

Prevalence

- **It is high, affecting between 3.5 and 6.5% of the school population, a percentage similar to other learning disorders, such as dyslexia and ADHD**
(Butterworth, Varma, Laurillard, 2011; Geary, 2011)
- **Equal distribution in men and women.**

It affects between 3% and 6% of the school population



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(Price & Ansari, 2013)

Other conditions that may coexist with dyscalculia

- **Dyscalculia can manifest as an isolated and specific alteration of the development**
- **In 25% of cases, dyscalculia coexists with other developmental disorders. (Gross-Tsur et al., 1996)**

• **Associated with dyslexia.** The results are disparate, ranging from **20% to 60%** in different studies (Butterworth and Yeo, 2004).

• **Associated with ADHD in (26-30)%** • It is observed in **some chromosomal alterations (S. Gerstman..)**

• **Executive functioning difficulties:** Working memory, flexible thinking, planning and organization

- **Evolves with age,** continues in adolescence and adult life
- **High % heritability**

Dyscalculia explained

Traditional hypothesis

The root of the problem is found in alterations of domain-general cognitive mechanisms, such as:

- Working memory
- Visuo-spatial processing
- Attention
- Executive functions

Alternative hypothesis

Deficit in the representation and processing of numerical magnitude information, which serves as a basis for the acquisition of elementary arithmetic



Other problems that may be associated



1. Linguistic Skills



2. Visuospatial and temporal skills .



3. Memory



1. Linguistic Skills

- Difficulties in acquiring vocabulary
mathematical: position, size and spatial and temporal relationships
- Confuse: multiplying/dividing; before/after; more/less; half/double...
- Oral or written language is processed slowly
- They do not use internal language to learn mathematical concepts
- Difficulties decoding mathematical symbols

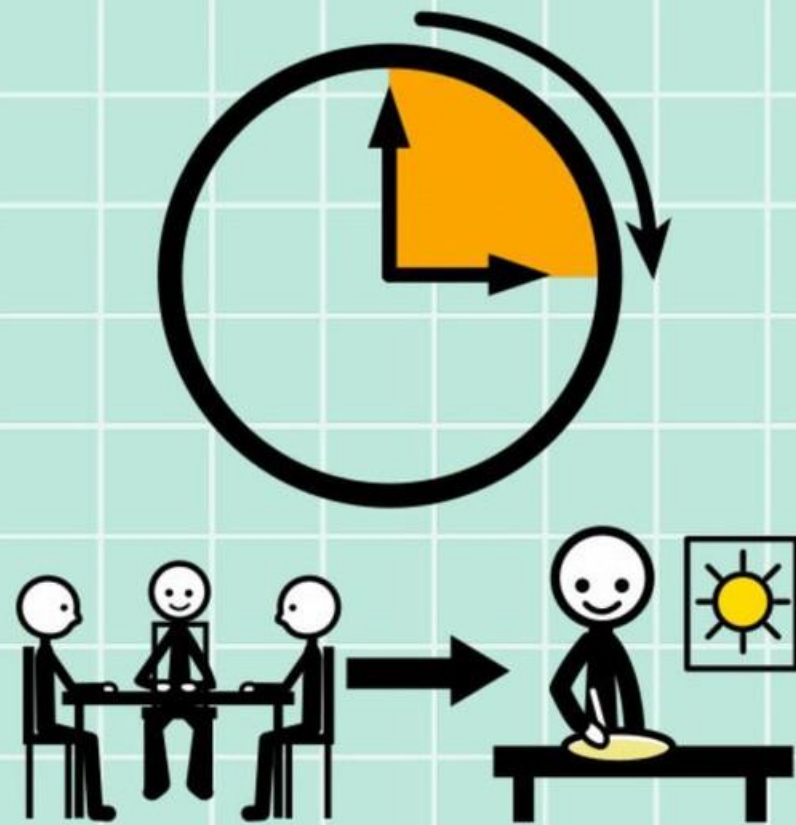
2. Visuospatial and temporal skills

Spatial organization

- Difficulties in organizing work in the page, notebook, agenda.
- You don't know which part of the problem to focus on.
- Difficulties in locating the nos on the straight line numerical.
- Poor sense of direction and understanding of space.
- Difficulties when placing numbers and symbols.

2. Visuospatial and temporal skills

Orientation in time



- Time management
- Read the analog clock
- Forget the order of classes
- Arrive too early or too late to class
- Duration of the activity

3. Memory

- Difficulty remembering procedures mathematicians: multiplication tables, problem statements, seasons, months, dates of important events: birthdays, special days, etc.
- Lack of use of storage strategies of the information
- Can remember only one or two steps at a time.
- Number or letter sequences

4. Emotional factors



Difficulties with mathematics

Stress
emotional blocks
Anxiety
Frustration
Fear
Confusion
Low self-esteem

Denial of difficulty.
Sensitive to criticism
Opposes/ rejects help

Lack of interest
Demotivation
School failure