Internet communities can teach amateurs to build personalized governments

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The internet has its perils with privacy breaches and fake news, but on the plus side, a whole generation of youth have been teaching themselves skills in leadership and community-building, according to a new

University of California, Davis, study.

These self-governing internet communities, in the form of games, social networks or informational websites such as Wikipedia, create their own rule systems that help groups of anonymous users work together. They build hierarchies, create punishments, and write and enforce home-grown policies. Along the way, participants learn to avoid autocrats and find the leaders that govern well.

"As scientists learn these lessons vicariously, at scale, self-governance online promises not only to breed more savvy defenders of democracy, but inform the design and growth of healthy, informed, participatory cultures in the real world," said Seth Frey, UC Davis assistant professor of communication and the lead author of a new study published July 11 in *PLoS ONE*.

For five years, researchers looked at the multiplayer "virtual world" video game Minecraft, one of a few games with a decentralized, amateur-driven hosting model and a large user base. The game involves players interacting with the game world by placing and breaking various types of blocks in a three-dimensional environment. It is known for its open, un-plotted structure, according to the study. In Minecraft, players can build structures, creations and artwork on multiplayer servers and single player worlds across multiple game modes. Research suggests that 80% to 90% of players are males, with a median age of 19.

To conduct the study, researchers designed a program to collect publicly available data from managers of Minecraft communities all over the world. They scanned the internet every two hours for two years, visiting communities to learn how they are run, who visits them and how regularly those visitors return. They observed 150,000 communities, then focused on a subset of 1,800 that they identified as successful.

Minecraft is self-hosted on a public web server. Web servers, like other computers, have limits in processing power, bandwidth and electricity. So, failing to provide any of these services adequately can damage a community, Frey explained.

"Minecraft is especially resource-intensive, making these challenges especially critical." These challenges are difficult enough that most communities, 19 out of 20, fail, he said.

Unlike websites visited by most people, many successful Minecraft servers are not run by professionals in governance or policy design. Instead, amateurs—players who want control over their own community—take on the challenge of selecting a system of governance that attracts and supports peers with a common vision, he said. Over time, administrators can install bits of software that implement dimensions of governance, including private property rights, peer monitoring, social hierarchy, trade and many others.

"Picking from an a la carte menu of rule types, players assemble highly variable and individualistic forms of government," Frey said. "Although there are trends in what makes an effective government, especially among the largest communities, one of the major surprises of the study is the diversity of systems that prove viable."

Given the difficulty of building a successful online community, especially in an anonymous youth-driven game such as Minecraft, it is likely that the leadership skills that successful players develop could translate to real-world domains. Proving this transfer of governance ability to real-world environments is a goal of future research, Frey said.

"This analysis of large internet communities shows that in addition to making it easier for giant malevolent agents to undermine democracy, it also brings successful community-building closer, which gives a lot more

people experience with leadership and governance and feelings of responsibility to a community," he added.

More information: Seth Frey et al, Emergence of integrated institutions in a large population of self-governing communities, *PLOS ONE* (2019). DOI: 10.1371/journal.pone.0216335

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