

Faithful females who choose good providers key to evolutionary shift to modern family, study finds

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In early human evolution, when faithful females began to choose good providers as mates, pair-bonding replaced promiscuity, laying the foundation for the emergence of the institution of the modern family, a new study finds.

The study helps answer long-standing questions in [evolutionary biology](#) about how the modern family, characterized by intense, social attachments with exclusive mates, emerged following earlier times of promiscuity. In addition to the establishment of stable, long-lasting relationships, the transition to pair-bonding was also characterized by a reduction in male-to-male competition in favor of providing for females and providing close [parental involvement](#).

The study demonstrates mathematically that the most commonly proposed theories for the transition to human pair-bonding are not biologically feasible. However, the study advances a new model showing that the transition to pair-bonding can occur when female choice and faithfulness, among other factors, are included. The result is an increased emphasis on provisioning females over [male competition](#) for mating.

The effect is most pronounced in low-ranked males who have a low chance of winning a mate in competition with a high-ranked male. Thus, the low-ranked male attempts to buy mating by providing for the female,

which in turn is then reinforced by females who show preference for the low-ranked, "provisioning" male, according to author Sergey Gavrilets, associate director for scientific activities at the National Institute for Mathematical and [Biological Synthesis](#) and a professor at the University of Tennessee-Knoxville.

"Once females begin to show preference for being provisioned, the low-ranked males' investment in female provisioning over male-to-male competition pays-off," Gavrilets explained.

Gavrilets says that the study's results describe a "sexual revolution" initiated by low-ranking males who began providing in order to get matings. "Once the process was underway, it led to a kind of self-domestication, resulting in a group-living species of provisioning males and faithful [females](#)," he said.

The study reveals that female choice played a crucial role in human evolution and that future studies should include between-individual variation to help explain social dilemmas and behaviors, according to Gavrilets.

More information: Gavrilets S. 2012. Human origins and the transition from promiscuity to pair-bonding, *Proceedings of the National Academy of Sciences*, 2012.

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