

Herd Mentality

By sticking together, sperm can find a more direct path to the egg.

We think of a sperm's mission as a lonely one, each one hoping to find and fertilize the egg before the rest of pack. In some species, however, sperm literally stick together in a grouping that gives them a competitive boost. How does this all-for-one attitude give sperm that edge?

Biologist Heidi Fisher of Harvard University analyzed the behavior of clumping sperm from two different mouse species — one monogamous, one promiscuous — under microscope slides. One contained sperm from multiple promiscuous males;

the other had sperm from multiple monogamous males.

Fisher found that sperm from the promiscuous species often recognized and latched on to other gametes from the same male, upping the odds of passing on that mouse's genes. Sperm from the monogamous species still clumped, but not in male-specific groups, suggesting that grouping into a sperm herd has advantages beyond the competitive edge it gave swimmers from the promiscuous species.

"We assumed it was something like the way cyclists all form a group and move with greater speed," Fisher

says. But recently, when they tested this idea with a custom-designed mathematical model, they found the groups swam *straighter*, not faster. By flocking together, the sperm group's momentum cancels out any wayward movements of a lone gamete, collectively giving them a more direct path to the egg.

And it turns out the sperm of the promiscuous species were more likely to form optimally sized groups — six or seven swimmers — than the less competitive monogamous species. When evolutionary rivalry heats up, it seems, sperm team up. —MARCUS WOO

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