A new citizen science app explores the link between brain development and mental health

- A new smartphone app investigates why most mental health disorders start in adolescence
- UCL's leading neuroscientists test brain functions using games for everyone to play
- This 'citizen science' project enables everybody to become a researcher and to learn about how the brain works

Why do most mental health illnesses first manifest before adulthood? Neuroscientists from UCL have launched a smartphone app to investigate how brain development is linked to mental health in a new citizen science project.

The 'Brain Explorer' app (www.brainexplorer.net) uses the latest state-of-the-art insights from neuroscience research to investigate brain functions in fun and entertaining games for young and old. By playing these games, people can learn about their own brain functions, and at the same time help the researchers to better understand how brain functions are related to the emergence of mental health problems.

"We know that the brain changes substantially during adolescence", says Dr Tobias Hauser, lead scientist on the project, "but we do not know how impaired brain development causes mental health problems. This app will help us understand why mental health problems arise during adolescence." A better understanding of how abnormal brain development leads to mental health problems will allow researchers to build new models to predict emerging psychiatric illnesses and can help develop novel interventions.

Everyone can contribute to research

Brain Explorer is a citizen science project that allows everyone to be a researcher and to help understand the mysteries of the brain. In citizen science, the publics will directly contribute to research, and using Brain Explorer they can even do so from their couch at home. "It is super important to us that everyone can contribute to our research. Mental health affects us all and we want everyone to have a voice and help us discover how the brain is linked to mental health.", says Dr Hauser. Everyone is invited to download the app and to contribute to science – old and young, with and without mental health disorder. Using citizen science not only helps Dr Hauser's team to collect 'big data' from the general population, but also makes the research process much more transparent to the publics, a critical measure to counteract the growing scepticism towards science.

Dr Hauser's team is particularly interested in those mental health problems that are often overlooked. Many mental health disorders, such as obsessive-compulsive disorder (OCD) are common in the population (approx. 1 in 30 is affected), but are often hidden from public perception. This is particularly problematic as people suffering from OCD often struggle to get appropriate help in time, and research into these disorders is seriously underfunded so that researchers still know very little about these disorders.

While the app will not diagnose or give feedback on the user's mental health, it will allow the researchers to study the mechanisms between changes in the brain and the development mental health disorders.

Playful and engaging user experience

The Brain Explorer app is unique because it combines cutting-edge research with a playful and engaging user experience. All brain games and questionnaires are embedded in an outer space game universe. Users are rewarded for their contributions and can win trophies to unlock hidden games. They can compare their own brain performance to others and try to beat their own high scores. "The Brain Explorer app is the perfect example of a citizen science project: it is fun and entertaining for participants, built on the neuroscientific rigor of world-leading scientists.", says Cassandra Hugill, Public Engagement Manager and Science Communication expert.

This citizen science project is conducted at the Max Planck Centre UCL for Computational Psychiatry and Ageing Research, and the Wellcome Centre for Human Neuroimaging at University College London (UCL). It is supported by grants from Wellcome and the Royal Society, Jacobs Foundation, the Medical Research Foundation, and the Max-Planck Society.

Find the app in Apple and Android App-Store or on www.brainexplorer.net

Website: www.brainexplorer.net
Twitter: @_BrainExplorer
Video: https://brainexplorer.net/wp-content/uploads/2020/11/BE_movie.mp4

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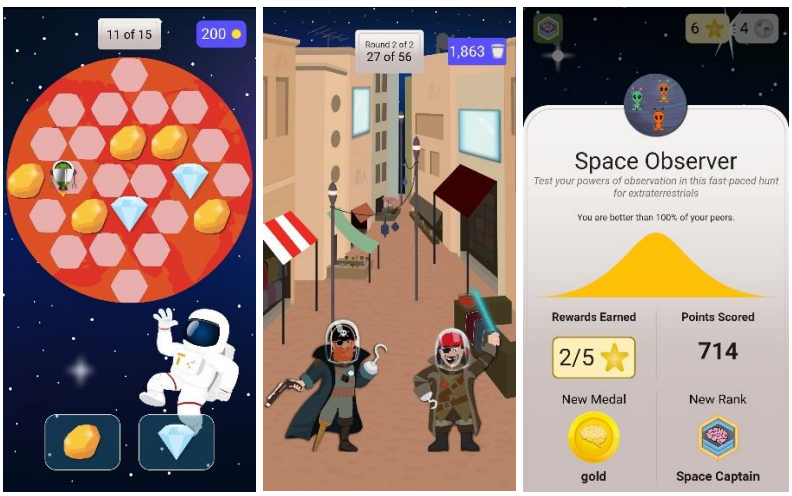

The Max Planck UCL Centre for Computational Psychiatry and Ageing Research, and the Wellcome Centre for Human Neuroimaging are dedicated centres aiming to investigate how the human brain generates behaviour, thoughts and feelings and how to use this knowledge to help patients with neurological and psychiatric disorders. Twitter: @WCHN_UCL, @MPC_CompPsych.

The Developmental Computational Psychiatry Group (www.devcompsy.org) led by Dr Tobias Hauser investigates how brain functions mature during childhood and adolescence, and how they can go awry and lead to mental health disorders.