

Night owls, unlike early birds, tend to be unmarried risk-takers

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Nighthawks, by Edward Hopper (1942). Credit: The Art Institute of Chicago

(Medical Xpress)—Women who are night owls share the same high propensity for risk-taking as men, according to a recent study by a University of Chicago professor.

The research suggests that [sleep patterns](#) are linked with important character traits and behavior, said study author Dario Maestripieri, professor in Comparative Human Development. Night owls—people who tend to stay up late and wake up late in the morning—are different in many important ways from early risers, he found.

"Night owls, both males and females, are more likely to be single or in short-term romantic relationships versus long-term relationships, when compared to early birds," Maestriepieri said. "In addition, male night owls reported twice as many sexual partners than male early birds."

The study, published in the February edition of the journal *Evolutionary Psychology*, draws on data from earlier research of more than 500 graduate students at the UChicago Booth School of Business. That initial study assessed financial risk aversion among male and female students and found men are more willing to take financial risks than women. Females with high testosterone levels, however, were more similar to males in financial risk-taking, that study found.

Maestriepieri wanted to explore why men take more risks than women. He was curious whether sleep patterns have any influence on these tendencies, through an association with differences in personality and in novelty-seeking.

The study participants (110 males and 91 females) provided saliva samples to assess their levels of cortisol and testosterone. Those levels were measured before and after participants took a computerized test of their tendencies for financial risk aversion. The participants also described their own willingness to take risks and gave information about their sleep patterns.

Men had higher cortisol and testosterone levels than women; however, night-owl women had cortisol levels comparable to night-owl and early-morning men. Maestriepieri's study suggests [high cortisol levels](#) may be one of the biological mechanisms explaining higher risk-taking in night owls.

Maestriepieri explains that some people have chronically [high cortisol](#) levels regardless of stress, which is known to increase cortisol for short

periods of time. These people have high metabolism, high energy and arousability. Higher cortisol can be associated with higher cognitive function, he said, and some studies show that high-achieving, successful people have high [cortisol levels](#).

More men than women consider themselves night owls, the study found, and men sleep less overall. Maestriperi said preferences for being a night owl or early morning person are due in part to biology and genetic inheritance, but also can be influenced by environmental factors such as shift work or child-rearing. Gender differences in sleep patterns emerge after puberty and become weaker or disappear after women reach menopause, Maestriperi said.

The link between the night-owl tendency and risky behavior could have roots in evolutionary strategies for finding mates, Maestriperi said.

"From an evolutionary perspective, it has been suggested that the night-owl trait may have evolved to facilitate short-term mating, that is, sexual interactions that occur outside of committed, monogamous relationships," Maestriperi said. "It is possible that, earlier in our evolutionary history, being active in the evening hours increased the opportunities to engage in social and mating activities, when adults were less burdened by work or child-rearing." The findings that night owls are less likely to be in long-term relationships and that male night owls report a higher number of sexual partners offer some support to this hypothesis, he said.

Maestriperi said he has replicated the main result of higher risk-taking in night owls with an expanded, non-student population and hopes to publish those findings soon.

More information: "Night owl women are similar to men in their relationship orientation, risk-taking propensities, and cortisol levels:

Implications for the adaptive significance and evolution of eveningness."
Dario Maestripieri *Evolutionary Psychology* 12(1): 130-147.
[www.epjournal.net/wp-content/u ... ads/EP1201130147.pdf](http://www.epjournal.net/wp-content/uploads/2014/04/EP1201130147.pdf)

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