



How to teach children with special needs to swim – focusing on autism and ADHD

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Topics for the presentation

- Theory about children with the diagnosis of autism and ADHD
- How children with special needs can react and be challenged when doing sports
- Few educational guidelines in teaching swimming to children with special needs.

Children with autism and ADHD

- More than a tenfold (1125%) increase over 10 years in the number of people being treated with medicine for ADHD (Lægemeddelstyrelsen 2012; Langager, 2014).
- The prevalence of autism spectrum disorders (ASD) has increased markedly in recent decades from 20/10 000 children in 1980 to 100/10 000 (Hansen, 2014 JAMA Pediatrics)
- Children with autism and ADHD are often challenged in social skills, cognition, health and motor skills (Verret et al., 2010; Chien-Yu Pan 2008; Baerg, et al.2011; Memari et al. 2013; Pan et al., 2011)

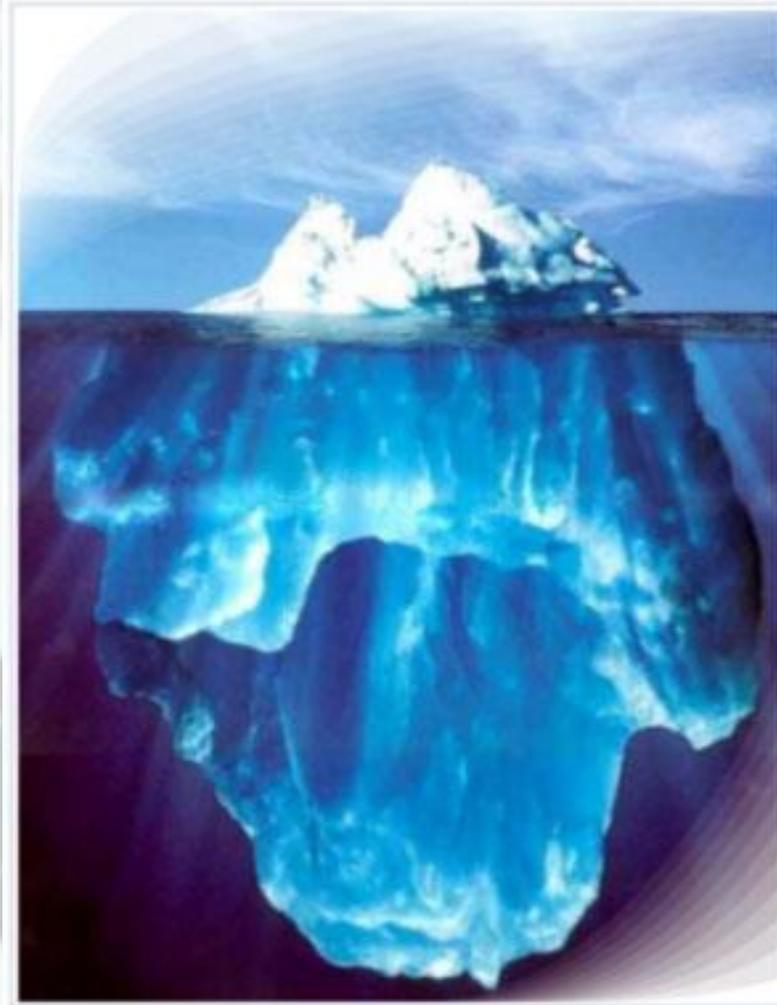
Prejudices

He is always like that

He is hyperactive

He messes it up for all the others

She is acting weird



He is not well behaved

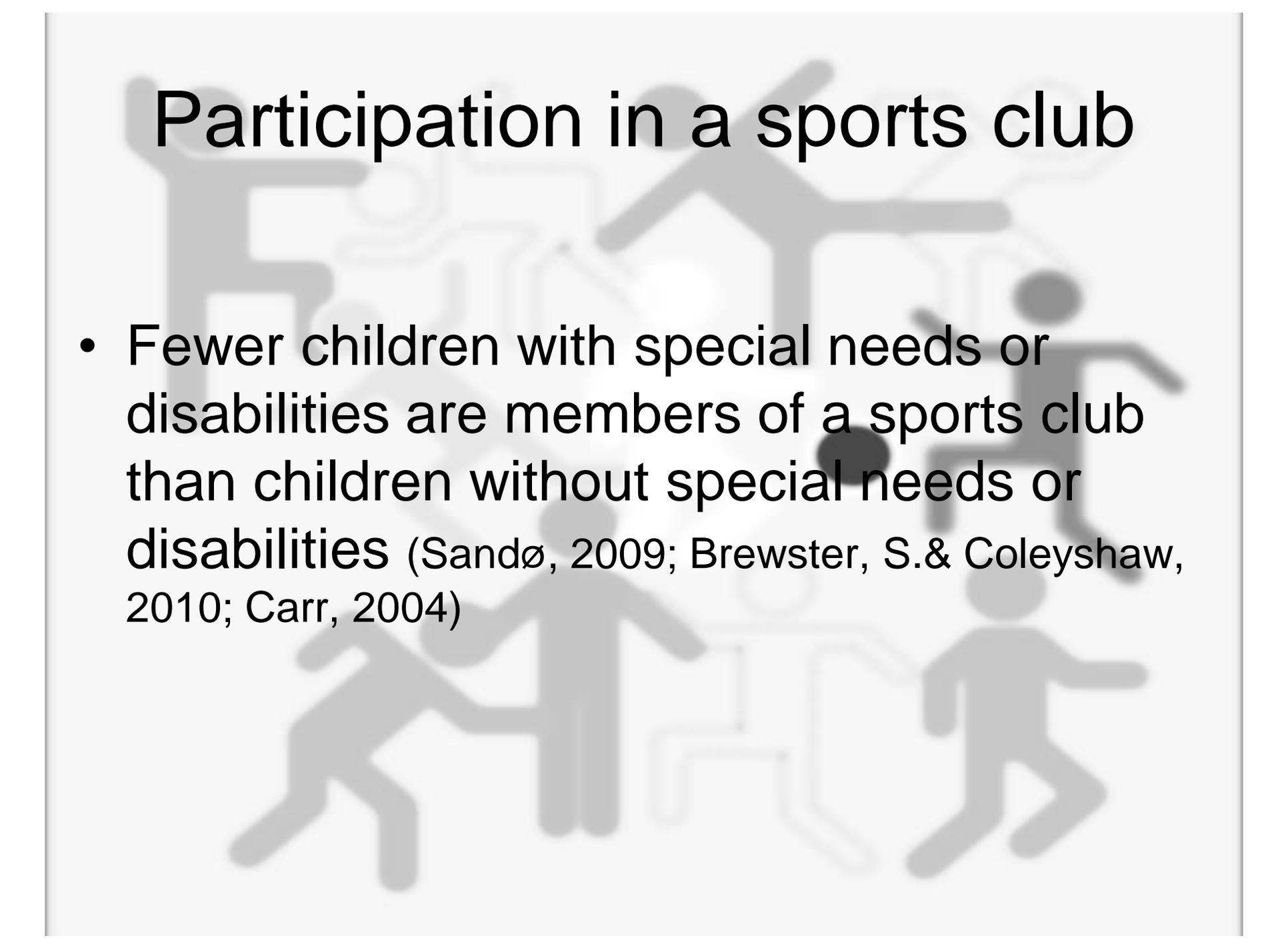
He wants to be by himself

She seems to be normal

”I claim that...”

Participating in sport demands
good *health* and good *social*,
cognitive and *motor* skills

Participation in a sports club

A faded, light gray illustration in the background shows several stylized human figures engaged in various sports activities. Some are running, some are jumping, and some are in a group huddle. The overall scene suggests a busy, active sports environment.

- Fewer children with special needs or disabilities are members of a sports club than children without special needs or disabilities (Sandø, 2009; Brewster, S. & Coleyshaw, 2010; Carr, 2004)

Leisure time

- Children with autism are less physically active in play-based activities, e.g. soccer.
- Children with autism and ADHD will often choose individual sports such as swimming and horseriding.
- Children with autism and ADHD who participate in sport in leisure time do so less frequently than typically developed children.
- Children with autism and ADHD participate very little in *unorganized* sport in their leisure time.
- Parents of children with autism and ADHD have a great influence on their children's participation in sport.

