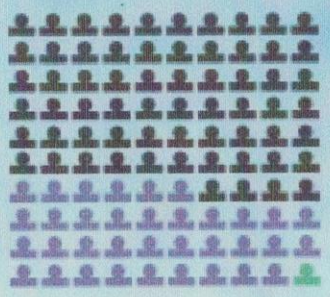
DYSLEXIA

WHAT IS Dyslexia?



1% of corporate managers are dyslexic

35% of entrepreneurs are dyslexic

Over **half** of the UK population has a very limited understanding of dyslexia and think it's just about getting letters back to front.

20% believe dyslexics would do better if they just worked HARDER

This is not **True**

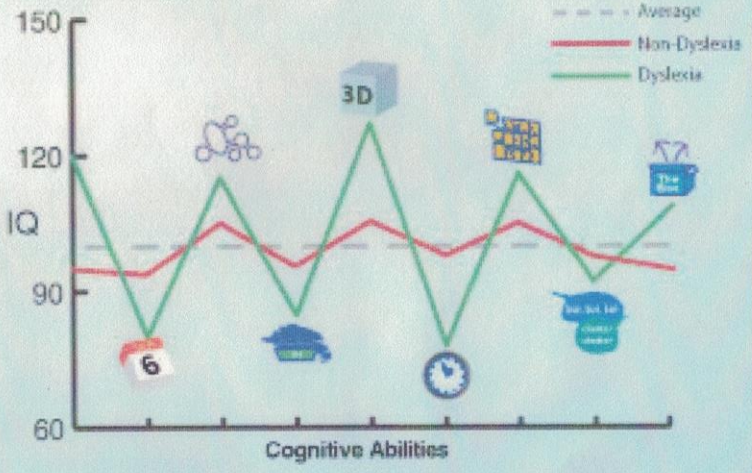
Dyslexia is about abilities being out of balance

While dyslexics may struggle with:

- Organisational skills
- Planning and prioritising
- Time keeping
- Background noise

They may be brilliant at:

- Connecting ideas
- Thinking outside the box
- 3Dimensional thinking
- Seeing the big picture



Dyslexia is NOT tied to IQ

Your overall IQ can be **anywhere** in the range. The key difference is the spikes in the profile

It is estimated that

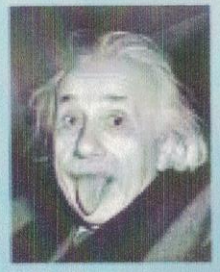
1 IN 10

people have dyslexia

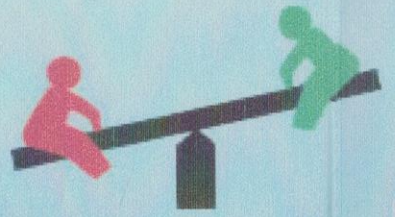
Einstein was dyslexic

IQ = 160*

*estimated



Unlock your hidden genius by compensating for your weak points and learning to play to your strengths



Genius WITHIN

Visit geniuswithin.co.uk to find out more about unlocking your inner genius

DYSLEXIA

Dyslexia is a specific learning disability that is neurobiological in origin. It is characterised by difficulties with accurate and fluent word recognition and by poor spelling & decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary problems may include problems in reading comprehension & reduced reading experience that can impede growth of vocabulary & background knowledge.

In other words. Dyslexia is a general term for disorders that involve difficulty in learning to read or interpret words, letters, and other symbols, but that do not affect general intelligence.

INTRODUCTION

Dyslexia is a common type of specific learning difficulty that mainly affects the skills involved in the reading & spelling of words.

A person with dyslexia has difficulty "decoding" words despite appropriate learning opportunities. This difficulty will also be significantly greater than for other areas of learning.

Dyslexia should be recognised as a spectrum disorder, with symptoms ranging from mild to severe. In particular, people with dyslexia have difficulties with:

- PHONOLOGICAL AWARENESS
- VERBAL MEMORY
- VERBAL PROCESSING SPEED

These terms are explained in more detail:

Phonological Awareness

Phonological Awareness is thought to be a key skill in early reading & spelling development. It is the ability to identify how

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Words are made up of smaller units of sound known as phonemes. Changes in the sounds that make up words can lead to change in their meaning.

So, for example, A child with a good level of phonological awareness would understand that if you change the letter "p" in the word "pat" to "s", the word would become "sat."

Verbal Memory

Verbal Memory is the ability to remember a sequence of verbal information for a short period of time.

For example: the ability to remember a short list such as "red, blue, green", or set of simple instructions, such as "Put on your shoes & your hat, find the lead for the dog and then go to the park."

Verbal Processing Speed

Verbal processing speed is defined as the time it takes to process and recognise familiar verbal information, such as letters & digits.

For example, having difficulty writing down unfamiliar words when they are specially spelled out, or telephone numbers.

What Is a Psychological Disorder?

A Psychological disorder, also known as mental disorder, is a pattern of behavioral or psychological symptoms that impact multiple life areas and create distress for the person experiencing these symptoms.

