Gender, personality influence use of interactive tools online
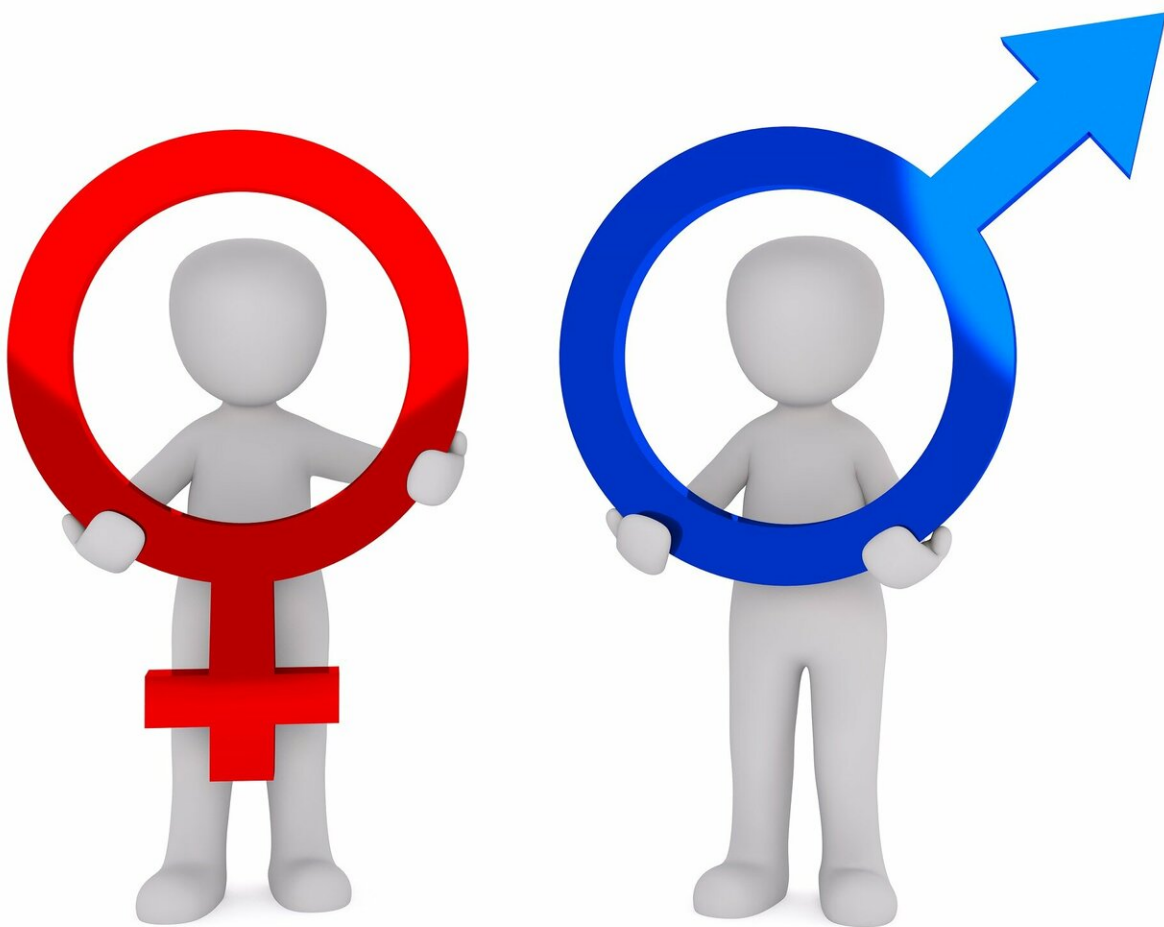
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People's personality—such as how extroverted or introverted they are—and their gender can be linked to how they interact online, and whether they prefer interacting with a system rather than with other people.