(Preece & Jordan 2010, Hilton, Preece, 2009; Hochhauser & Engel-Yeger 2010; Schleien, 2014)

Barriers to participation in sport

From the children's and parents' perspective:

- The children are inexperienced in interactions with other children
- They would like to have friends but the fear of not getting a friend or getting a "no" is greater than the desire to try to get a friend when doing sport
- They need to feel safe and secure before they start doing sport

(Brewster & Coleyshaw, 2010)

Barriers to participation in sport

A faded, light gray background illustration depicting various people engaged in sports. On the left, a person is shown in a dynamic pose, possibly a dancer or a person in motion. In the center, a person is running or jumping. On the right, a person is shown in a crouching position, possibly a soccer player or a person in a similar sport. The overall scene is a stylized representation of active participation in sports.

- They can feel excluded - even before they have started doing sport in a club
- They experience being a part of a team, but not being a part of the action in the sport
- The coach is not able to include the child in the team, is not aware of the child's challenges
- The parents are never able to relax when their child is doing sport, because they always have to think about whether their child understands the rules of the sport and is not doing any harm to others

(Brewster et al., 2010; Schleien et al., 2014; Thompson & Emira, 2011)

The background of the slide features a collection of stylized, grey icons of human figures in various dynamic poses, such as jumping, running, and stretching, arranged in a circular pattern. The text "ADHD and autism" is centered over this background.

ADHD and autism

Why ADHD? Some hypotheses

- Interaction between the child's environment and genes
- Inheritance (up to 80%)
- Influences during pregnancy – e.g. the child was born too early or had brain damage at birth
- Research using scanning shows: some areas in the brain are smaller and later developed compared with neurotypical children (Dalsgaard, 2015)
- Reduced blood flow in the frontal part of the brain and increased blood flow in the areas for motor activities

(ADHD foreningen, Bilenber, N., 2009)