The latest edition of the American Psychiatric Association's diagnostic manual, the DSM-5 defines a mental disorder as:-

"... A syndrome characterized by clinically significant disturbance in an individual's cognition, emotion regulation, or behaviour that reflects a dysfunction in the psychological, biological, or developmental process underlying mental functioning. Mental disorders are usually associated with significant distress in social, occupational, or other important activities."

The DSM-5 also notes that expected responses to a common stressor such as the death of a loved one are not considered as mental disorders. The Diagnostic Manual also suggests that behaviours that are often considered at odds with social norms are not considered disorders unless these actions are the result of some dysfunction.

GENETICS OF DYSLEXIA

One of the strongest risk factors for dyslexia is having a close relative with reading problems, i.e having a family history of dyslexia.
Comparing identical & non-identical twins has shown that your genes account for about half your reading skills & upbringing & environment, the other half. (i.e the heritability of dyslexia is c. 50%).
But dyslexia is a complex cognitive problem that is several levels removed from the proteins whose synthesis genes control; so working out how the genetic factors interact with environmental factors to cause reading problems is difficult.
It is also discovered that the KIAA0319 protein exists in different forms that do not stay at the cell surface, but may be secreted out of the cells completely, to influence other cells or be transported to other compartments within the same cell. These findings suggest that KIAA0319 might regulate the activity of other genes either by transporting information to other cells or to the nucleus of the same cell. We have also identified some other proteins that bind to KIAA0319 & we are no biological

Testing for Dyslexia:

Some assessments are marketed as dyslexia tests. Many evaluators, however, use diagnostic reading, writing & language tests that are not labeled as dyslexia tests. Reviews of student work, cognitive testing and observations are also helpful to diagnose the disorder. If the dyslexia is severe, and the child qualifies for special education, an individual education program will be developed to meet her specific educational needs.

What to do if you suspect your child has Dyslexia:

If you believe you or your child has dyslexia and may be learning disabled, contact your school principal or counselor for information on how to make a referral for assessment. An IEP team meeting will be held to discuss your request. Before you attend, learn about your rights as a parent of a child with a potential disability.

Students in college and vocational programs can contact their school's advising office for information on policies, programs, and strategies to help achieve success.

- One in ten people have Dyslexia.
- More than 10 million cases of Dyslexia is seen in India.

Testing and Instruction in Reading for Dyslexia:

A complete psychological, intellectual and educational evaluation is important to identify the specific types of reading errors the dyslexic child makes. Educators will develop specific strategies to address specific symptoms of dyslexia.

Typical strategies focus on developing sight word vocabulary, work with reading comprehension, speech and language therapy to address articulation, phonemic awareness, receptive language, expressive language and other speech and language disorder symptoms.

Hands-on, or multisensory methods of working with letter and word orientation are frequently used for dyslexia.

Misconceptions About Dyslexia:

Not all letter reversals and mirror writing signal dyslexia. Such errors are developmentally normal in primary years. It is possible to see occasional reversals, dyslexia cannot be seen into the sixth grade. In contrast to normal, occasional reversals, dyslexia is a pervasive problem affecting most of the student's writing and in some cases spoken language as well. Dyslexia is also more difficult to correct than the occasional stray reversal. Students with dyslexia often require intensive language, reading, and visual-perceptual instruction to improve.

too abnormal, or still within the realm of what's normal?

CULTURE AND ABNORMALITY

Abnormal behaviour is sometimes hard to define, for several reasons. First of all, people have to agree on what's normal. This can vary widely both within & outside cultures. For eg:- when British settlers first moved to America, they were used to fencing land & raising lives stock on it. They had good idea of the difference between public & private land.

However, the American Indians viewed land as a public thing & didn't understand the concept of fencing parts off. Further, they used the land to raise crops, not livestock. To the Indians, the white man's way of fencing land & keeping animals in pens seemed very abnormal!

Culture isn't just about what happend in early America. A woman walking down a street in America without a top on would be considered to be acting abnormally. However, in a culture where bare-breasted women are normal, a women with a top on might be seen as abnormal.

CRITERIA of ABNORMALITY

In general, psychologists look at four different criteria for defining abnormal behaviour. Each has its strengths and each has its problems

- The first criterion is VIOLETION of SOCIAL NORMS. Behaviour that goes against what is considered normal by society is abnormal. We just [illegible] social norms, as does dgv. [illegible] his clothes & jumps in a fountain is li[illegible] a three-year old who do[illegible].

- Another criterion for identifying abnormal behaviour is STATISTICAL RARITY. A person who has an extremely low IQ. for eg:- might be classified with some type of mental retardation. Because there is only a small percentage of the population with mental Retardation it is rare & therefore abnormal. Of course the problem with statistical rarity is that people who are exceptionally intelligent are just as rare as those with mental retardation. So according to this criterion. Albert Einstein would be abnormal.

