New open data resource for studying video game play and its effects on well-being

June 1 2023

Credit: Pixabay/CC0 Public Domain

In the first study of its kind, researchers at the University of Oxford and Tilburg University have collaborated with game developer FuturLab to create a unique open online data resource to study the effects of playing

video games on the well-being of players.

The scientists worked with FuturLab to develop a research edition of video game PowerWash Simulator. PowerWash Simulator allows players to clean areas, objects and vehicles in the fictional town of Muckingham, unlocking upgrades that help to clean more efficiently and building up their power washing business as they go. Originally built as an improvised self-care tool, the simple gameplay focuses on relaxation and [satisfaction](#).

The research edition of the game tapped into player's psychological experiences and state of mind during play using an in-game messaging and response system. For the first time players volunteered to participate in research by donating their play data and regularly reporting their mood in the game menu.

First author, Dr. Matti Vuorre, Assistant Professor, Tilburg University explains, "Despite widespread worries about games' impacts on players' mental health and well-being, there is little empirical evidence to support or refute these concerns. We set out to address those concerns by collaborating with FuturLab to collect real-time in-play data about how people feel when they are gaming, and not sometime after as is usually done in video game research."

"Together we have created a fully transparent online resource of gaming data, which as far as we are aware is the largest repository of its kind in the world."

Co-author and project lead Professor Andrew Przybylski, Oxford Internet Institute, University of Oxford, said, "Although extensively studied, the level of understanding required to address sensationalist headlines and advise policy is lacking, at least partly because much of the science has relied on artificial settings and limited self-report data. In

our new study, we set out to develop a framework of best practices for researchers, psychologists and data scientists involved in the study of gaming and its impact on mental health and well-being."

"Our data set is published as an open resource to help others in the field go further and deeper in the pursuit of understanding more about the psychological state of gamers. This study is a real game changer that opens the black box of gaming for all."

The team's next move is to conduct detailed statistical analyses of the PowerWash dataset and to publish their findings in the coming months as part of their ongoing collaboration with FuturLab.

James Butlin, co-author and senior programmer at FuturLab Ltd said, "From a game developer's perspective, the opportunity to scientifically measure the level of satisfaction, competency, and general well-being your players feel while playing your game is invaluable—and incredibly exciting! I spoke in detail about some of the challenges we faced while implementing the study into PowerWash Simulator during my talk at GDC 2023. We are very proud of our work on the study and hope to inspire others to get involved in similar collaborative research."

Provided by Tilburg University