

TOYS FOR AUTISTIC KIDS

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AUTISM-

Autism spectrum disorder (ASD), or autism, is a broad term used to describe a group of neurodevelopmental conditions.

These conditions are characterized by differences in communication and social interaction. People with ASD often demonstrate restricted and repetitive interests or patterns of behaviour.

ASD is found in people around the world, regardless of race and ethnicity, culture, or economic background.

According to the Centers for Disease Control and Prevention (CDC), ASD is diagnosed more often in boys than in girls. A study of 8-year-olds in 11 locations throughout the United States found a **4.3 to 1 boy-to-girl ratio** [Trusted Source](#) in 2016. About 1 in 54 of the study participants had ASD.

There are indications that instances of autism are on the rise. Some attribute this increase to environmental factors. However, experts debate whether there's an actual increase in cases or just more frequent diagnoses.

CAUSES OF AUTISM-

The exact cause of ASD is unknown. The most current research demonstrates there's no single cause.

Some suspected risk factors for ASD include:

- having an immediate family member who's autistic
- genetic mutations
- [fragile X syndrome](#) and other genetic disorders
- being born to [older parents](#)
- low birth weight
- metabolic imbalances
- exposure to heavy metals and environmental toxins
- a history of [viral infections](#)
- [fatal](#) exposure to the medications valproic acid or thalidomide

According to the National Institute of [Neurological Disorders and Stroke \(NINDS\)](#) both genetics and environment may determine whether a person develops ASD.

TREATMENT-

There are **no “cures”** for ASD. Rather, for some autistic people, [supportive therapies and other considerations](#) can help them feel better or alleviate certain symptoms.

Many approaches involve therapies such as:

- behavioural therapy
- play therapy
- occupational therapy
- physical therapy
- speech therapy

Massages, weighted clothing and blankets and meditation techniques, may also help some autistic people manage symptoms. However, results will vary. Some people may respond well to certain approaches, while others may not.

AWARENESS-

April 2 is [World Autism Awareness Day](#) April has also become known as Autism Awareness Month in the United States. However, many community advocates have rightly called for the need to increase awareness about ASD year-round, and not just during 30 select days.

The Autism Society of America and other advocates have even proposed that April be designated [Autism Acceptance Month](#) instead.

Autism acceptance requires empathy and an understanding that ASD is different for everyone.

Certain therapies and approaches can work for some people but not others. Parents and caregivers can also have differing opinions on the best way to advocate for an autistic child.

AUTISM ON KIDS-

Autistic children may not reach the [same developmental milestones](#) as their peers, or they may demonstrate the loss of previously developed social or language skills.

For instance, a 2-year-old without autism may show interest in simple games of [make-believe](#). A 4-year-old without autism may enjoy engaging in activities with other children. An autistic child may have trouble interacting with others or dislike it altogether.

Autistic children may also engage in repetitive behaviours, have [difficulty sleeping](#) or [compulsively eat non-food items](#). They may find it hard to thrive without a structured environment or consistent routine.

If your child is autistic, you may have to work closely with their teachers to ensure they succeed in the classroom.

Many resources are available to help autistic children as well as their loved ones. Local support groups can be found through the national non-profit [The Autism Society of America](#).

RESOURCES-

Our team would like to acknowledge the following organisations for their ample amount of time they have contributed for collecting data and information for our observatory and experiment purposes.

Name of the organization	Spokesperson	Contact number
Happy to learn autism.	Susmita Das	+918017784551
Special educator for special child.	Pijush Ray	+917980171377
Jadavpur Marihuany Rehabilitation Programme for Disabled Children.	Iti Saha	+919836430248
Kolkata Anubhuti.	Gopa Mukherjee	+919674340287

Questions asked-

➤ What are the problems faced on this particular disease, autism?

“The brain isn't mature as a result grasping power, gross motor and fine motor is not properly developed. As a result, basic activities such as holding a pencil, scribbling, dot joining etc. becomes difficult for them to perform. As a result, writing skill isn't properly developed.