- The third criterion of Abnormal behaviour is personal DISTRESS. When we engage in abnormal behaviour, the

Cause (& sometimes, result) of our behaviour can be distress. A good eg:- of this is OCD, where anxiety about something can lead to compulsive behaviours meant to relieve that distress. The problem with personal distress, though, is that some people with mental illness do not feel distress, such as people with anti-social personality disorder who have an undeveloped conscience.

The final criterion for defining abnormal behaviour is MALADAPT BEHAVIOUR. Is the behaviour likely to hurt the person or someone else? Whether it is physical harm or social harm. Such as losing a job or in respect of your family. maladaptive behaviour leads to some type of harm.

Because each of these criterion has strengths & weaknesses most psychologists use all of them to get a picture of Abnormal Behaviour.

Dyslexia - Detail Study...

Dyslexia is a type of learning Disability

Dyslexia is a type of learning disability affecting the ability to process written, and sometimes spoken language.

Causes of Dyslexia:

In Dyslexia, language centers of the brain are believed to be unable to process language in correct sequence. There is some evidence to suggest that the disorder can be hereditary, but the severity of dyslexia may be influenced by environmental factors as well.

Some theorists believe that differences in brain development may also be a cause.

Symptoms of Dyslexia:

The Symptoms of Dyslexia can differ from person to person, and each person with the condition will have a unique pattern of strengths and weaknesses.

The Symptoms of Dyslexia vary according to the age.

(further detail is given on page ___)

Dyslexia and Intelligence

Even though dyslexia is classed as learning difficulty, there is no connection between dyslexia and a child's intelligence. Children of all intellectual abilities, from low to high intelligence can be affected by dyslexia.

Similarly, a child's difficulty with reading & spelling is not determined by their intelligence, but by how severe their dyslexia is. Children with average intelligence & mild dyslexia are likely to be more skilled at reading & writing than children with high intelligence & severe dyslexia.

How Common is Dyslexia?

Dyslexia is thought to be one of the most common learning difficulties. It is estimated that 4% - 8% of all school children in England have some degree of dyslexia.

Dyslexia appears more common in boys than girls. It is estimated boys are one and a-half to three times more likely to develop dyslexia than girls.

Dyslexia affects people of all ethnic backgrounds, although a person's native language can play an important role. A language where there is a clear connection between how a wor

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is written and how it sounds, and consistent grammatical rules, such as in italian & Spanish, can be more straight forward for a person with mild to moderate dyslexia to cope with.
However, languages such as English, where there is often no clear connection between the written form and sound, as in words such as "cough" and "dough", can be more challenging for a person with dyslexia.

Identifying Dyslexia

It can be difficult to diagnose dyslexia in young children as the signs don't always be obvious. If you are concerned your child has dyslexia, the first step is to speak to their class teacher, or other staff of their school.
If additional teaching & support are not helping your child's reading & writing skills to improve, your school may request a more in-depth assessment. It is also possible to request an assessment through other organisations if necessary.
Adults who wish to be assessed for dyslexia can visit local Dyslexia Action Centre or can visit psychologist.

: The Causes of dyslexia is unknown. However, many experts think the condition is probably caused by genetic factors that affect the normal development of certain areas of the brain.

Sub-types of Dyslexia...

There are several types of Dyslexia (or learning disabilities) that can affect the child's ability to spell as well as read. The types are identified by the nature of the problem within the central nervous system or brain.

- **Trauma Dyslexia** usually occurs after some form of brain Trauma or injury to the area of the brain that controls reading & writing. It is a permanent brain injury rarely seen in today's school-age population because it results from severe head injuries.

- **Primary Dyslexia** is a dysfunction of, rather than damage to, the left side of the brain (cerebral cortex) & does not change with age. Individuals with this type of dyslexia are rarely able to read above a fourth-grade level & may struggle with reading, spelling & writing as adults. Primary dyslexia is passed in family lines through their genes (hereditary) It is found more often in boys than in girls.

Secondary or developmental type of dyslexia is felt to be caused by hormonal development or malnutrition during early stages of fetal development. Poor parenting, abuse, neglect and/or poor nutrition during the developmental years 0 to 5 are also known causes. Developmental dyslexia diminishes as the child matures. It is also more common in boys.

This type of dyslexia is most often found in special education classes. It is this category of Dyslexia or learning disability that responds best to the classroom accomodations & modifications found in special education classrooms that assist the child with learning while his nervous system continues to develop.

TYPES OF DYSLEXIA ELIGIBLE FOR SPECIAL EDUCATION SERVICES.

VISUAL DYSLEXIA is the term used for the specific learning disability termed visual processing disorder. This form of dyslexia is the result of immature development of not only the eyes, but the whole process that gets information from the eyes to brain.

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eyes that are not completely developed will send incomplete information from the eyes to the brain, then results in poor comprehension of what the child has read, or poor memory of visual formation. Sometimes this process results in no. & letter reversals and the inability to write symbols in the correct sequence.

