

Women navigate more efficiently than men

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Image credit: Pinar Ozger

(PhysOrg.com) -- New research from the National Autonomous University of Mexico suggests women navigate more efficiently than men in some circumstances, even though previous studies have shown that in general men score higher than women in tests of spatial ability and map reading.

The researchers, led by Luis Pacheco-Cobos, followed mushroom gatherers in a small village in the Mexican state of Tlaxcala for two wet seasons, with two researchers equipped with heart rate monitors and [global positioning system](#) (GPS) devices following different gatherers each day. They recorded the routes taken and the weight of mushrooms collected by each person, and then analyzed the data, with the heart rate data giving an estimate of the energy used and the GPS data being used to create maps of the routes.

Their results showed the weight of mushrooms collected by [women](#) was about the same as that collected by men, but men expended an average of 70% more energy to collect the mushrooms, roaming higher and further than the women. The women seemed to know where to go and stopped more frequently than the men, picking mushrooms they found in many small patches, while the men stopped less often, and spent their time searching for large patches of mushrooms.

Previous research on the way men and women navigate have indicated men tend to create mental maps and then mentally superimpose their position on the maps, while women tend to remember landmarks and memorize the route. The earlier research and the current study suggest women and [men](#) have different navigational techniques and skills because they evolved to carry out different tasks: hunting for males, and gathering for females.

According to the theory, the differences began to evolve in the Pleistocene around 2.5 million years ago, with gatherers being better off following a strategy of remembering landmarks on the route to the most productive plant food sources and then retracing their steps exactly, but hunters needed to run long distances and follow winding routes to chase prey, and then wanted to take the shortest route home.

The results of the research will be published in the *Evolution and Human Behaviour* journal.

More information: Sex differences in mushroom gathering: men expend more energy to obtain equivalent benefits, *Evolution and Human Behaviour* [doi:10.1016/j.evolhumbehav.2009.12.008](https://doi.org/10.1016/j.evolhumbehav.2009.12.008)

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