In a study, a team of researchers found that people considered websites more interactive if they had tools to facilitate communication between users, often referred to as computer-mediated communication, or CMC. However, male extroverts also considered sites with tools that let them interact with the computer, called [human-computer interaction](), or HCI, to be more interactive compared to extroverted women, who viewed sites with CMC tools to be more interactive.

"When you go to a website—for example, the Google search engine—you're essentially engaging in HCI, which is different from CMC, which is when you're communicating with other humans through computer technology," said S. Shyam Sundar, James P. Jimirro Professor of Media Effects in the Donald P. Bellisario College of Communications and co-director of the Media Effects Research Laboratory. "When we talk about HCI here, it's really about the degree to which the system or the machine allows us to interact with it, and it includes everything from how we swipe and tap on our mobile devices, to how we try to access different information through links on a website. When we talk about CMC, it is about the tools to chat with somebody else, like a customer service agent through an online portal, or when we're having a [video chat]() via zoom, for example."

Knowing who your web visitors are and what engages them is an important part of creating good user experiences, added Sundar, who is

also an affiliate of the Institute for Computational and Data Science. "For developers, it's useful to know who will appreciate what types of interactivity that you have to offer, or what kind of interactivity should you offer to which kind of people.

"These are actually quite important business decisions, because they cost a lot of money and have a lot of backend consequences," said Sundar. For example, in an e-commerce site, which may be primarily trafficked by women, the findings suggest that efforts should be made to provide ways to talk to other people, such as chat tools, rather than simply tools to interact with the computer, such as being able to turn an image of a product in all directions.

Real world behaviors in the virtual world

When people use websites, many of the habits and behaviors they have adopted in real life influence their behaviors online, said Yan Huang, assistant professor of integrated strategic communication in the Jack J. Valenti School of Communication, University of Houston and first author of the paper. The study is in line with that, she added, demonstrating how people who are extroverted in real life also like to interact in virtual settings.

"Our findings largely supported the hypothesis that as people's level of extroversion goes up, they're more likely to recognize the interactive potential of the site, no matter if it's communicating with the machine, or using the computer to talk to other people, but gender also made a difference here," said Huang. "What we saw was that extroversion has slightly different effects for men compared to women, in terms of the types of interactivity that they appreciate more."

Interactivity also boosted attitudes about the website, improving the chances that the users would find the site interesting or appealing, she

added.

To study the reaction to web tools, the researchers set up four different experimental conditions and randomly assigned each of the 99 participants to one of those conditions. They were asked to browse a movie news website that either featured, or did not feature, tools to communicate with the machine and/or other humans. In this case, hyperlinks were used to interact with the system, while a comment function was used to communicate with other humans. Participants were instructed to imagine that they were going to choose a movie to watch as they browsed the site for at least three minutes.

After they browsed the website, participants answered a series of questions assessing their experience on the website and their attitude toward it. They also answered questions that were used to determine their level of extroversion, such as "I see myself as someone who likes to mix socially with people" and "I usually let myself go and have a good time at a party."

Because tools that developers are using to communicate both with the computer and with fellow users are always growing and changing, future studies could examine how these newer tools influence people, according to the researchers, who reported their findings in a forthcoming issue of *Computers in Human Behavior*, available online now.

"In this study, we only operationalized one function for CMC, which was the comment function and one function for HCI in the form of layered hyperlinks," said Huang. "It would be interesting to test whether the findings actually hold true for newer interactive features, such as those found in augmented reality or AI chatbot applications."

Sundar added that another research direction would be to take the studies out of the media laboratory and into real life.

"One way to do this would be online, in a computationally intensive way," said Sundar. "A more valid way of testing this would be to actually see how people—how men and women and extroverts and introverts—interact with a variety of different types of interactive features on a variety of different online sites."

More information: Yan Huang et al, Do women and extroverts perceive interactivity differently than men and introverts? Role of individual differences in responses to HCI vs. CMC interactivity, *Computers in Human Behavior* (2021). DOI: 10.1016/j.chb.2021.106881

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