

# Board game confronts 'ickiness' of gut health

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Board game Goey Gut Trail uses play to improve our understanding of gut health. Credit: Nandini Pasumarthy

Researchers are using the play-based approach of board games to improve our understanding of gastrointestinal health.

Developed by Ph.D. candidate Nandini Pasumarthy, Goey Gut Trail is a board game designed to help players visualize the positive and negative

effects of everyday habits on gut health.

"A lot of people think gut health is only about what we eat, but factors like [physical activity](#), our genetics, environment, emotions and lifestyles all impact our gut health in some way," said Pasumathy, whose research is part of RMIT's Hearty Adventures in Food and Play Research Lab.

While there are many technologies and Apps that help users track their digestive disorders, fewer tools tackle gut health beyond exercise and diet.

"There is a need for a more holistic approach to understanding gut health factors rather than having a sole focus on people with existing digestive disorders," she said.

Pasumathy conducted a qualitative field study on the board game to understand how its design could facilitate a better understanding of gut health. The study, "Gooley Gut Trail: Board Game Play to Understand Human-Microbial Interactions," is published in *Proceedings of the ACM on Human-Computer Interaction*.

To play the game, each player is assigned a different Persona card, which outlines unique attributes that can impact their success in the game, such as genetics and lifestyle. Each Persona has a different mix of friendly and unfriendly microbes to start with, called The Warrior and The Minion, or referred to in the game as Meeples.

The goal is to achieve a healthy microbiome by playing diverse activity cards and accomplishing challenges in the game to balance the two Meeples.



Players need to achieve a healthy microbiome by accomplishing challenges in the game to balance the two Meeples. Credit: Nandini Pasumarthy

While pre-game interviews revealed most participants had a limited understanding of factors influencing their gut health, most participants said their knowledge of gut health increased after playing the board game.

"Some of our participants were able to visualize the influence of microbes in our gut through the game, which prompted them to make different lifestyle choices outside of the game," she said.

"We even had some participants say the game was challenging their negative perceptions of bacteria and microbes, which had previously prevented them from doing certain activities such as composting."

## Confronting the ickiness

Studies show [board games have often been used to help people break down complex ideas](#) but Pasumarthy said this game was also an ice breaker to normalize conversations about gut health.

"Our [gut microbiome](#) plays a huge role in our bodily function. It is vital for not only our digestive health but also for brain and heart health," she said.

"Yet so many people are embarrassed to talk about their gut health, especially if it concerns their bowel movement or bodily fluids."

"This [board game](#) is designed to confront that 'ickiness' factor and allow people to feel safe and comfortable sharing their experiences."



The Persona card outlines unique attributes that can impact a player's success in the game. Credit: Nandini Pasumarthy

## The next phase

Pasumarthy is now working on a new smartphone game called Go-Go Biome, where players balance the friendly and unfriendly biome in the game by engaging in real-world activities.

Different to Goody Gut Health, Go-Go Biome is an open-ended solo game designed to be played over six to 12 days.

The game has no official ending as it restarts every day.

"It symbolizes that gut health is not a destination but rather a process that people must consciously engage in every day," Pasumarthy said.

Go-Go Biome is about to enter its first qualitative field study and Pasumarthy hopes the game will help formulate design guidelines to help create interactive and playful technologies for gut health engagement.

"We will be looking at how the game's features may lead to curiosity, action, and reflection towards everyday habits that influence gut health," she said.

**More information:** Nandini Pasumarthy et al, Goody Gut Trail: Board Game Play to Understand Human-Microbial Interactions, *Proceedings of the ACM on Human-Computer Interaction* (2022). [DOI: 10.1145/3549502](https://doi.org/10.1145/3549502)

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