Autism can be due to a number of reasons, pregnancy stress of the mother, or pressure on the brain during delivery etc.”

“Gross motor Fine motor. In many cases fine motor problem is widely observed among the majority kids with autism. For example, problem in how to hold a pencil is a common issue noticed among such kids. In some cases, kids with autism find it difficult to quickly follow or execute instructions. With age, the child might develop speech problems. A common characteristic noticed among these children are antisocial and love their own company, they prefer solitude.”

“In this condition the children suffer Neuro problem due to which they have issue in gripping objects (pen, pencil etc.) and hence they face difficulty in writing. They face fine motor problem and gross motor problem.”

➤ **What is the range of age group being affected to this particular problem?**

“Inborn”

“Inborn, autism can be detected even within six months of birth. With age there can be onset of speech issues.”

“Pijush Ray and his team have observed that autism is not only inborn but can also develop after certain age. For example, there are cases where a child develops the condition after 7 to 8 years of age.”

➤ **Opinions on the change for improving an autistic kid vision and reading problems.**

“Counselling, physically helping them to grip objects and use them. Massaging the hands and fingers, use of some sensory stimuli such as sandpaper to improve the grasping power. These help in improving this condition to some level.”

“Lifelong support”

“Opinion in improvement, audio visual aids help the children understand topics and instructions in a better and easier way.”

➤ **How can a robotic hand would meet the contrast of attraction between a kid with autism and a toy, what makes it more attractive for the kid to work on it?**

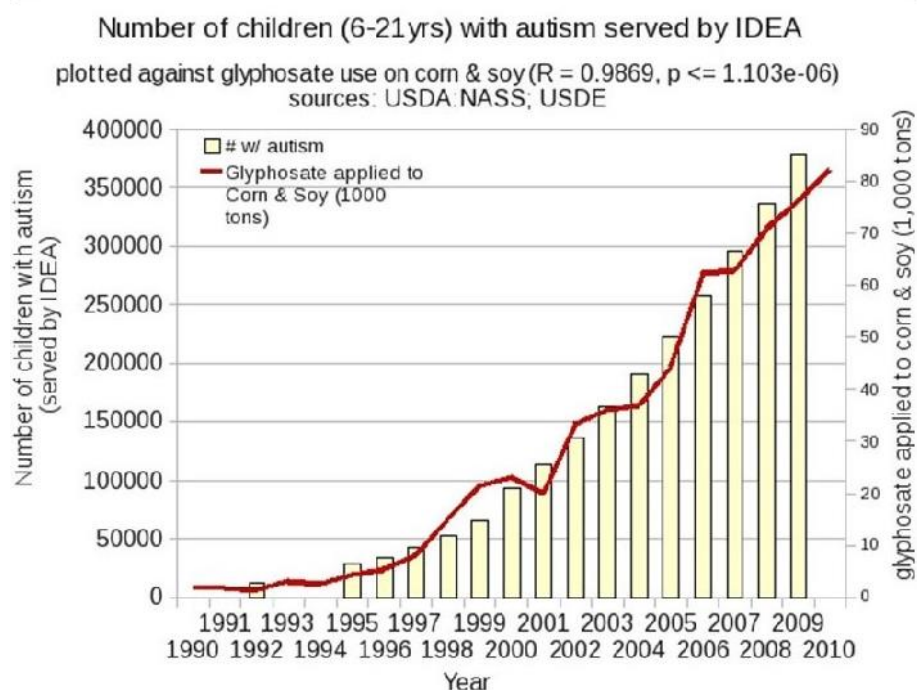
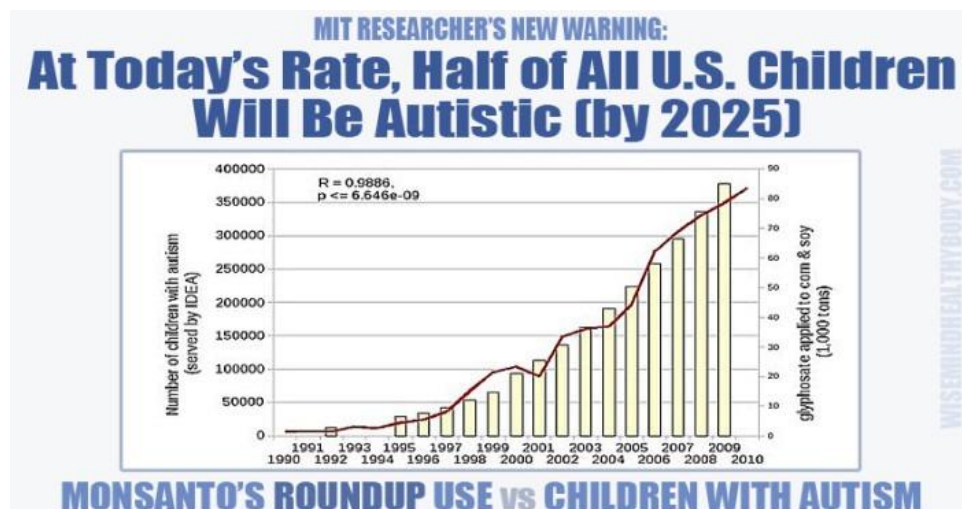
“The things to be kept in mind are low cost and sturdy device. Visually appealing to interest the kid. Inputting audio aid(music)”