Stroops test

Red Yellow Black Blue Green Brown
Yellow Blue

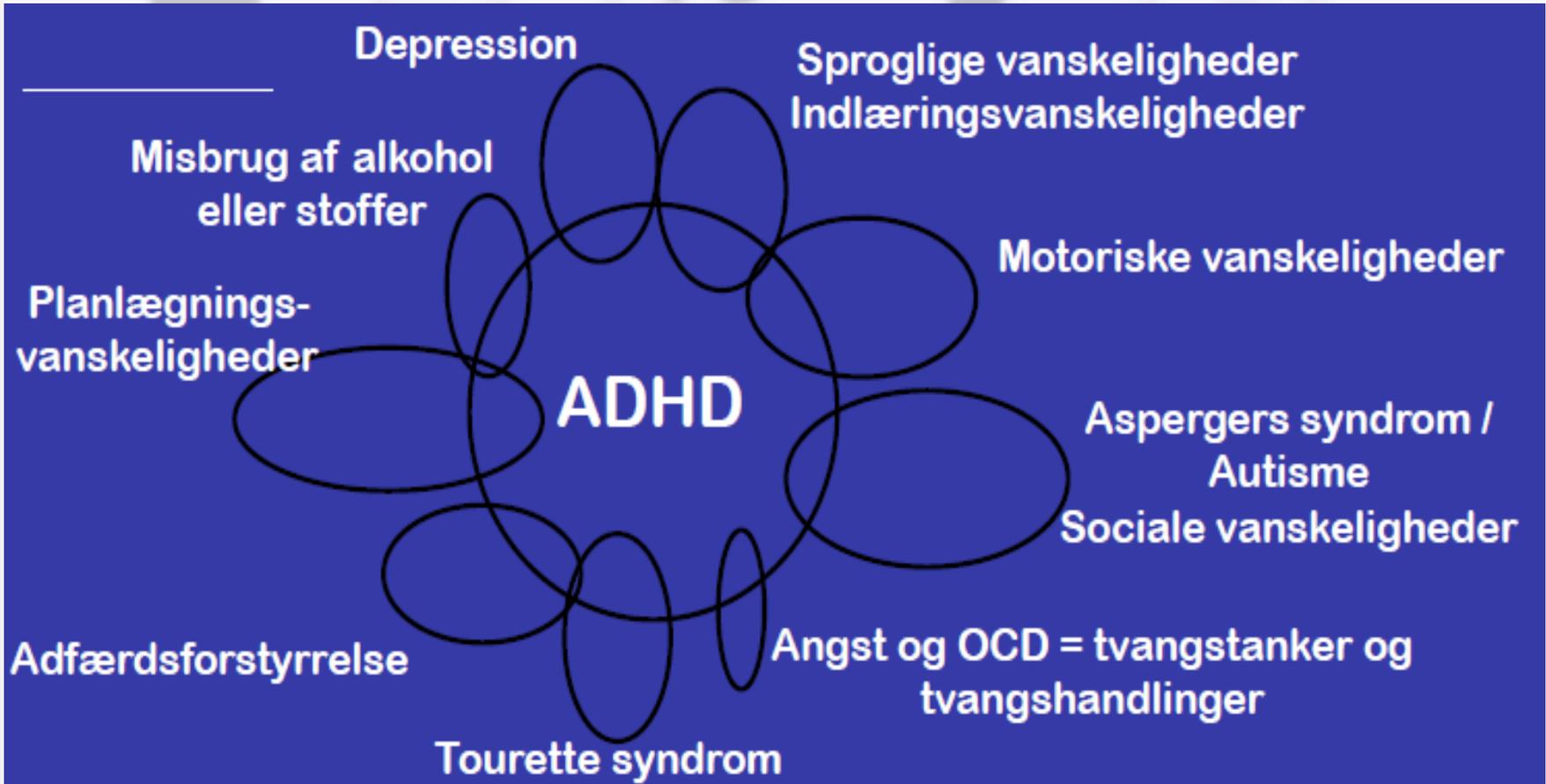
Stroops test

Red Blue Black Brown Yellow Blue Black
Red

How many children have ADHD?

- ADHD is the most common psychiatric diagnosis among children and adolescents in DK (Socialstyrelsen)
- 2-6% of all children at school have ADHD worldwide
- Only every 4th child diagnosed is a girl
- Up to 80% of the children with ADHD have comorbidity
- Diagnosis: *Attention Deficit Hyperactivity Disorder*

