Did you know that

139,275 people with autism are participating in SPARK?

Welcome to the SPARK Snapshot — a window into the autism journey of SPARK participants. We’ve compiled these interesting findings from information that families have provided.

We recognize a person’s gender may be different than their sex assigned at birth. When we say male/female/boy/girl, we are referring to assigned sex at birth.
Many more children with autism have enrolled in SPARK than autistic adults. We need more adults to participate to better understand autism throughout the lifespan.

*166 participants have no reported age data

**Number of Children with Autism***

113,267

**Number of Autistic Adults***

25,842

There has been a significant increase in autistic adult women participating in SPARK over time. This could be due to the rise in awareness of autism in women.

Boys with autism outnumber girls 3 to 1 in SPARK — a ratio similar to the one usually reported in other autism studies. This is one clue that SPARK is a good representation of families with autism in the U.S.
Who Is Participating in SPARK?

Age of Participants with Autism Enrolled in SPARK

SPARK represents the whole lifespan, from toddlers who received their diagnosis before 2 to some of the first diagnosed cases, now in their 80s. We also have babies with autism enrolled whom we can watch as they grow and change over time.

Number of participants with autism under 18 by age group

- Younger than 5: 32,895
- 5-11: 54,733
- 12-17: 25,639

Number of participants with autism over 18 by age group

- 18-24: 11,429
- 25-34: 8,008
- 35-44: 3,896
- 45-54: 1,611
- 55+: 898

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Diagnosis

Children Under 18

Boys and girls were diagnosed on average between ages 4 and 5.

Average Age When Boys Were Diagnosed: 4.3
Average Age When Girls Were Diagnosed: 4.8

Adults Over 18

Independent autistic adults were diagnosed later than dependent autistic adults. Some adults were not diagnosed until their 60s or 70s, likely reflecting increased recognition of autism in recent years.

Average age that DEPENDENT adult males were diagnosed: 6
Average age that DEPENDENT adult females were diagnosed: 7.8
Average age that INDEPENDENT adult males were diagnosed: 24
Average age that INDEPENDENT adult females were diagnosed: 21

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Professionals Who Made the Diagnosis

Families are receiving diagnostic evaluations from multiple care providers, most commonly clinical psychologists, medical specialists and entire teams of experts. The school also plays this role for many families.

Language

Most children and dependent adults enrolled in SPARK are able to use full sentences to communicate.
Pregnancy, Birth History and Associated Conditions

SPARK families reported many concerns about pregnancy and birth for their children, but serious complications causing brain injury are no more likely than they are in the general population.

Preterm birth has been associated with autism. Birth complications such as prematurity are known to increase the risk for developmental disability, and some research says it increases the risk for autism.

Percent with Serious Pregnancy and Birth Complications

8%

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Percent Born Prematurely

12%

Seizures

The rate of seizure disorders in SPARK is higher than it is in the general population. But SPARK’s reported rate is much lower than the rates reported by other autism studies. We need everyone in SPARK to finish their basic medical screening survey to give us a complete picture.
The rate of attention deficit (ADHD) in SPARK is over 3 times higher than it is in the general population. Diagnoses of conditions like ADHD and anxiety may rise now that the new diagnostic system used by doctors encourages all other conditions to be documented.

**Conditions Diagnosed in Children with Autism**

- **36%** have ADHD
- **20%** have a sleep disorder
- **19%** have anxiety
- **17%** have cognitive impairment
- **16%** have a feeding disorder
- **7%** have depression

Autistic adults also struggle with depression and anxiety. Independent adults with autism report anxiety and depression at rates 2 and 3 times higher than the general population, respectively.

**Conditions Diagnosed in Dependent Autistic Adults**

- **21%** have depression
- **35%** have anxiety disorder
- **40%** have ADHD

**Conditions Diagnosed in Independent Autistic Adults**

- **59%** have depression
- **62%** have anxiety disorder
- **50%** have ADHD
Multiplex Families Enrolled in SPARK

18% of SPARK families have more than 1 autistic family member enrolled in the study.

12% of families have more than 1 child with ASD enrolled in SPARK

2% of families have more than 1 child and at least 1 parent with ASD enrolled in SPARK

4% of families have at least 1 parent and only 1 child - with ASD enrolled in SPARK
Development Milestones

Average age of first words
Children: 1.7 years
Dependent Adults: 1.8 years

Average age of first steps
Children: 1.2 years
Dependent Adults: 1.3 years

Average age of the child when parents had their first concern
Children: 1.8 years
Dependent Adults: 2.1 years
Development

First thing that caused parents concern about their child’s development

- **Late speech**
  - Children: 28%
  - Dependent Adults: 22%

- **Interaction with others (such as poor eye contact, no response, or not joining in)**
  - Children: 19%
  - Dependent Adults: 22%

- **Mood or temperament**
  - Children: 10%
  - Dependent Adults: 8%

- **A change or loss in abilities**
  - Children: 9%
  - Dependent Adults: 11%

- **Unusual habits (such as getting stuck on doing things over and over)**
  - Children: 9%
  - Dependent Adults: 8%

- **Unusual speech (such as saying things over and over)**
  - Children: 3%
  - Dependent Adults: 2%

- **Late walking or other motor milestones**
  - Children: 12%
  - Dependent Adults: 13%

- **Something else**
  - Children: 12%
  - Dependent Adults: 14%
Development

Regression

- Dependent Adults

Percent who experienced a regression in language abilities 32%

Percent of those whose language returned after the regression 62%

Average age of language regression 2.3 years

Other types of regression

- Dependent Adults

Social skills 20%

Play 13%

Development 15%

- Average age of non-language regression 3.7 years
- Skills returned 32%

The percentages shown are from the caregivers who responded to SPARK's Background History Survey. Of the dependent adults, 20% experienced a regression in their social skills. On average, some types of changes that cause parents concern, such as potty training, might happen later than regression in language. Of those who experienced a regression in language, 62% regained their skills, whereas only 32% of those experiencing another type of regression regained their lost skills. This is likely because decreased social engagement is a common feature of autism throughout the lifespan.
The percentages shown are from the caregivers who responded to SPARK’s Background History Survey. Of the children, 16% experienced a regression in their social skills. On average, some types of changes that cause parents concern, such as potty training, might happen later than regression in language. Of those who experienced a regression in language, 65% regained their skills, whereas only 33% of those experiencing another type of regression regained their lost skills. This is likely because decreased social engagement is a common feature of autism throughout the lifespan.
Development
Support Required for Dependent Adults

Minimal to no support 8%
Some support 31%
Substantial support 37%
Very substantial support 24%
Thank you
to all of the participating families!

Together, we can learn so much more.