

Using the length of the 2nd to 4th digit ratio (2D:4D) to investigate the influence of prenatal sex hormones on non-human primate mating systems and human social evolution.

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There is a genetic link, via the *HoxA* and *HoxD* group of genes, between the development of the digits and the reproductive system. In humans, the length ratio of the 2nd and 4th digits (2D:4D) correlates negatively with prenatal testosterone (PT) and low male 2D:4D has been associated with higher fertility and more successful male-male competitive abilities. Variation in human mating behaviors, using marriage systems as a proxy, has been shown to correlate with mean 2D:4D such that monogamous groups show low PT (high 2D:4D) and polygynous societies show high PT (low 2D:4D). This study investigates whether similar patterns of mean 2D:4D are expressed across non-human primate mating systems. Using 2D:4D as a bio-marker, our evidence indicates that PT varies between taxa, with the lowest PT (higher 2D:4D) found in monogamous New World Monkeys and Apes. Across monkeys as a whole, species with high intensity/high intra-sexual competition had the highest PT (low 2D:4D) whilst those with low intensity/low frequency competition had the lowest PT (highest 2D:4D). We conclude that prenatal sex hormones are implicated in the organisation and expression of mating systems in the Primate Order and consider the effects of lowered PT on human social evolution.