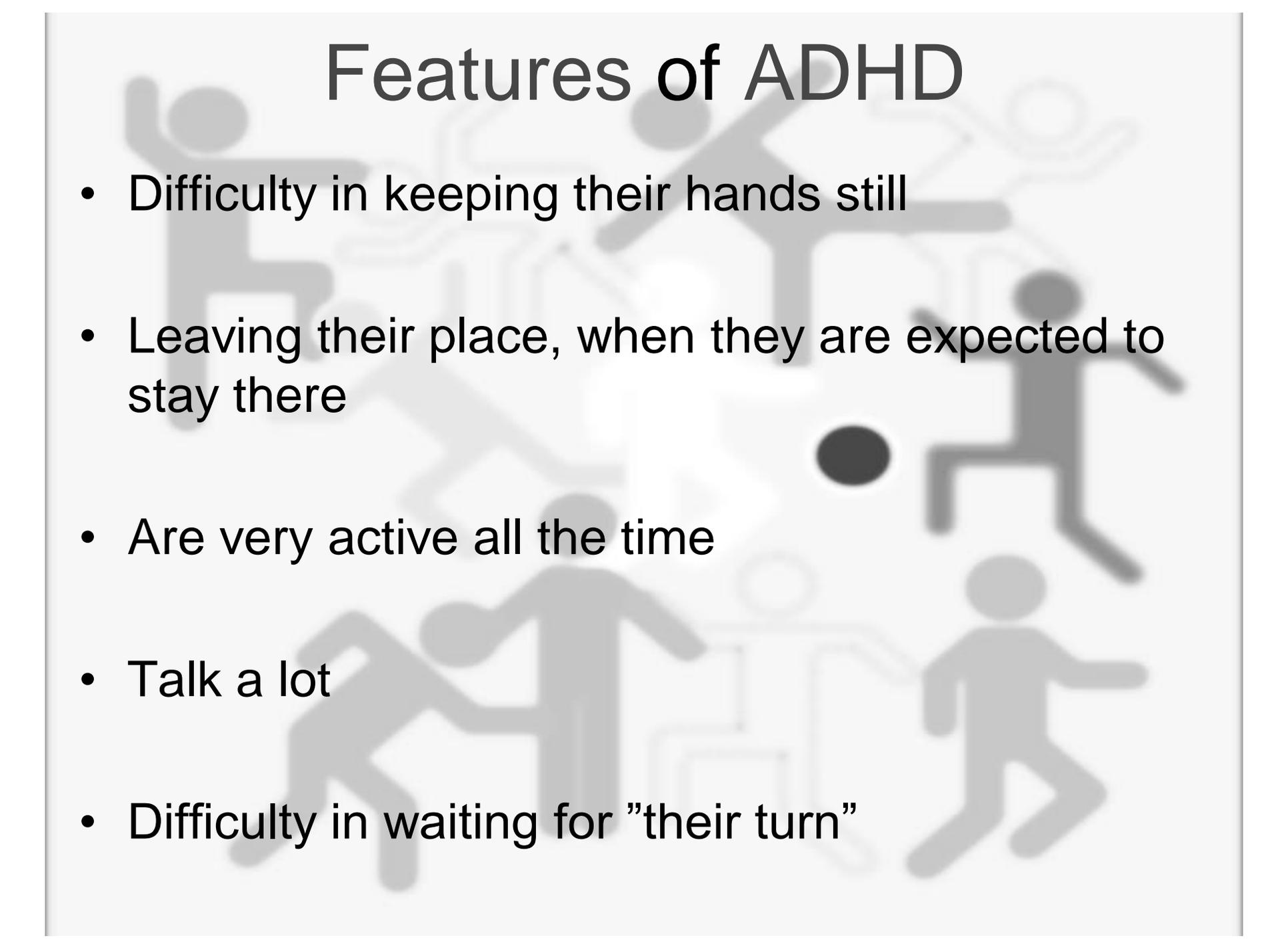
Comorbidity



Features of ADHD

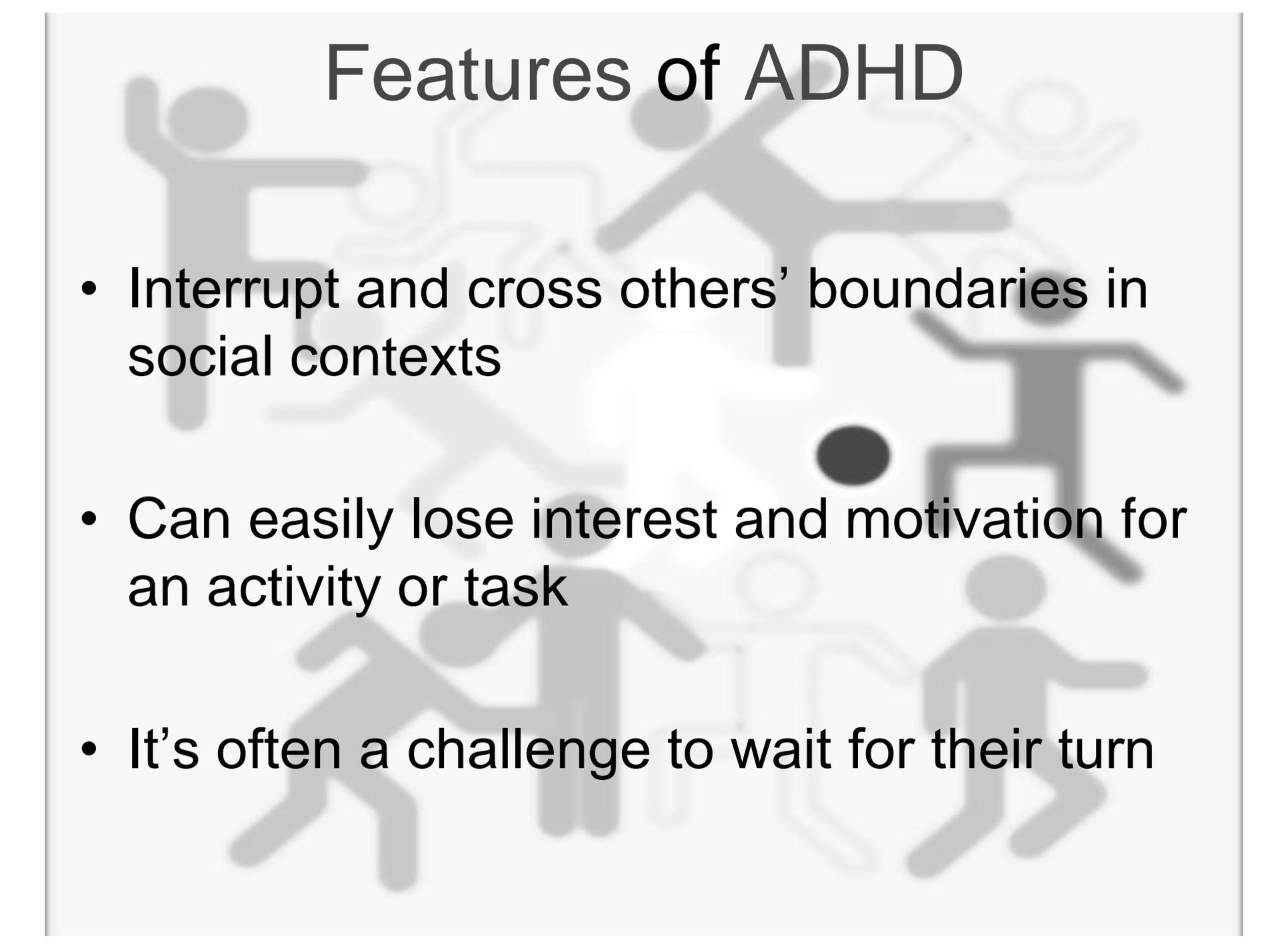
- Difficulty in keeping attention - play-based activities and different tasks
- They don't seem to listen
- They often understand the task, but they have difficulty in organizing and completing the task or the activity.
- They easily get distracted by external stimuli.

Features of ADHD

The background of the slide features a faint, light gray illustration of several children playing soccer. The children are depicted in various dynamic poses, such as running, kicking, and heading the ball, which visually reinforces the text's focus on hyperactivity and impulsivity.

- Difficulty in keeping their hands still
- Leaving their place, when they are expected to stay there
- Are very active all the time
- Talk a lot
- Difficulty in waiting for "their turn"

Features of ADHD

The background of the slide features a faint, light gray illustration of several children in various active poses, such as jumping, running, and playing with a ball, set against a light gray background.

