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Study Finds Women's Voices Are Unreliable Sign of Fertility

By [Danielle Venton](#)   September 30, 2011 | 3:11 pm | Categories: [Brains and Behavior](#)
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Though some research suggests that women unconsciously advertise their fertility, a new study shows that their voices are misleading to would-be mates.

Just before ovulation, when women are at their most fertile, their voices become higher-pitched — but the same happens after ovulation, when they're less fertile.

“Other species have very obvious indicators of fertility, like the sexual swellings of Barbary macaques,” said Julia Fischer, a vocalization researcher at the [German Primate Center](#) in Göttingen, Germany. “We’d like to know if there is some comparable signal in humans.”

Evolutionary biologists long assumed that women hide ovulation to encourage faithfulness in their partners. If they can encourage males to mate with them regularly, rather than allowing men to cherry-pick the best times, the pair’s bond will be stronger. Women and their offspring can continually benefit from food and protection the male may provide.

During the past decade, however, hidden female fertility has been increasingly questioned. Several studies have found that men seem to subconsciously detect it. Lap dancers [earn higher tips](#) just before

ovulation, and women in relationships report their [mates are more jealous and attentive](#) to their whereabouts.

Among the possible cues are scent, appearance and behavior: Fertile women seemingly [smell better to men](#), [look prettier](#), [dress more alluringly](#) and feel more confident. Another proposed signal is voice, which some studies suggest changes subtly but detectably during high- and low-risk fertile periods.

In a [study published Sept. 21 in PLoS One](#), Fischer and her colleagues characterized the voices of 23 German-speaking women's voices daily for a menstrual cycle. They analyzed variation in pitch, hoarseness, harmonics and breathiness (think Marilyn Monroe). The women also gave daily urine samples, so their hormones and the precise day of ovulation could be tracked.

Fischer's team found that voices were highest three days before ovulation, lowered during ovulation, then rose again. The pattern makes it unlikely men can use a woman's voice as a reliable mating cue.

'There is no clear, broadcast signal of fertility.'

Playing the recordings to a group of heterosexual non-German speaking males, the researchers found only a slight preference for the higher-pitched pre-ovulation voices. No clear pattern of male preference emerged. Different men liked different things.

"The one consistent variation we did find was during menstruation," Fischer said. During this time women's voices were heavier and less harmonic, probably because having more water in their bodies changes the form of the vocal chords.

"It is important that [Fischer's team] measured the women daily, it allows us to see the complexities that our method didn't," said Gregory Bryant, a researcher at the University of California, Los Angeles who has studied the vocal effects of ovulation.

Two years ago, Bryant co-authored a paper that found that [women's voices were higher pitched](#) in spoken sentences during high fertility relative to low fertility, and the closer they were to the day of ovulation, the more they raised it.

Bryant does wonder if some effects were obscured or missed in Fischer's 23-woman sample size. "I don't think the results rule out a vocal cue of ovulation that men could unconsciously perceive," Bryant said. "But I agree that there is no clear, broadcast signal of fertility."

According to standard evolutionary psychology, men have an incentive to detect when women are most likely to become mothers, allowing them the best chance of continuing their genetic lineage. To attract the best mate, women are motivated to enhance their femininity around the time of highest fertility, but perhaps only to a point.

Among Barbary macaques, for example, female monkeys try to lure males to mate, but because they hide the precise date of fertility, males can't be certain who fathered each child. As a result, all males in a group contribute to raising its young.

Each reproductive system leaves its mark on a species. Since humans are neither exclusively monogamous nor as multi-partnered as macaques, a variety of forces are at play.

"It makes sense for human women to conceal fertility," Fischer said, "probably to stabilize the pair bond." But, at the same time, being a little extra attractive when she's fertile might win a female the best father for her children, if she's inclined to shop around.

Both Fischer and Bryant agree that differences a woman's voice shows during ovulation are, if detectable at all, very slight and noticed only by those who know her well.

