Graduate School of Science and Technology Master's Thesis Abstract

Laboratory name (Supervisor)	Computational Behavioral Neuroscience (Tanaka Saori (Associate Professor))		
Student ID	2111305	Submission date	2024 / 1 / 17
Name	GAO YULUN		
Thesis title	Relationship Between Rule-finding Video Game Behavior and Mental Health Conditions		

Abstract

Mental health is a very important topic in modern society. It is reported that around 12.5% people all over the world have problem on mental health. Predicting mental health problem in early phase is highly needed, but also difficult for normal population, because the most common way is through universal screening which is hugely dependent on surroundings. Hereby, this study aims to make an early evaluation on mental health. For this purpose, we focused on video games since the ability to measure cognitive ability and the availability in normal population.

We conducted an experiment on normal population. We measured their mental health scores and rule-finding video game performance, and examined the relationship between them. 30 participants with not much experience of puzzle games were recruited for experiment. Pearson correlation analysis and MANOVA revealed that the total number of trials is the most significant indicator of mental health condition. Specifically, we found significant correlations between the total number of trials the participants attempted to find the correct rules and clinical questionnaires on ADHD, autism spectrum disorders, impulsivity, depression and anxiety. These results support the use of video games for early assessment of mental health.