- Interrupt and cross others' boundaries in social contexts
- Can easily lose interest and motivation for an activity or task
- It's often a challenge to wait for their turn

Autism

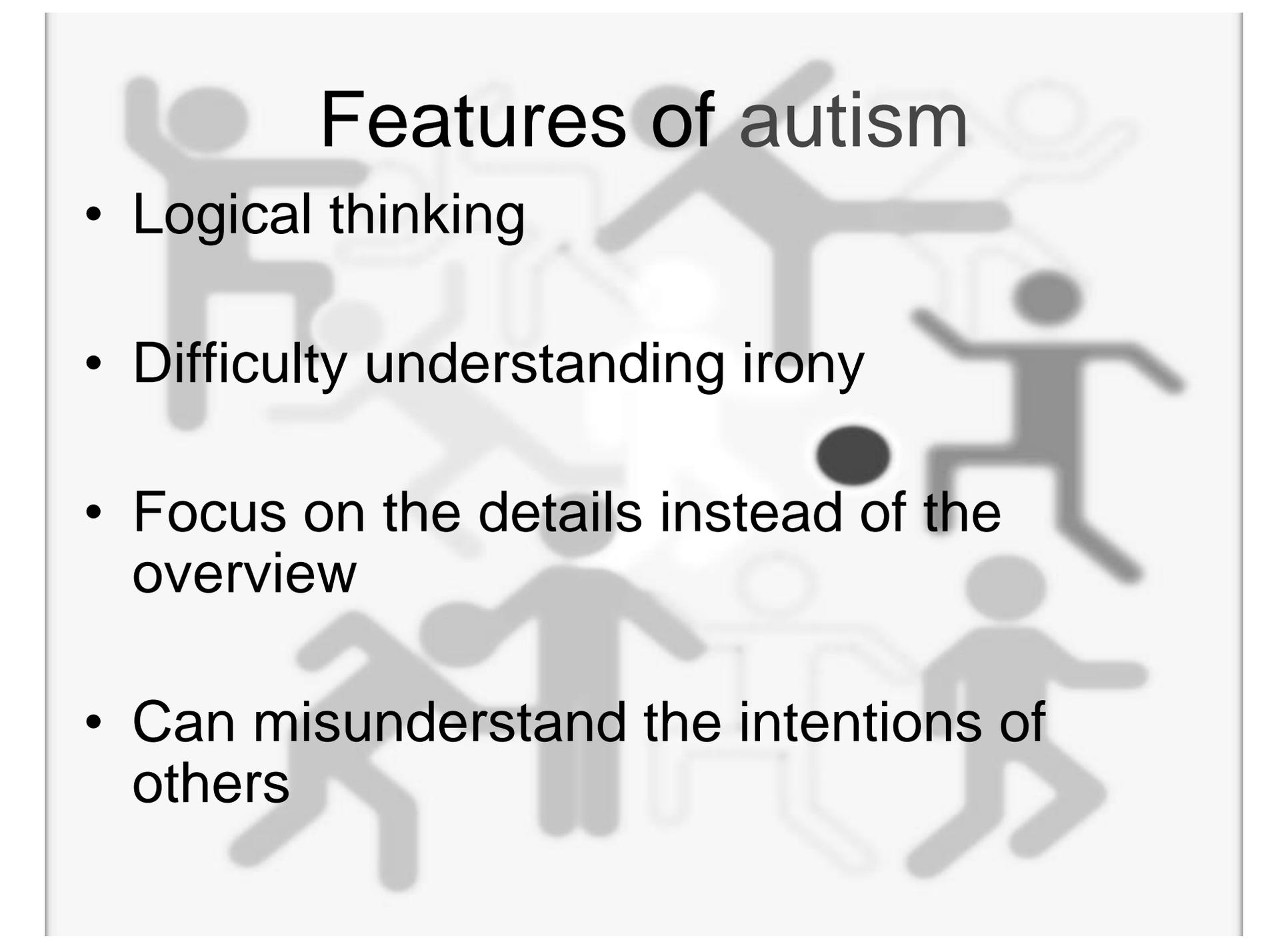
- The prevalence of autism is approximately 1% of the Danish population - about 30 000 Danes
- Only every 4th child diagnosed is a girl
- Comorbidity often occurs

Kilde: Videnscenter for autisme;
Socialstyrelsen 2012.

Why autism? Some hypotheses

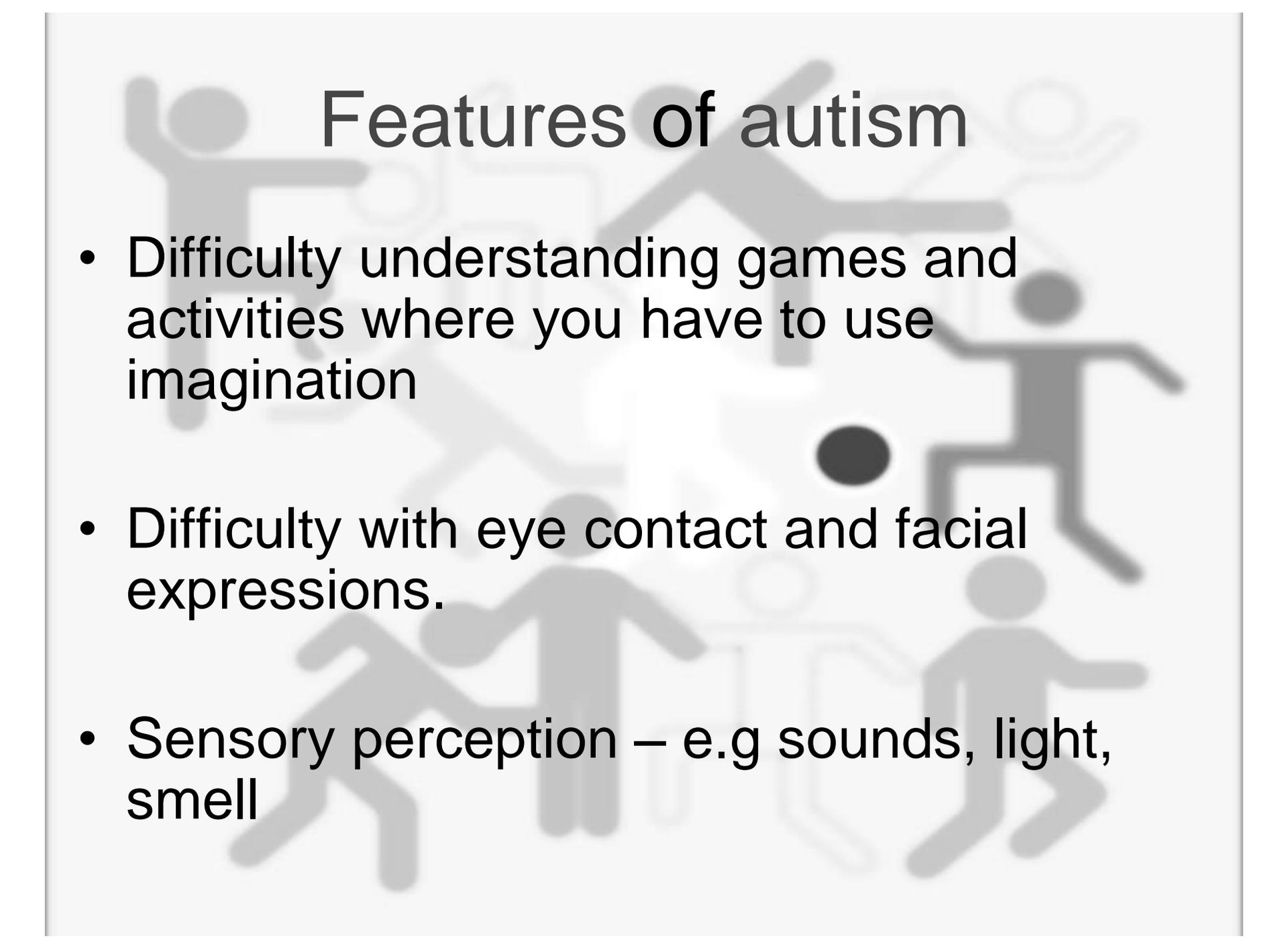
- ASD = autism spectrum disorder – neurological developmental disorder
- Can occur before, during and after birth
- Genes
- New theory – it's about the X chromosome
- Criteria for diagnosis – Wings:
 - Social interaction
 - Social communication
 - Social imagination