“People ask me if I can tell when a woman’s ovulating,” Bryant said. “I say, ‘Of course not.’ But if I know a woman, and am familiar with her voice, maybe I just like her a little more that day, and I don’t know why.”

See Also:

- [Birth Control Messes With Monkey Business](#)
- [Drive to Impress Females Pushes Males Toward Early Graves](#)
- [The Mysterious Decline Effect](#)

Citation: “Do Women’s Voices Provide Cues of the Likelihood of Ovulation?” By Julia Fischer, Stuart Semple, Gisela Fickenscher, Rebecca Jürgens, Eberhard Kruse, Michael Heistermann, Ofer Amir. PLoS One. Sept. 21.



Danielle Venton is a science writer who fosters a special love for bugs, plants, mountains, books and gorgeous space photos. She likes writing with a fountain pen and hopes to walk across the Himalayas one day.

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[Zaratustra](#)

Joke's on them - men don't listen to women anyway! HEYO

[19 hours ago](#) [5 Likes](#)

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bukkakeninja

I find women who use the word "like" multiple times in every sentence are easy. This has been verified scientifically.

[3 days ago](#) [8 Likes](#)

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Jeni Mc

Voices change based on weather, what you eat or drink, how much talking you've done, and how tired you are. How exactly did they account for that?

[2 days ago](#) [5 Likes](#)

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blisskid

Apparently by limiting the study-size to a statistically unrepresentative pool of 23 women, thus greatly increasing the likelihood of interference from all of the factors you mentioned.

[2 days ago](#) [in reply to Jeni Mc](#) [9 Likes](#)

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Lance Cole

These guys need to be around cattle more...seriously. First off, you don't throw the bull in with the cows 'at the very moment they are at their peak'...you put him in a few days before hand, to start 'courtship'. You don't leave them together, or mating becomes unpredictable...he will most-often 'get lazy'. Therefore, applied to female humans, men who have been unattentive are quite-possibly hearing the tonal 'higher frequency' of pre-ovulation...and combined with olfactory cues, 'acting' on the sudden drop in tone to 'emphasize' the 'right time' to mate. Clearly, the scientists of this test think it is a simple 'light switch event', and not a series of 'flags' or 'cues' for action. If it doesn't work this simply in animals, then why would we begin to think it works so primitively in humans?

[3 days ago](#) [5 Likes](#)

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abulinix

Spending more time with cattle just shot up my priority list. Good points!

[19 hours ago](#) [in reply to Lance Cole](#)

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Heather Stanley

I really don't put much faith in studies which experiment on only one ethnic strand of people. This occurs all the time and I don't think scientists put much emphasis on ethnic and nationalistic (social) factors, as much as they should.

[3 days ago](#) [1 Like](#)

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Shizuppy

It's very likely that the effect of women's cycles on their own behavior is more beneficial to them from an evolutionary standpoint, rather than fertility acting on things they can't consciously control.

This is to say, it's probably better from the woman's perspective that her fertility is made apparent to her, rather than to men.

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Jeremiah Schultz

Is this why I dig the women with really high pitched (should be annoying) voices?

[2 days ago](#)

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Tony Knibb

Maybe the fact that I like husky-voiced girls shows that I'm not ready for children... :/

[16 hours ago](#) [in reply to Jeremiah Schultz](#) [1 Like](#)

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blindspot

Wouldn't one rather see signs of fecundity.

[3 days ago](#)

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blisskid

Actually, while both cause arousal, human males respond far more strongly to nubility cues than to fecundity cues.

It makes sense, since fecundity cues may indicate general fertility but also indicate that, at best, future offspring will have a divided share of their mother's attention, while nubility cues indicate that, if indeed fertile, a potential mate has her entire life ahead of her to give her (and the prospecting male's) future offspring her potentially undivided attention.

[2 days ago](#) [in reply to blindspot](#)

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