“Visually appealing, with lights and colours would be interesting for these children. (Very important for their eye contact)

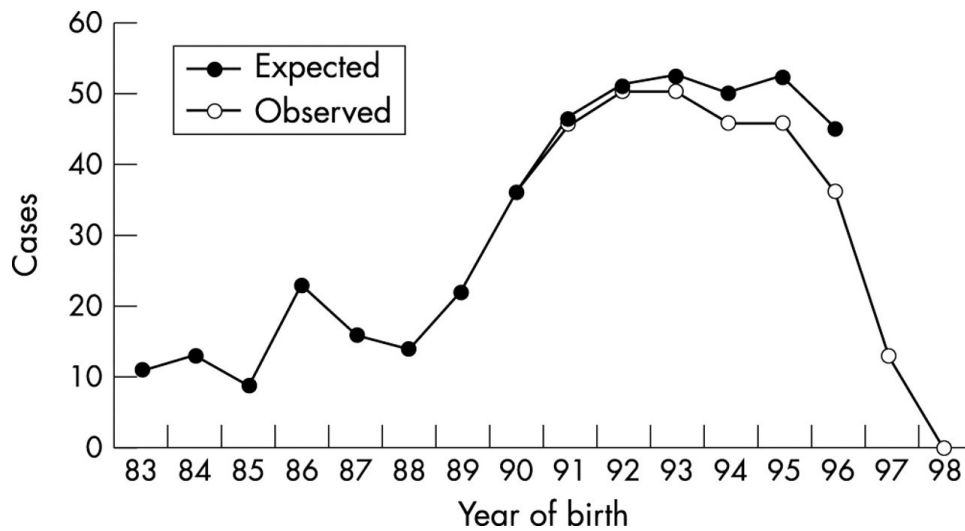
These kids are sensitive towards touch, hence adding different textures (soft texture, rough texture) for them to feel/touch would help them get fascinated and interested.”

“Visual inputs such as lighting in the device can be interesting to them. Also using audio can help them understand and find it interesting.”