Phonological (auditory) Dyslexia refers to the specific learning disability termed auditory processing, or the more severe condition termed Auditory Processing Disorder (APD). This form of dyslexia involves difficulty with sounds of letters or groups of letters. When this form of dyslexia is present, the sounds are perceived as jumbled or not heard correctly. And just as with visual processing, the brain correctly interprets information that it correctly received.

*

Dyspraxia refers to learning disability term sensori-motor integration & is widely pervasive motor condition characterized by impairment or immaturity of the organization of movement, with associated problems of language, perception & thought. Typically, the child in question may be seen to be clumsy

and poorly coordinated.

The term "Dyspraxia is seperated into "true dyspraxia" a lifelong condition that responds to some degree to consistent, early, and structured intervention; and "developmental dyspraxia" a matter of neurological immaturity, a delay rather than a deficit that can be resolved over time with appropriate treatment. The problem is that only time determins the difference.

"Verbal praxis" refers to weaknesses observed in the mechanisms of speech production such that articulation is impaired and expressive language is inhibited. Speech production and articulation are not considered learning disabilities, & are addressed by a speech and language therapist.

Dysgraphia is the term given to the most significant educational effects of the condition & refers to an inability to hold & control a pencil so that the correct markings can be made on paper. These symptoms are most commonly seen as poor letter formation in printing, or as poor cursive handwriting skills. As a specific learning disability these symptoms would be identified as immature fine motor development.

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Symptoms of Dyslexia

* The symptoms of dyslexia can differ from person to person, and each person with the condition will have a unique pattern of strengths and weaknesses.

Preschool Children

In some cases, it may be possible to detect symptoms of dyslexia before a child starts school.

Possible Symptoms include:

- delayed speech development in comparison with other children of the same age.
- speech problems such as not being able to pronounce long words properly and "fumbling" up phrases. For example: saying "helicopte instead "helicopter" or "beddy tear" instead of "teddy bear."
- problems expressing themselves using spoken language, such as being unable to remember the right word to use, or putting together sentences together incorrectly.
- little understanding or appreciation of rhyming words such as "the cat on the mat" or nursery rhymes.

→

- difficulty with, or little interest in, learning letters of the alphabet.

Early School years.

Age (5 to 7 yrs)

Symptoms of dyslexia in children aged five to seven include:

- problems learning the names & sounds of letters.
- Spelling that is unpredictable & inconsistent
- problems copying written language
- poor phonological awareness.

Poor Phonological Awareness

Phonological awareness is the ability to recognize that words are made up of smaller units of sound (phonemes) and that changing & manipulating phonemes can create new words & meanings.

#A child with poor phonological awareness may not be able to correctly answer these questions :-

- What sounds do you think make up the word "hot" and are these different from the sounds that make up the word "hat"?
- What word would you have if you changed the "p" sound in "pot" to a "h" sound.

- How many words can you think of that rhyme with word "Cat"

WORD ATTACK SKILLS

Young children with dyslexia also have problems with "Word Attack Skills". This is the ability to make sense of unfamiliar words by looking for smaller words, or collections of letters, such as "ph" or "ing", that a child has previously learnt.

for example:-

A child with good word attack skills may read the word "Sunbathing" for the first time & gain a sense of meaning of the word by breaking down into "Sun", "bath" & "ing".

MIDDLE SCHOOL YEARS

Symptoms of Dyslexia in children 7 to 12 yrs. include:-

- Slow reading & writing speed.
- problems with the correct spelling of words.
- problems understanding & recognizing new words.

For eg:- Children with dyslexia may have problems expressing & with school ~~children~~ subjects that introduce them to technical terms, such as science subjects

