

[COVID Information Commons \(CIC\) Research Lightning Talk](#)

Transcript of a Presentation by Mingxuan Liu (University of Southern California), May 5, 2022



Title: *Natural experiments with online games: Support, impact, and mitigation during the Covid-19 Pandemic*

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Transcript

Mingxuan Liu:

*Slide 1*

Hi everyone. I'm Mingxuan, I'm a fourth year Ph.D. student at USC School of Communication and Journalism. Today, I'm very glad to be here to give a presentation on our project: Playing Through the Pandemic: Gaming Usage as a Buffer During COVID-19.

*Slide 2*

So today, we are all gathered here to talk about, like, a war fight towards COVID. And indeed the year of 2019 and 2020 will long be remembered as the era of COVID-19, where many lives were lost and the global economy was impended and all the daily norms were disrupted. Amidst all the disruptions of the COVID-19 pandemic, video games were used heavily, surpassing all other media combined in terms of the revenue presumably because it could help with the negative mood in social isolation. So our study seeks to understand the effect of such play on well-being with a particular example: World of Tanks players. And we're interested to learn whether different player patterns change well-being outcomes for players. And was this a case of improving well-being or holding losses at bay?

*Slide 3*

So our study draw on three strands of theory: the Uses and Gratifications theory, the Mood Management Theory, and Self-Determination Theory. So according to Mood Management Theory, media selection is driven by implicit and hedonic needs. So hedonic needs means: excitement and stimulation. And if media selection could satisfy the intrinsic needs, we will experience greater media enjoyment. And later, the Mood Management Theory also incorporates non-hedonic needs in the intrinsic needs realm. And the three non-hedonic needs are: autonomy, competence, and relatedness, which was

originally proposed in a Self-Determination Theory. According to the Self-Determination Theory, humans have three basic psychological needs: autonomy, competence, and relatedness. Satisfaction of the three will contribute to one's well-being and vice versa. And we also lean on the Uses and Gratification Theory because this theory accounts for the broader socio-economic and environmental factors that influence people's media use, such as like how COVID-19 as a backdrop could influence people's media use.

#### *Slide 4*

And we join on these three lines of theories to propose six hypotheses. So first, we proposed that during the COVID-19 players will report higher levels of current and future well-being compared to the national sample. So in February 2021, Gallup conducted a survey with a national sample and asked people's current and future levels of well-being. One of our surveys was also conducted in February 2021. We intentionally used the same scales of the current and future well-being that was used in the Gallup survey to do a parallel comparison with the national sample. We also predicted that people will spend more time in games during COVID-19 than pre-COVID-19. And people who play more will report higher well-being compared to those who play less. And this will be a larger relationship than the test prior to it. And then really dive into people's like in-game behaviors, leveraging our access to people's in-game behavior log data. We predict that people who engage in more social interactions during COVID-19 than pre-COVID-19 will report greater perceived relatedness. And players who perform better during COVID-19 will report their perceived competence. Increased play will have a stronger association with non-hedonic needs and satisfaction during the pandemic time prior to it. And the one is players hedonic and non-hedonic needs satisfaction altogether will be positively associated with their well-being. We situate or study in World of Tanks. World of Tanks is a team-based online vehicle combat game allowing for individual and team play. So we work in cooperation with War Gaming, the developer of World of Tanks so that we could get access to the North American servers and players in-game behavior data.

#### *Slide 5*

We conducted two weeks of surveys. The first one was conducted in April 2019 and this represents the before COVID time. The second wave was conducted at the late January and early February and this represents the during COVID Time. February 2021 is near the peak of the U.S. infections and deaths as reported by the New York Times. And we also match the survey data with 10 months of behavioral data. So all the data were anonymized and when we hashed before sending it to the research team. We are able to combine players' survey data with their in-game behavior data using that one-way hashed player like [inaudible].

#### *Slide 6*

So just more information on the game and on the player demographics: because the game has a very rich historical background, it's situated in World War II and it features more about strategic play than your reaction times. So it actually attracts a lot of, like, a wide range of ages. So the age actually ranges from 12 to 80 something. About 30% of our participants have served in the U.S. Army.

*Slide 7*

Sharing some of our key results here: broadly, our sample of players indeed reported higher levels of present and future well-being compared to the national sample. And our players represent already heavy players of the game. Among them we see a significant increase in the consistency of their play, but not their intensity of the play. Although we did see more daily gaming among our players, there was no relationship between these increased daily gaming and their psychological well-being. However, increases in their gameplay intensity were correlated with increased feelings of competence, which was in turn associated with increased psychological well-being. Players who felt higher levels of competence and hedonic need satisfaction during the pandemic were more likely to report higher overall levels of psychological well-being.

*Slide 8*

So in conclusion, some takeaway messages: gameplay in our sample provided a buffer against declines in well-being as a type of psychological maintenance, whereas our game appears to have delivered a psychological buffer for its players broadly. But has perhaps more social and supportive environments will generate more positive outcomes for those seeking socialization, such as the game Animal Crossing, during COVID-19.

*Slide 9*

This is our team.

*Slide 10*

Thank you for listening and let me know if you have any questions or comments.