GRAPHICAL REPRESENTATION

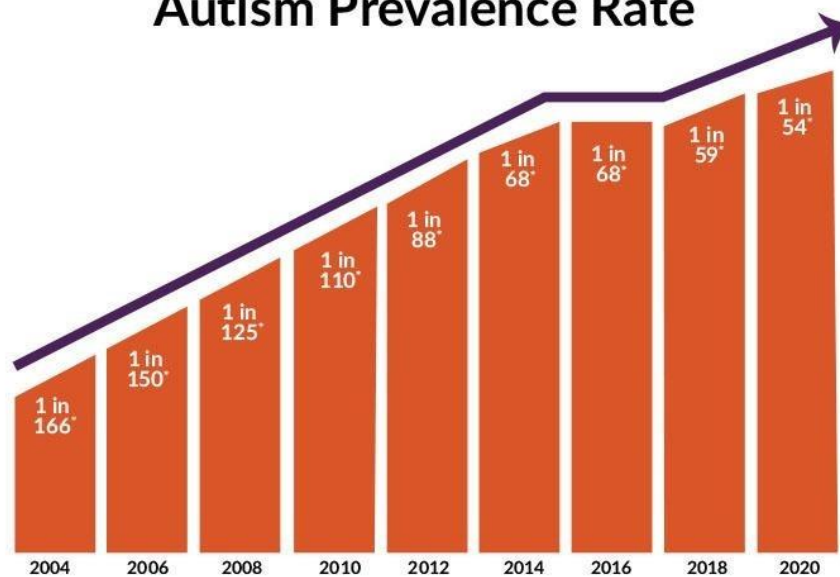


Trends over time in the number of children with autism according to the IDEA



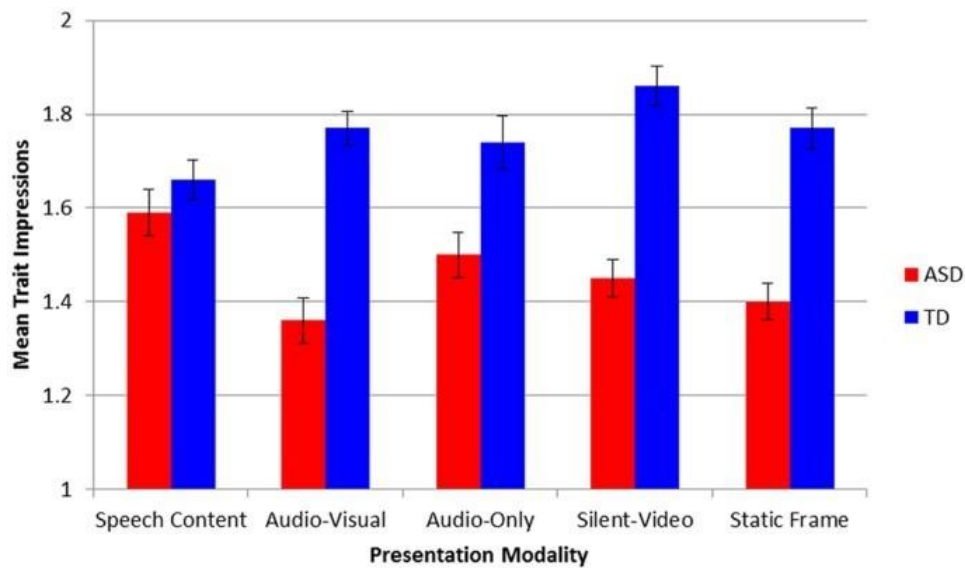
Prevalence of autism and parentally reported.

