

For the lonely, a blurred line between real and fictional people

September 28 2023, by Jeff Grabmeier



Credit: Unsplash/CC0 Public Domain

In lonely people, the boundary between real friends and favorite fictional characters gets blurred in the part of the brain that is active when thinking about others, a new study found.

Researchers scanned the brains of people who were fans of "Game of Thrones" while they thought about various characters in the show and about their real friends. All participants had taken a test measuring loneliness.

The difference between those who scored highest on loneliness and those who scored lowest was stark, said Dylan Wagner, co-author of the study and associate professor of psychology at The Ohio State University.

"There were clear boundaries between where real and fictional characters were represented in the brains of the least lonely participant in our study," Wagner said.

"But the boundaries between real and some fictional people were nearly nonexistent for the loneliest participant."

The results suggest that lonelier people may be thinking of their favorite fictional characters in the same way they would real friends, Wagner said.

Wagner conducted the study with Timothy Broom, a Ph.D. graduate of Ohio State who is now a postdoctoral researcher at Columbia University. It was published recently in the journal [*Cerebral Cortex*](#).

Data for the study was collected in 2017 during the seventh season of the HBO series "Game of Thrones." The study involved scanning the brains of 19 self-described fans of the series while they thought about themselves, nine of their friends and nine characters from the series. (The characters were Bronn, Catelyn Stark, Cersei Lannister, Davos Seaworth, Jaime Lannister, Jon Snow, Petyr Baelish, Sandor Clegane and Ygritte.)

Participants reported which "Game of Thrones" character they felt

closest to and liked the most.

"Game of Thrones" was a fantasy drama series lasting eight seasons and concerning political and military conflicts between ruling families on two fictional continents. It was ideal for this study, Wagner said, because the large cast presented a variety of characters that people could become attached to.

For the study, the participants' brains were scanned in an fMRI machine while they evaluated themselves, friends and "Game of Thrones" characters. An fMRI indirectly measures activity in various parts of the [brain](#) through small changes in blood flow.

The researchers were particularly interested in what was happening in a part of the brain called the [medial prefrontal cortex](#) (MPFC), which shows increased activity when people think about themselves and other people.

While in the fMRI machine, participants were shown a series of names—sometimes themselves, sometimes one of their nine friends, and other times one of the nine characters from "Game of Thrones."

Each name appeared above a trait, like sad, trustworthy or smart.

Participants simply responded "yes" or "no" to whether the trait accurately described the person while the researchers simultaneously measured activity in the MPFC portion of their brains.

The researchers compared results from when participants were thinking about their friends to when they were thinking about the fictional characters.

"When we analyzed brain patterns in the MPFC, real people were

represented very distinctly from fictional people in the non-lonely participants," Wagner said.

"But among the lonelier people, the boundary starts breaking down. You don't see the stark lines between the two groups."

The findings suggest that [lonely people](#) may turn to fictional characters for a sense of belonging that is lacking in their real life, and that the results can be seen in brain, Wagner said.

"The neural representation of [fictional characters](#) comes to resemble those of real-world friends," he said.

But even the least lonely participants were affected by the characters they cared about most in "Game of Thrones," the study found.

Results showed that the participants' favorite characters in "Game of Thrones" looked more like their real friends in their brains than did other characters in the show. That was true for all people in the study, no matter how lonely and no matter who their favorite [character](#) was, Wagner said.

"Your favorite characters are more real to you, regardless of loneliness," he said.

More information: Timothy W Broom et al, The boundary between real and fictional others in the medial prefrontal cortex is blurred in lonelier individuals, *Cerebral Cortex* (2023). [DOI: 10.1093/cercor/bhad237](#)

Provided by The Ohio State University

Citation: For the lonely, a blurred line between real and fictional people (2023, September 28)
retrieved 27 April 2024 from

<https://medicalxpress.com/news/2023-09-lonely-blurred-line-real-fictional.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.