in facilitating research via the Internet

University study finds a 'trajectory of hope' for Russian children in care

Singled out by Government as a role model

'Blind' cameras keep an eye on distant plants

Intelligent monitoring amidst arcs and sparks

**Hidden significance of a man's ring finger**

Turing versus test tubes

Helping cancer patients to get the

## Hidden significance of a man's ring finger

Scientists at The University of Liverpool have found a link between finger length and depression in men: the longer a man's fingers are relative to his height, the more likely he is to suffer from depression. Ironically, perhaps, the strongest single indicator is the relative length of his ring finger.

### Susceptibility determined before birth

The key to this improbable link appears to be testosterone. Some kind of link has been suspected for some time: the loss of libido which accompanies many episodes of depression has led scientists to hypothesise that

testosterone levels diminish during depression, and rise again upon recovery - but in fact, research results have been equivocal. The University of Liverpool study confirms suspicions regarding testosterone and depression, but suggests that the culprit is prenatal testosterone, produced from week 8 of a pregnancy, rather than day-by-day testosterone levels in adults.



Dr John Manning displaying a series of photocopied hands (illustrated)

Dr John Manning of the University's School of Biological Sciences explains: "Foetal testosterone plays a key role in the development of the male genital system. It also impacts on the development of fingers and thumbs, and the central nervous system.

right therapy

Research and  
Business Services at  
the University of  
Liverpool

Research  
INTELLIGENCE  
Archive

"Men who experienced high concentrations of foetal testosterone have relatively long fingers - in particular, fourth digits which are longer than their second digits. Conversely, men who experienced low concentrations of foetal testosterone have shorter fourth digits than their second digits."

### **The Liverpool investigation**

Dr Manning, his colleague Sue Martin and Professor Chris Dowrick of the University's Department of Primary Care studied 102 men and women from different socioeconomic backgrounds. Each had a variety of physical measurements taken, including wrist size, ear size, height - and the length of digits 2 to 5 (ie their fingers) from the basal crease to the tip. The Beck Depression Inventory (BDI) - widely used to detect depression in the population as a whole, as well as psychiatric patients - was then deployed to identify those who suffered from depression, and to score the severity of their depression.

The results showed that in men - but not women - a high BDI score was positively related to long digits, particularly the fourth digit (ie the ring finger). Dividing digit length by height, to take account of the fact that taller men tend to have longer limbs, fingers and feet, gave an even stronger predictor of high BDI scores in men.

[top of page](#) 

### **Likely explanation**

Foetal testosterone concentrations are the most likely explanation, given the sex-dependent pattern of the data. Says John Manning: "Testosterone has strong influences on the development of the male nervous system - not all of them beneficial.

"It is believed that excess testosterone promotes the growth of the right hemisphere of the brain at the expense of the left hemisphere. This can lead to impaired reading ability, but also to enhanced mathematical and musical abilities. Unfortunately, there seem to be other, less welcome effects: excess testosterone has already been implicated in the origins of migraine, autism, stuttering, schizophrenia - and now depression, too.

"Interestingly, the study's results suggest that depression in women has a different and as yet undetermined origin".

### **Simple, objective indicator**

Having relatively long ring fingers does not necessarily mean that a man will, in fact, suffer from depression - just as people with high cholesterol levels do not necessarily have a heart attack. However, since the symptoms of depression can discourage sufferers from acknowledging their condition and seeking treatment, ring finger length could offer GPs a simple, objective indicator of susceptibility in men.

### **Wellcome Trust**

This is not the first time that John Manning's research has identified a hidden significance of finger length. Last year he established a link between the relative length of women's ring fingers and their fertility levels: women with shorter ring fingers than forefingers tend to have high fertility.

Conversely, men with relatively long ring fingers are more likely to have high fertility. His work has now attracted the interest of the Wellcome Trust, which recently awarded him an innovative research grant to support an investigation into a possible association between risk of heart attack and second to fourth digit ratio.

*The results of this study were published by Martin SM, Manning JT & Dowrick CF in "Fluctuating Asymmetry, Relative Digit Length and Depression in Men", Evolution and Human Behaviour 20: 203-214 (1999)*

For further information see

[www.liv.ac.uk/biolsci/html/population\\_\\_\\_evolutionary\\_biol.html](http://www.liv.ac.uk/biolsci/html/population___evolutionary_biol.html)  
or contact John Manning: [jtmann@liverpool.ac.uk](mailto:jtmann@liverpool.ac.uk)

top of page 