Through the Years: Autism Prevalence Rate

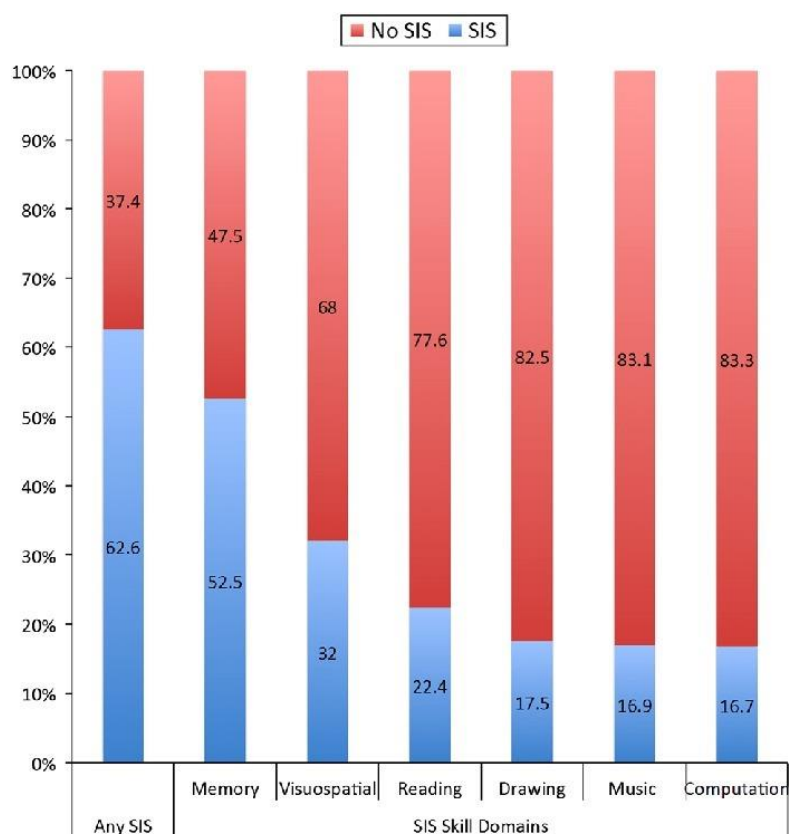


*Centers for Disease Control (CDC) prevalence estimates are for 4 years prior to the report data. i.e 2020 figures are from 2016.

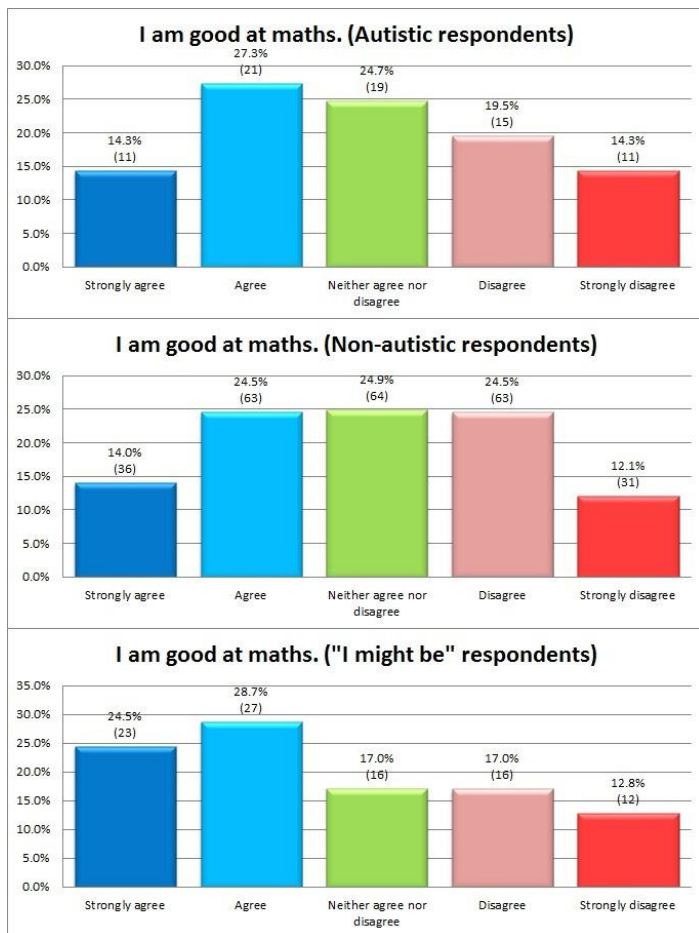
Prevalence of Autism Increases by 10%, to 1 in 54 Children | Southwest Autism Research & Resource Center (SARRC)



