

New study turns autism research upside-down

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The paper describes that rather than a single entity, autism is multiple disorders.
Credit: CampASCCA

Information from the families of 1200 children with autism will be collected from next month to begin the largest autism data study in Australia which includes a team of WA researchers.

Telethon Institute of Child Health Research's Andrew Whitehouse says the project involves several prominent research groups across the nation under the umbrella of the Autism Co-operative Research Centre for Living with Autism Spectrum Disorders which received \$31 million over eight years from the Federal Government earlier this year.

Professor Whitehouse says the centre will further extensive work by

Telethon including its recent "proof of principle" research which advocates a new approach to autism investigation and whose findings have been documented in the *Frontiers of Human Science Journal*.

Prof Whitehouse says rather than using the traditional "top-down" approach to investigate the causes of autism, it takes the other end of the "causal pathway," starting with the factors that may produce the disorder.

The paper describes that it is now widely accepted that rather than a single entity, autism is multiple disorders. The variability in the nature and severity of behaviours is thought to exceed that of any other.

"What researchers tend to do is look at behaviours, classify people based on that and then look for genetic or biochemical markers that might be associated with those behaviours," Prof Whitehouse says.

"What we're suggesting is going at it the other way; look at genetic or environmental factors that are known to be associated with autism and look at whether they are then associated with behaviours."

He says after 70 years, researchers are frustrated by not being able to find a clear causal pathway but the only way research can proceed is through large collaborations.

"One lab group alone is not going to be able to solve the riddle of autism—that's just not going to happen," he says.

"We need large numbers of participants who can do both the "top-down" and "bottom-up" approach and that's what we're proposing."

The recently published "bottom-up" study selected participants from the WA Autism Biological Registry to analyse two areas previously linked to

ASD diagnoses; low birth weight and maternal use of selective serotonin reuptake inhibitors during pregnancy. These are found in medications used to treat anxiety and major depression.

Prof Whitehouse says the study provides a blueprint for a "bottom-up" approach, which creates smaller homogenous sub-groups with the [autism](#) spectrum, compared with a costly top down approach which requires large sample sizes.

Provided by Science Network WA

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