TEENAGERS AND ADULTS

Symptoms of dyslexia in Teenagers include :-

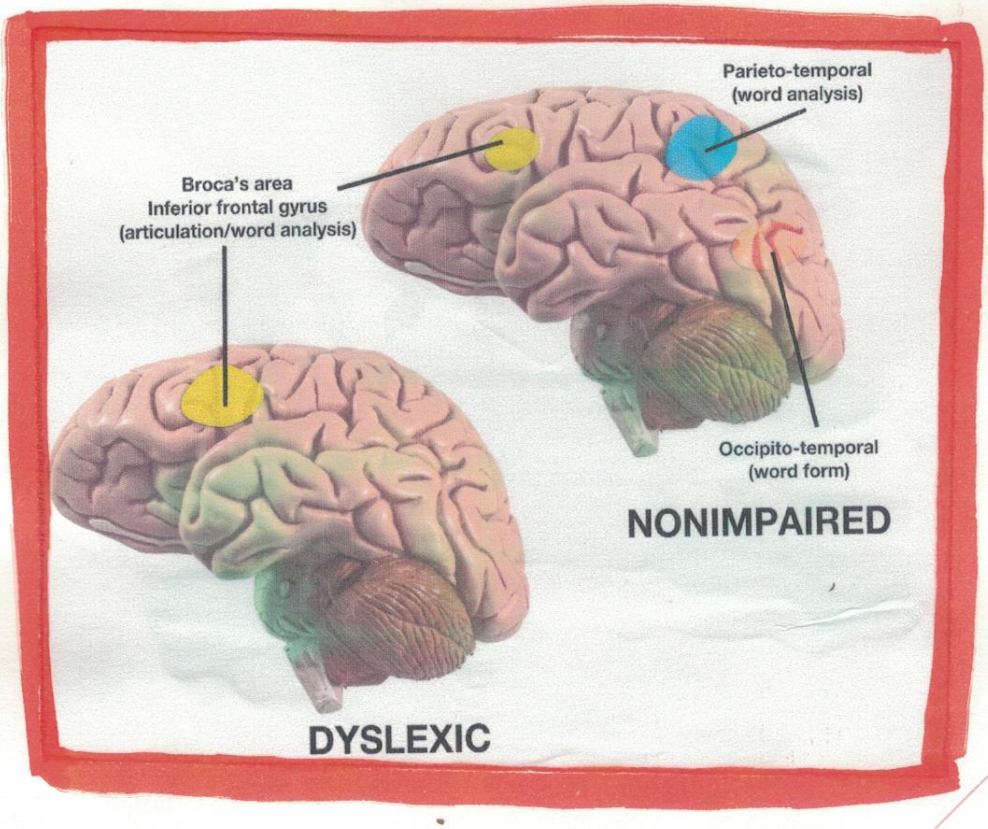
- Slow writing speed.
- poorly organised written work which lacks expression: for eg:- even though an older child may be very knowledgeable about certain subject, they may have problems expressing that knowledge in writing.
- problems with reading fluency : reading fluency is the ability to read text smoothly, rapidly & automatically without having to use any, or little conscious effort.

DYSLEXIA IN ADULTS

It may be possible for someone with dyslexia to reach adulthood without the condition being properly identified. Signs that you may have dyslexia include.

- Trying to avoid reading & writing whenever possible.
- Trying to conceal difficulties you have reading & writing from oth
- poor Spelling.
- poor time management & organisational skills.
- relying on memory & verbal skills, rather than reading or writing.

CLINICAL PICTURES OF DYSLEXIC BRAIN



CASE STUDY (DYSLEXIA)

PARTICULARS OF THE PATIENT

NAME : A
CLASS : Grade 2nd
FATHER'S NAME : Mr. R
MOTHER'S NAME : Mrs. M
GENDER : Male

INFORMANT

NAME : MRS. M.
RELATION WITH PATIENT : MOTHER
RELIABLITY : Information is reliable and adequate

CASE STUDY... (Dyslexia)

NAME: A

DATE OF BIRTH: 15, December, 2008

AGE: 8 ½ years old.

'A' is a child who was born full term by normal delivery. According to the mother, birth cry was absent in the child. The birth weight was 1.4 Kg. The Developmental Milestones of the child were attained within normal time range.

As the child grows up, he was not able to perform adequately and the parents reported that this child is 8 years old and is generally slow in learning, he finds difficulty in few spellings & There is also an academic decline.

Chief Complaints

The parents reported that the child is generally slow in learnings, difficulty in few spellings and there is academic decline.

Psychological Scales Administered:

- Malin's Intelligence Scale for Indian Children (MISIC)
- NIMHANS (National Institute of Mental Health and Neuroscience) Battery for Specific Learning Disability for Children.

X

Details of Individual scores and corresponding cognitive abilities assessed are outlined below:-

NAME OF the Sub-test	ABILITY MEASURED	Standard Scores
VERBAL		
Information	Ability to store & retrieve acquired knowledge;	111
Comprehension	Level of development of conscience, common sense & social Judgement	130
Similarities	Verbal concept formation; abstract verbal reasoning; categorization in meaningful relationships;	146
Vocabulary	Word knowledge & Verbal fluency;	117
Verbal Comprehension Index (VCI)		126
Arithmetic	Working Memory, attention & concentration & numerical reasoning	120
Digit span (Forward; fwd) Backward(bwd))	Sequential auditory memory, working memory, attention & planning ability for auditory stimuli;	103 Raw score fwd 6 Bwd 3)
Freedom from Distractibility Index (FDI)		112
Verbal IQ		125
PERFORMANCE		119
Picture Completion	Reasoning, attention to essential visual detail & visual discrimination, visual organization & long term visual Memory	100
Block Design	Visuo-spatial analysis & synthesis & abstract visual problem Solving; Application of logical reasoning.	117
Object Assembly	Visual organizational ability, visual motor coordination with motor activity guided by visual Perception & sensory motor feed back.	113
Mazes	Visuo-motor planning, attention & concentration, & vigilance, problem solving Skills;	103
Perceptual Organization Index (POI)		109
Coding	Visuo-motor coordination, attention, short term memory, visual scanning & tracking	94
Processing Speed Index (PSI)		94
Performance IQ		105
FULL SCALE IQ		115

1. Assessment Report

Malin's Intelligence Scale for Indian Children (MISIC):

'A' has obtained an IQ of 115 on Malin's Intelligence Scale for Indian Children (MISIC) with verbal IQ (VIQ) of 125 and Performance IQ (PIQ) of 105.

