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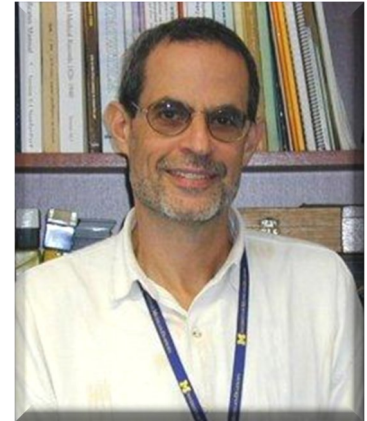
Warwick Medical School

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When: Monday 17 August 2015 at 12:00

Where: A030—WMS



Maternal and Paternal Family Line Effects on Child Growth

Human families are based on biological and cultural rules of marriage and kinship – practices unique to the human species. We propose a new line of research to determine the extent of paternal and maternal family influences on child growth. We hypothesise that paternal line influences are more biological – tending to be genetic and epigenetic in nature. Maternal line influences have a relatively greater social component. These hypotheses are based on: 1. the relatively greater day-to-day proximity of the mother and the child in terms of physical contact and cultural styles of child rearing; 2. studies of paternally imprinted genes which demonstrate that paternal genetic/epigenetic influences are different and relatively stronger, than those of maternal genetic/epigenetic influences; 3. The father may be absent or the social father may not be the biological ‘*pater*’ – leaving only biological influences from the ‘*pater*’.

Maternal versus paternal effects have major impacts on growth, including body size, composition (the content and distribution of lean body mass and adipose tissue) and the timing of puberty. Moreover, these impacts occurring early in life have strong associations with future morbidity and, even, intergenerational effects on health. Parental and grandparental selective environmental exposures can also have effects on growth of offspring in humans, for example the effects of famine or nutrient deficiencies, smoking, noise exposure, and other environmental toxins.

These differential effects by parental family lines may be studied in societies with differing amounts of ‘fathering’ by either the biological or social father, but similar amounts of ‘mothering’ by the biological mother. Rural versus urban residence in these societies may alter the social roles of the biological mother and father. African societies offer many opportunities to study family line effects according to rural and urban residence and according to wealthy, poor, and very poor family economic conditions. Africa provides a much wider range of variation in living conditions than found in the industrialised, western nations of Europe and North America where most existing research has been conducted.

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