

R2D2-MH : Risk and Resilience in Developmental Diversity and Mental Health

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The R2D2-MH (Risk and Resilience in Developmental Diversity and Mental Health; <https://www.r2d2-mh.eu/>) project, funded by the European Union, was launched in Paris on October 26th, 2022. Several interdisciplinary research teams of international renown have offered innovative approaches to better the quality of life of people with neurodevelopmental disorders (NDD).

R2D2-MH includes two cocreation groups (CCG) with concerned people (autistic person/ADHD/parents). The first is composed of adults and the second of teenagers. These groups are integrated in the Work Packages of the project. The CCG are organized to be originator and research driving force, as well as a source of feedback on R2D2-MH actions.

We hold every year a General Assembly of the project which brings together every participant as well as the members of the CCG (with their accompanying person if needed).

Last year the meeting was held in Paris and was a success appreciated by everyone. Every member of the CCG (adults and teenagers) was able to participate to the face-to-face exchanges. Meeting in a friendly workspace allowed for quality exchanges between researchers and members of the CCG and a clear progress in their collaboration.

The R2D2-MH project aims at bettering life quality for people concerned by neurodevelopmental disorders (NDD).

It brings together 27 European partners and from associated countries (Australia, Canada and Israël).

Their goal: adopting a new approach aiming at bettering the well-being of people concerned by NDD, by going beyond the restrictive study of risk to explore the factors of resilience that could potentially lead to concrete solutions. The implementation of a participatory research and governance are an integral part of the consortium's objectives.

A world-class collaborative initiative at the forefront of research into NDD

The R2D2-MH project is at the forefront of research in NDD. It lays on a highly interdisciplinary approach combining one of the crossway expertise: experiential, ethical, epidemiological, sociological, genetical, cellular biological, neuroscientific, informatical development, psychological and psychiatric knowledge. The consortium studies the biological, cognitive and psychological foundations of resilience as a positive adaptation.

Two major early risk factors for mental health problems are considered in this project: (1) to bear a genetic variation associated with an NDD and/or (2) to be born prematurely.

The R2D2-MH project offers the first set of multi-scale data (genetic data, gene expression in human brain organoids and brain imaging data) from people exposed to similar risks but presenting different clinical profiles.

It integrates significantly the impacts of the environment (social participation, living spaces, circles of relationships, ...), the people have been exposed to during the developmental trajectory and life.

An approach aimed on people

The R2D2-MH project aims to respond to expectations frequently expressed by communities of people affected by NDD, in particular a greater understanding of the heterogeneity of disorders and in-depth research into the factors influencing well-being and mental health.

To this end, the consortium is actively involving people with NDD and their families in the running of the project. The participation of the members of the co-creation groups is a critical element in the success of this participatory research aimed at improving the well-being of people with NDD. The involvement of these key contributors is crucial, both in terms of the project itself and its results.

The members of the two co-creation groups (CCG) are actively involved in the project, in particular in several of the project's scientific deliverables. They are invited to attend all the scientific and project coordination meetings, as well as the annual General Meetings. During these General Assemblies, a number of opportunities for discussion with the researchers are organized, using different formats to encourage communication.

The four major goals of the R2D2-MH project are:

- Offering the biggest European multi-scale data base on early development of the human brain and the effects on mental health;

- Identifying the biological mechanisms of resilience to lessen the severe NDD symptoms;
- Codeveloping, with people with NDD and their families, new digital tools to reinforce research and participatory medicine and to reduce the stigmatization of people with NDD;
- Establishing predictive models on mental health to encourage the implementation of personalized interventions.