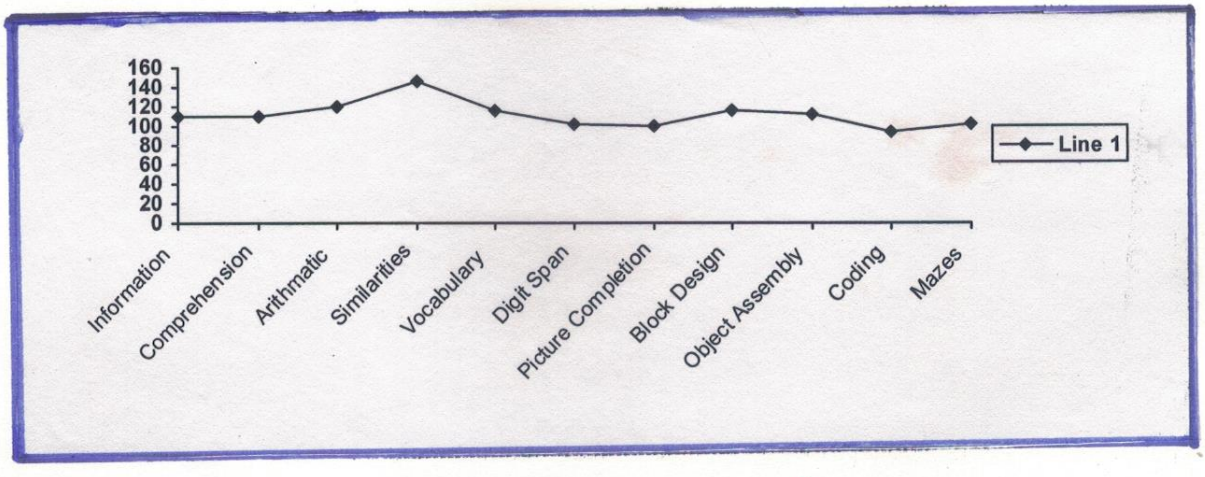
** Criteria:

The Classification of Intellectual Functioning according to DSM-IV and ICD-10:

- DSM (Diagnostic and Statistical Manual) for Mental Disorder
- ICD (International Classification of Diseases)

The Child was found to be cooperative and functional rapport could be established.
The assessment was done in one session.

Graph


160
140
120
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80
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40
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Information
Comprehension
Arithmatic
Similarities
Vocabulary
Digit Span
Picture Completion
Block Design
Object Assembly
Coding
Mazes
Line 1