Features of autism



- Logical thinking
- Difficulty understanding irony
- Focus on the details instead of the overview
- Can misunderstand the intentions of others

Features of autism

A faded, light gray illustration of several children playing soccer on a field. The children are depicted in various dynamic poses, such as running, kicking, and heading the ball. The background is a light, neutral color, and the overall style is simple and clean.

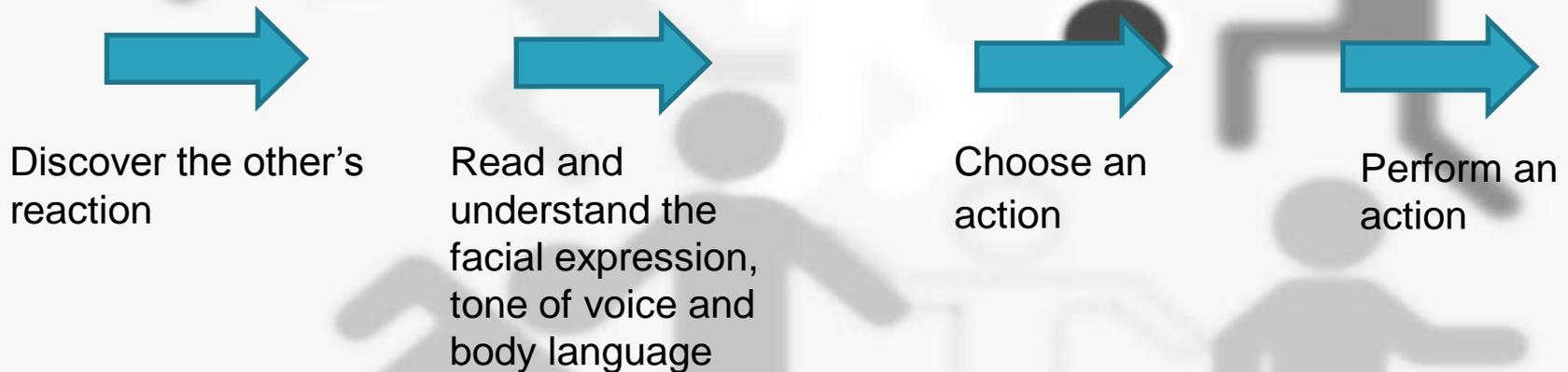
- Difficulty understanding games and activities where you have to use imagination
- Difficulty with eye contact and facial expressions.
- Sensory perception – e.g sounds, light, smell

The background of the slide features a collection of stylized human figures in various poses, rendered in a light gray color. Some figures are solid, while others are outlined. The poses include running, jumping, and reaching, suggesting movement and activity. The figures are scattered across the slide, with some appearing more prominent than others.

Empathy and executive functions

Empathy disorders

Empathy is the capacity to understand or feel what another human being is experiencing from within the other's frame of reference, i.e. the capacity to place oneself in another's position



Kilde: Mogensen, H. (2010) *Børn med særlige behov*

An example

A question about sport with emotions

”Did you enjoy playing hockey today?”

Another question about sport without emotions

”Did you score a goal today?”