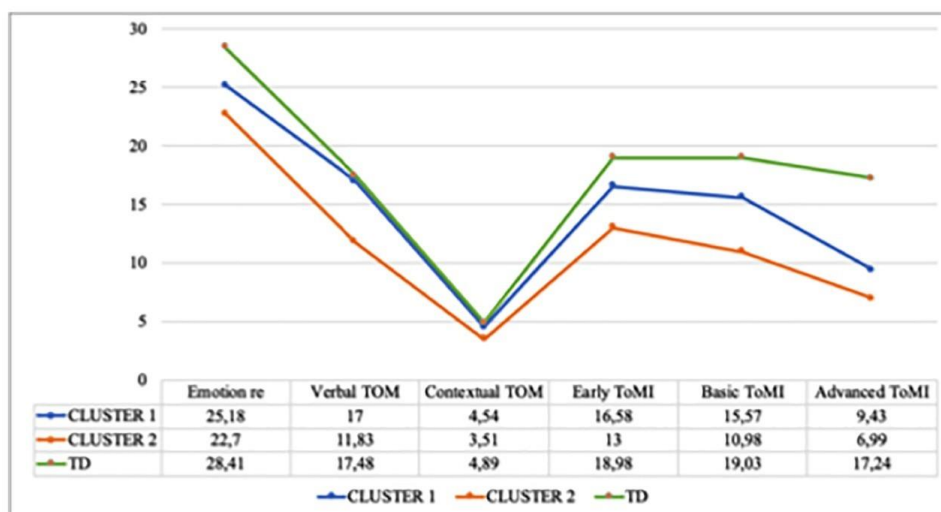
Neurotypical Peers are Less Willing to Interact with Those with Autism based on Thin Slice Judgments | Scientific Reports



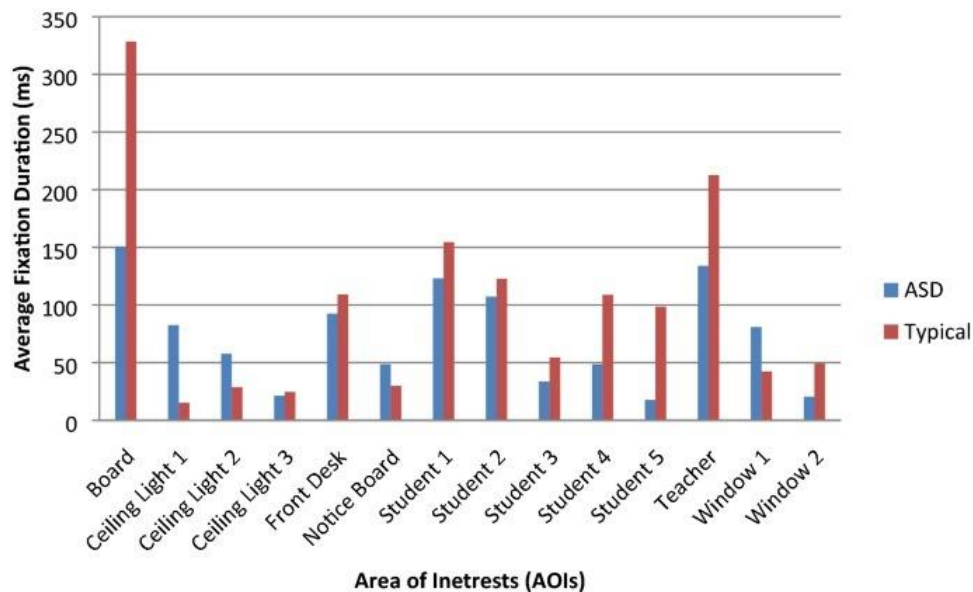
Graph showing the percentage of the sample from Study 1 with (blue) and without (red) reported talents, or "Special Isolated Skills" (SIS), in any domain and in each of the six ADI-R SIS domains separately



A survey from autisticnotweird.com



Frontiers | Theory of Mind Profiles in Children With Autism Spectrum Disorder: Adaptive/Social Skills and Pragmatic Competence | Psychology



Impact of mainstream classroom setting on attention of children with autism spectrum disorder: an eye-tracking study | SpringerLink

CONCLUSION-

As by the research we undergone and by the resources we can come to the point that autistic kid faces lots of problems with their sensory nerves and their gross motor and fine motor and so on. We are working on a project with an idea of making the kid to learn by making the kid to hold an artificial hand (robotic arm) which has the ability to track the pattern of the kid's hand movement and to guide the kid to move their hand in the right way to complete the pattern by interactive methods. We hope our idea would bring the changes in the kid positively.