Few Graphs on Dyslexia

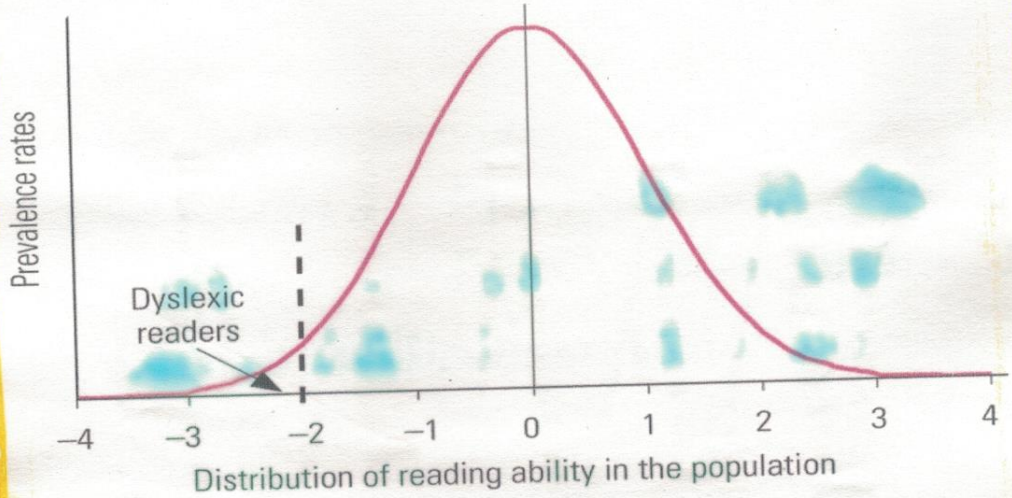
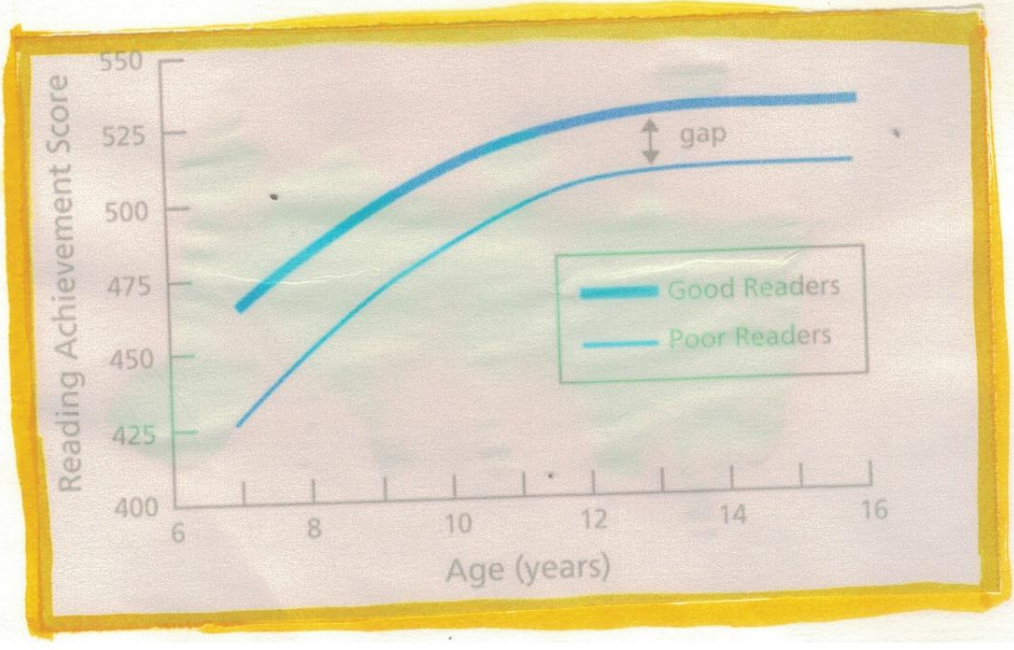
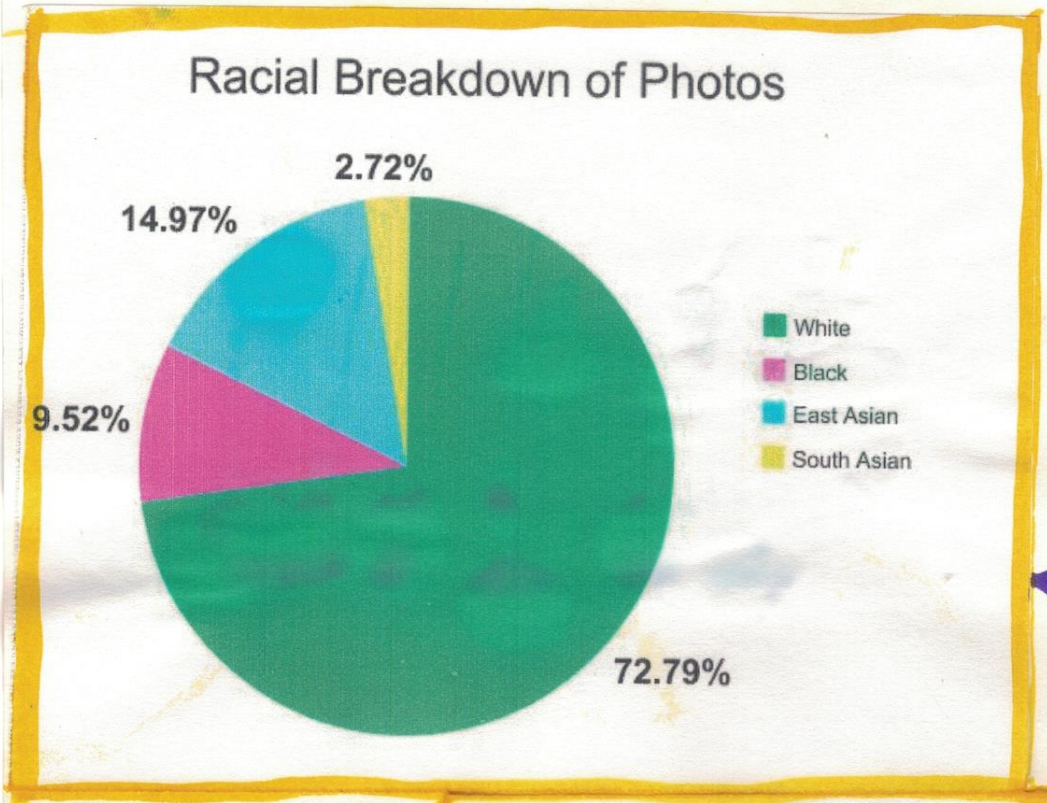


