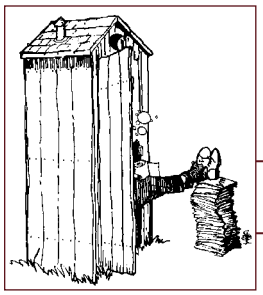

Boys Will Be Boys

Research by and for adolescent males of all ages and sexes

compiled by Katherine Lee, Improbable Research staff

Pressure Distribution from Tight Underwear

"A Computing Model of Pressure Distribution from Tight Underwear," Xiaonan Luo and Huimin Luo, *Journal of Computational and Applied Mathematics*, vol. 195, 2006, pp. 106–12. *(Thanks to Nick Kim for bringing this to our attention.)* The authors, who are at Sun Yat-Sen University in Guangzhou, Guangdong, China, report that:

> Based on the theory of membrane of huge deformation in elasticity, a computable model is presented to solve the problem of pressure distribution on a human body from tight underwear. This model is steady and reliable.

Flatus in Fairly High Places

"High Altitude Syndromes at Intermediate Altitudes: A Pilot Study in the Australian Alps," Graham Slaney, Angus Cook, and Philip Weinstein, *Medical Hypotheses*, vol. 81, 2013, pp. 547–50. *(Thanks to Chris Daniels and Paul Willis for bringing this to our attention.)* The authors, at Mansfield Medical Clinic, Mansfield, Victoria, Australia, and the University of Western Australia, report:

> Our hypothesis is that symptoms of high altitude syndromes are detectable even at intermediate altitudes, as commonly encountered under Australian conditions (<2500 m above sea level).... To test this hypothesis we examined the relationship

A computing model of pressure distribution from tight underwear

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Abstract

Based on the theory of membrane of huge deformation in elasticity, a computable model is presented to solve the problem of pressure distribution on a human body from tight underwear. This model is steady and reliable. With the help of this model, it is easy to solve the problem of describing wearing-dressed effect in Integrated Garments CAD system.

According to Hooker's Law, the resultant stress of point A_i' on deformed underwear is P_i [10,11]

$$P_i = k_1 T_1 + k_2 T_2$$

T_1 and T_2 in above equation are stresses in the two stretched directions of the underwear

$$\begin{cases} T_1 = 2C_1 h \left(\dfrac{\lambda_1}{\lambda_2} - \dfrac{1}{\lambda_1^2 \lambda_2^2} \left(1 + \dfrac{C_1}{C_2} \lambda_2^2 \right) \right), \\ T_2 = 2C_2 h \left(\dfrac{\lambda_2}{\lambda_1} - \dfrac{1}{\lambda_1^2 \lambda_2^2} \left(1 + \dfrac{C_2}{C_1} \lambda_1^2 \right) \right), \end{cases}$$

Detail from the study "A Computing Model of Pressure Distribution from Tight Underwear."

between any high altitude symptoms and a rapid ascent to an intermediate altitude (1800 m) by undertaking an intervention study in a cohort of eight medical clinic staff, conducted during July of the 2012 (Southern Hemisphere) ski season, using selfreporting questionnaires, at Mansfield (316 m above sea level) and at the Ski Resort of Mt Buller (1800 m), Victoria, Australia. The intervention consisted of ascent by car from Mansfield to Mt Buller (approx. 40 min drive)....

We found that the frequency of flatus production more than doubled following ascent, with a postascent frequency of approximately 14 expulsions per person over the 18 h recording period.

Detail from the study "High Altitude Syndromes at Intermediate Altitudes: A Pilot Study in the Australian Alps."

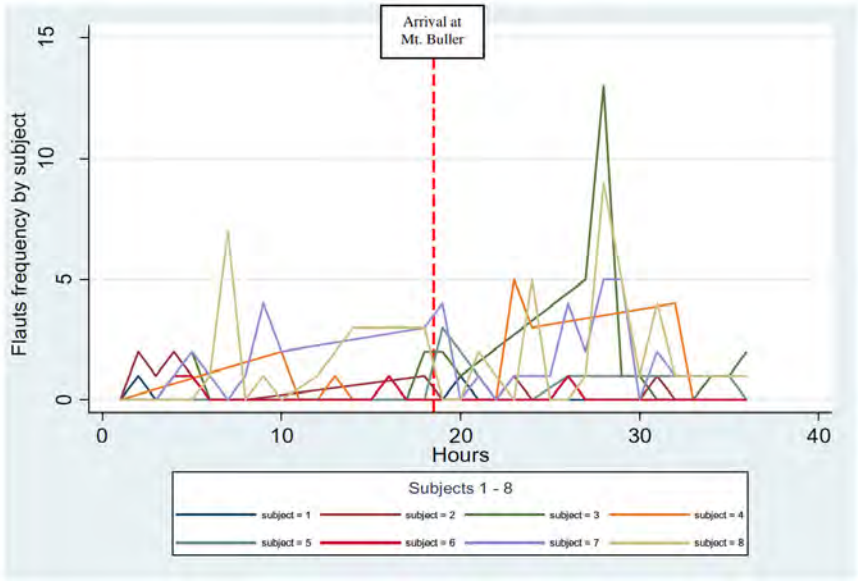

Fig. 1. Time series of flatus frequency pre- and post-ascent (arrival) by subject.

Heated Girl-vs.-Girl Body-Parts Competition, Investigated by Scholars

"Female Physical Characteristics and Intra-Sexual Competition in Women," Bernhard Fink, Dominique Klappauf, Gayle Brewer, and Todd K. Shackelford, *Personality and Individual Differences*, vol. 58, 2014, pp. 138–41. *(Thanks to Enrique Grenados for bringing this to our attention.)* The authors, at the University of Göttingen, Germany, the University of Central Lancashire, U.K., and Oakland University, Rochester, Minnesota, U.S.A., explain:

> Women engage in intra-sexual competition to attract or to retain a mate. Given men's preferences for certain female physical characteristics, women may be attuned to potential rivals who display such traits. We examined how variation in facial femininity, breast size, and waist-to-hip ratio (WHR) affects perceived competition and attractiveness judgments in a sample of German female undergraduates. Thirty-five women ranked five images of each stimulus type according to perceived competition and rated these images for attractiveness and femininity. Women with more feminine faces, larger breasts, and lower WHRs received higher attractiveness and femininity ratings and were ranked highest on perceived competition. The results indicate the occurrence of human female intra-sexual competition with respect to physical traits desired by potential mates.

Detail from the study "High Altitude Syndromes at Intermediate Altitudes: A Pilot Study in the Australian Alps."

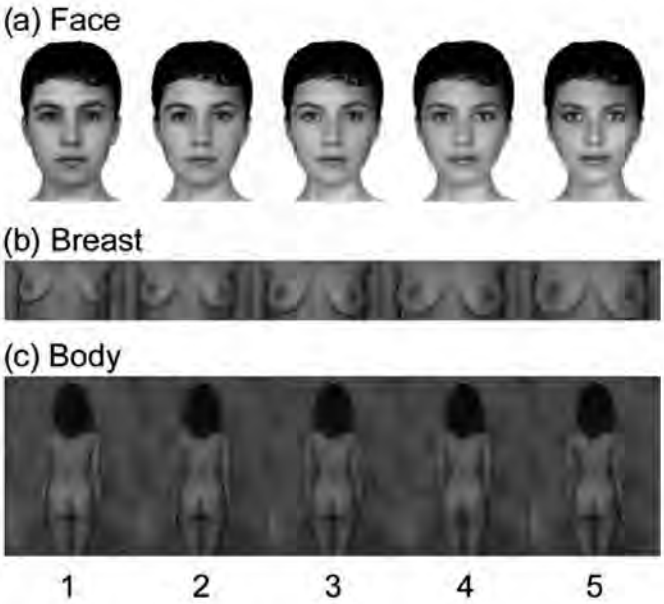

Fig. 1. Stimuli images of female faces, breasts and bodies. Faces: least feminine (1) to most feminine (5); Breasts: smallest (1) to largest (5); Bodies: highest WHR (1) to lowest WHR (5).

stimuli. Mauchly's tests of sphericity indicated that the assumption of sphericity had been violated; thus Greenhouse-Geisser adjustments were applied to the degrees of freedom. Women with more feminine facial features ($F_{2.48,84.15} = 73.46$, $p < .001$), larger breasts ($F_{2.19,74.46} = 68.59$, $p < .001$), and a lower WHR ($F_{2.36,80.30} = 23.98$, $p < .001$) were perceived to pose the greatest threat. There was a main effect of facial femininity ($F_{3.03,103.01} = 37.20$, $p < .001$), breast size ($F_{2.54,86.20} = 50.41$, $p < .001$) and WHR ($F_{2.80,95.19} = 31.54$, $p < .001$) on attractiveness perception. Feminine faces, large breasts and bodies with low WHRs received higher attractiveness ratings, although the extremes were not always considered most attractive