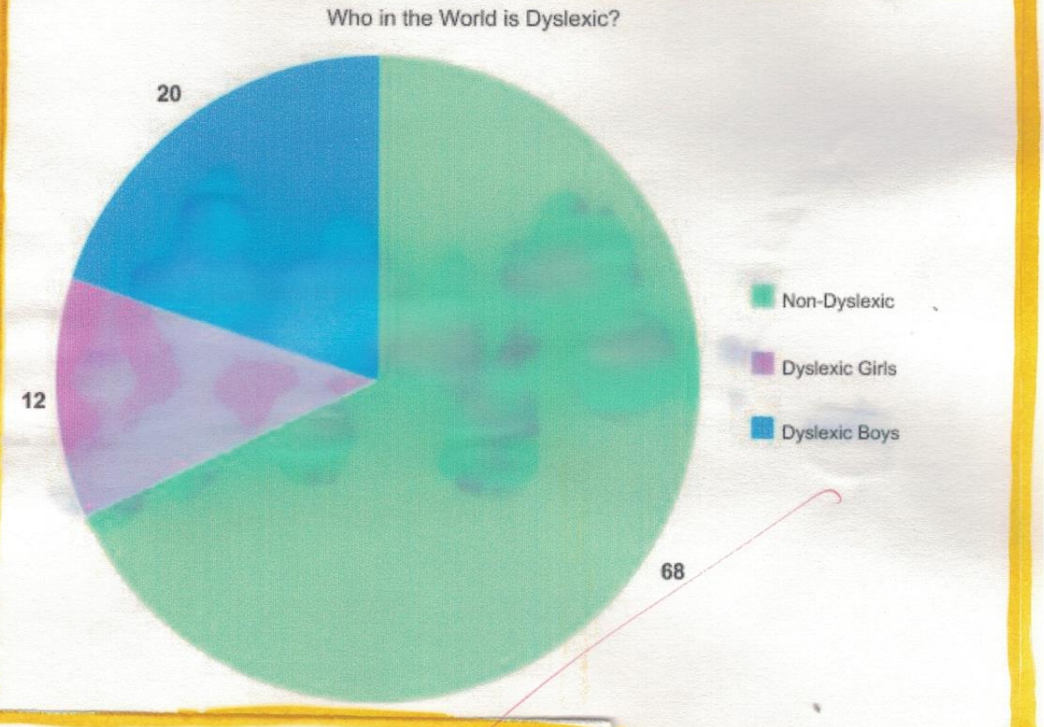
FIG 3 Developmental dyslexia represents the lower tail of the normal variation in reading ability seen in the population. A cut-off score of –1.5 to –2 s.d. is usually used. Note that, unlike in general intellectual ability, there is no 'hump' at the lower end of the curve.

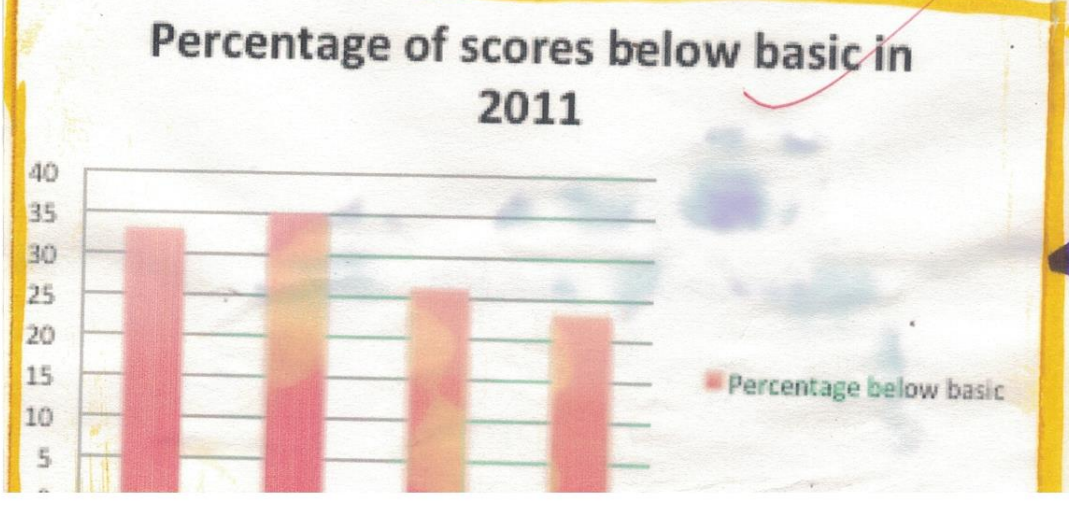




RACIAL BREAK DOWN PHOTOS

DYSLEXIC'S IN WORLD





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LINKS

- WWW. dyslexia.com
- Dyslexia, Detail Study
- Misunderstood Minds Experience
(stimulating What dyslexics experience)
- International Dyslexia Association
- What are common treatments for reading disorders?
- Signs & Symptoms of Dyslexia
- Pre-natal exposure to Alcohol (ADHD & Dyslexia)
- Genetics & Dyslexia
- What are reading disorders?
- Sub-types of Dyslexia
- Developmental Dyslexia
- Diagnosis in Dyslexia
- Indicators of Dyslexia
- Recomdations for teachers (Dyslexia children)

Well done!