Executive function



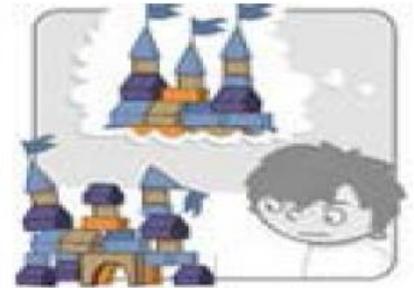
Erkende



Planlægge



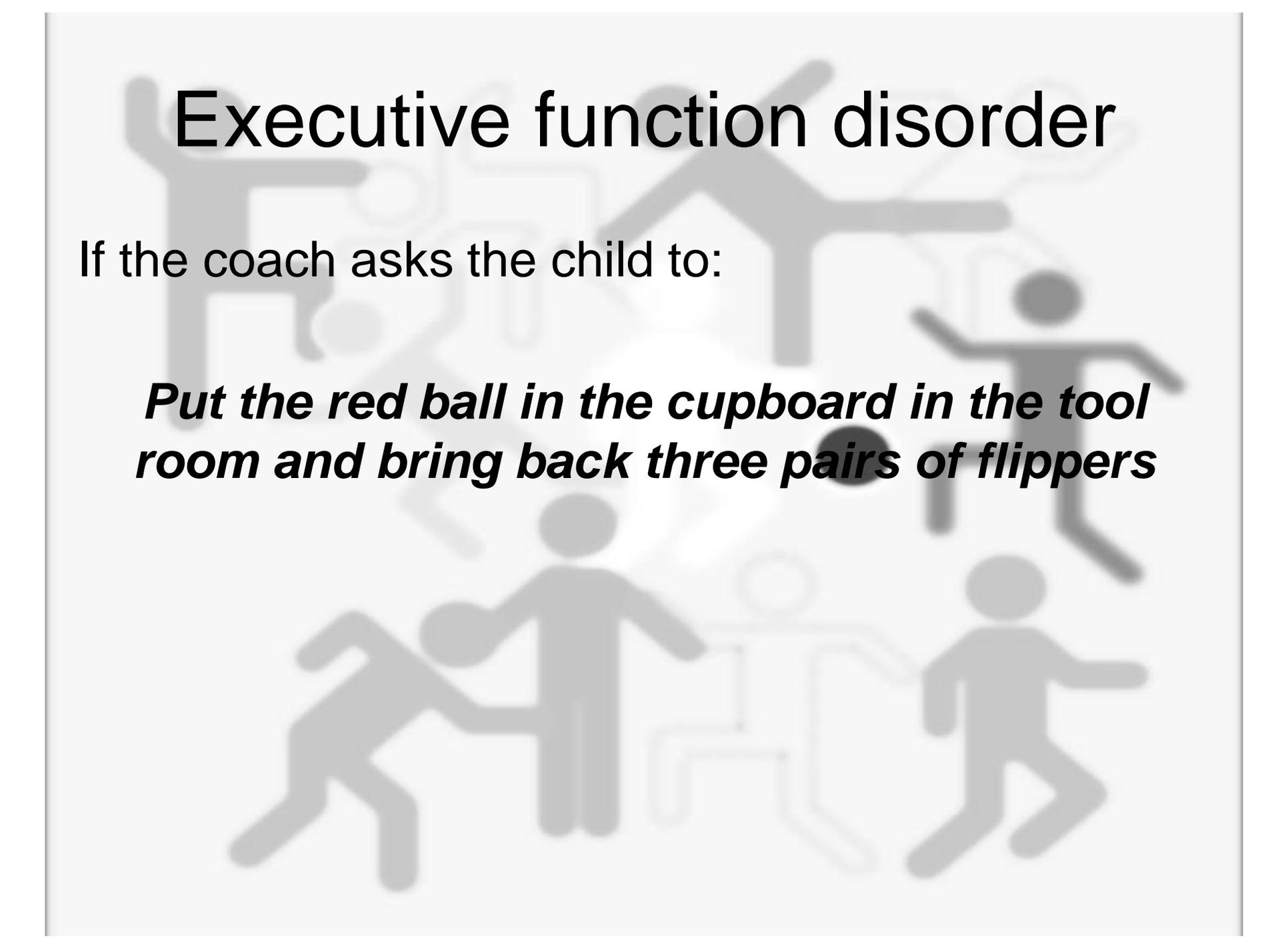
Udføre



Vurdere

Elfing, B. et al (2002). *Den børnepsykologiske undersøgelse. Vejledning til psykologer.* Udarbejdet af Selskab for Børnepsykologi.

Executive function disorder



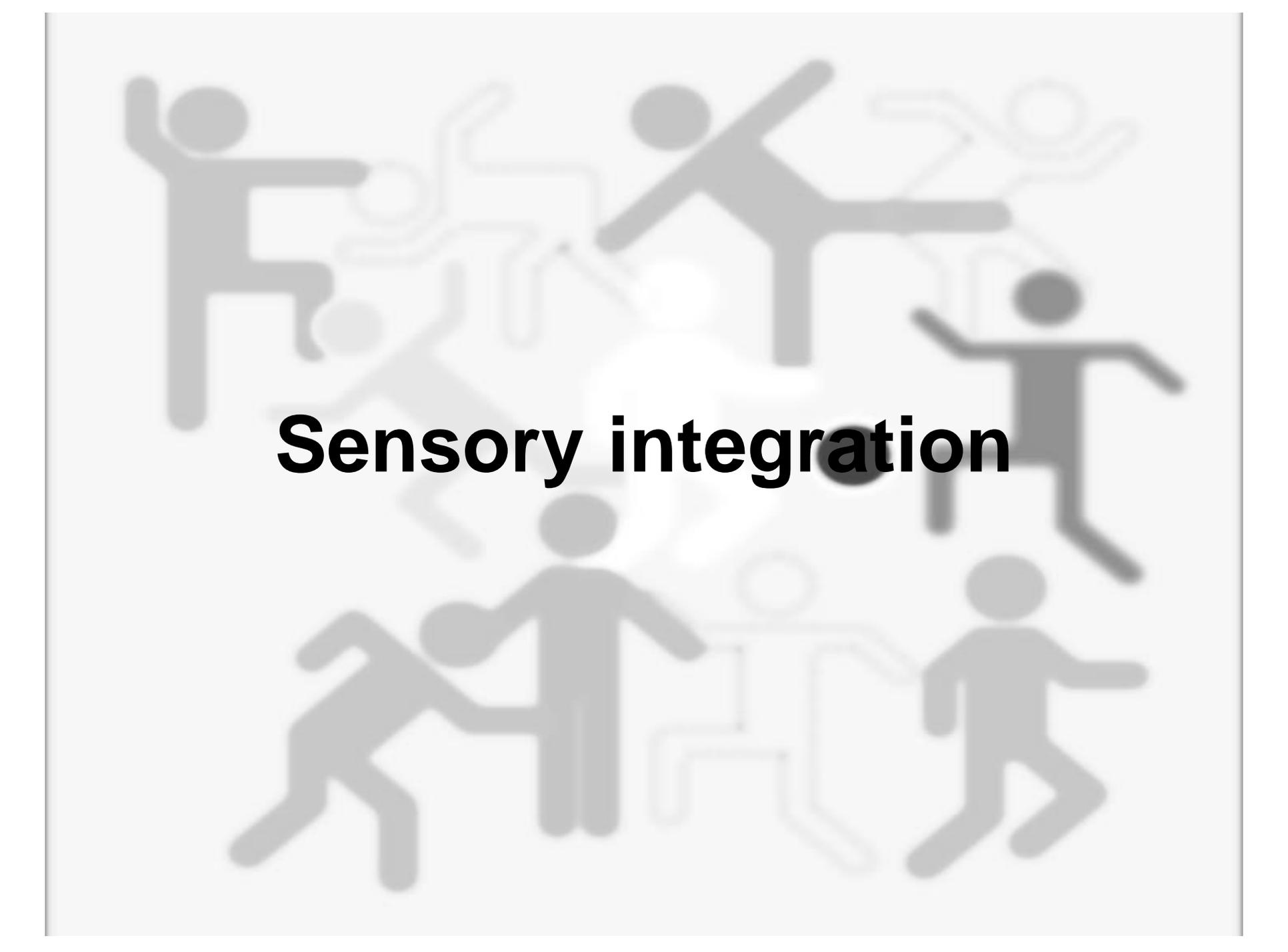
If the coach asks the child to:

Put the red ball in the cupboard in the tool room and bring back three pairs of flippers

Executive function disorder

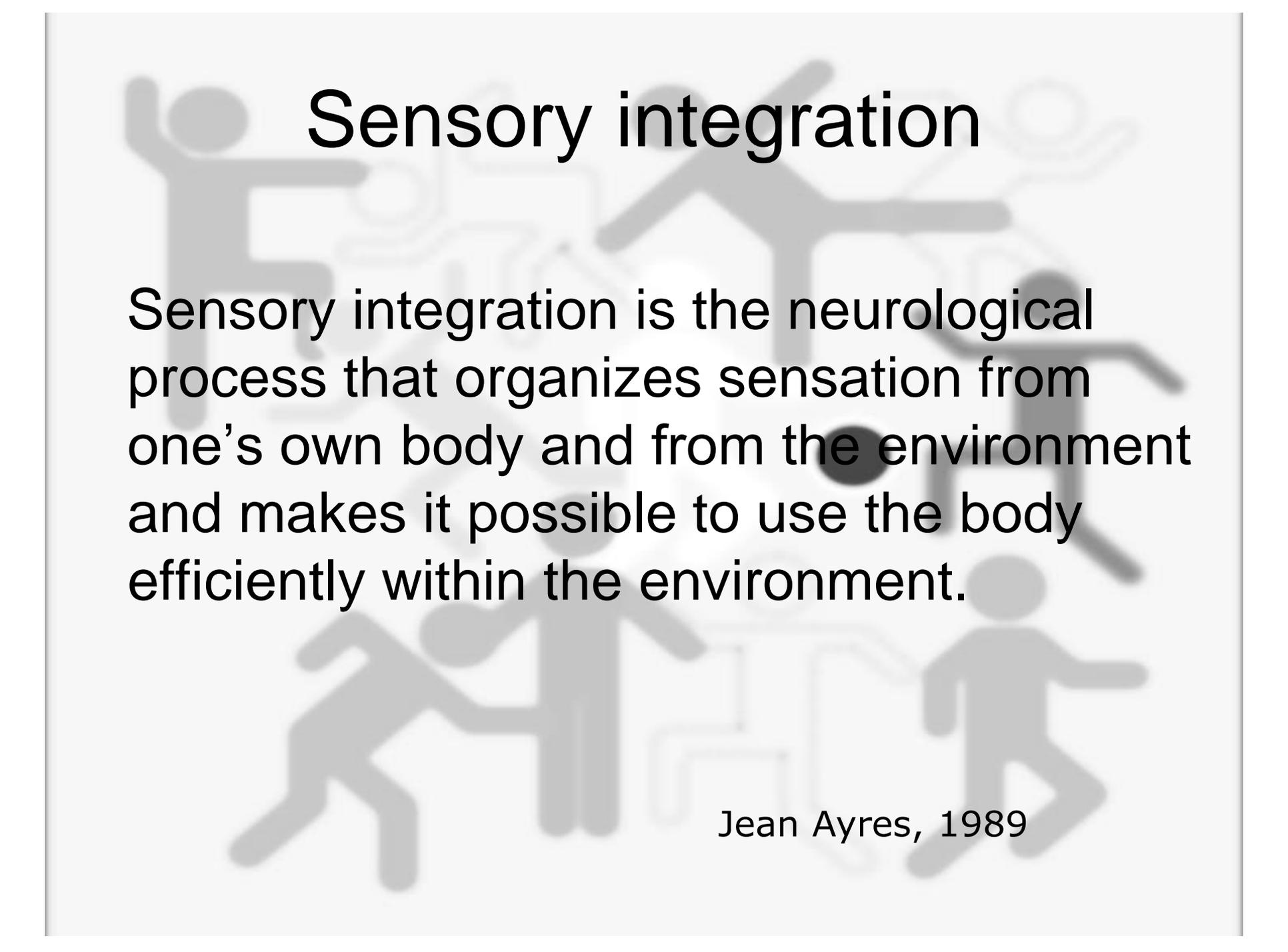
Put the red ball in the cupboard in the tool room and bring back three pairs of flippers

What can happen?

The background of the slide features a collection of stylized human figures in various poses, rendered in a light gray color. These figures are scattered across the page, some appearing to be in motion, such as running, jumping, or stretching. The overall aesthetic is clean and modern, with a focus on human movement and activity.

Sensory integration

Sensory integration

The background of the slide features a faded, light gray illustration of several children in various active poses, such as jumping, running, and playing together, which visually represents the concept of sensory integration.

Sensory integration is the neurological process that organizes sensation from one's own body and from the environment and makes it possible to use the body efficiently within the environment.

Jean Ayres, 1989

Sensory integration disorder

When a reaction doesn't fit with the sensory stimuli a person gets

- A person can over- or underreact to sensory stimuli i.e. sound, light, touch and smell.

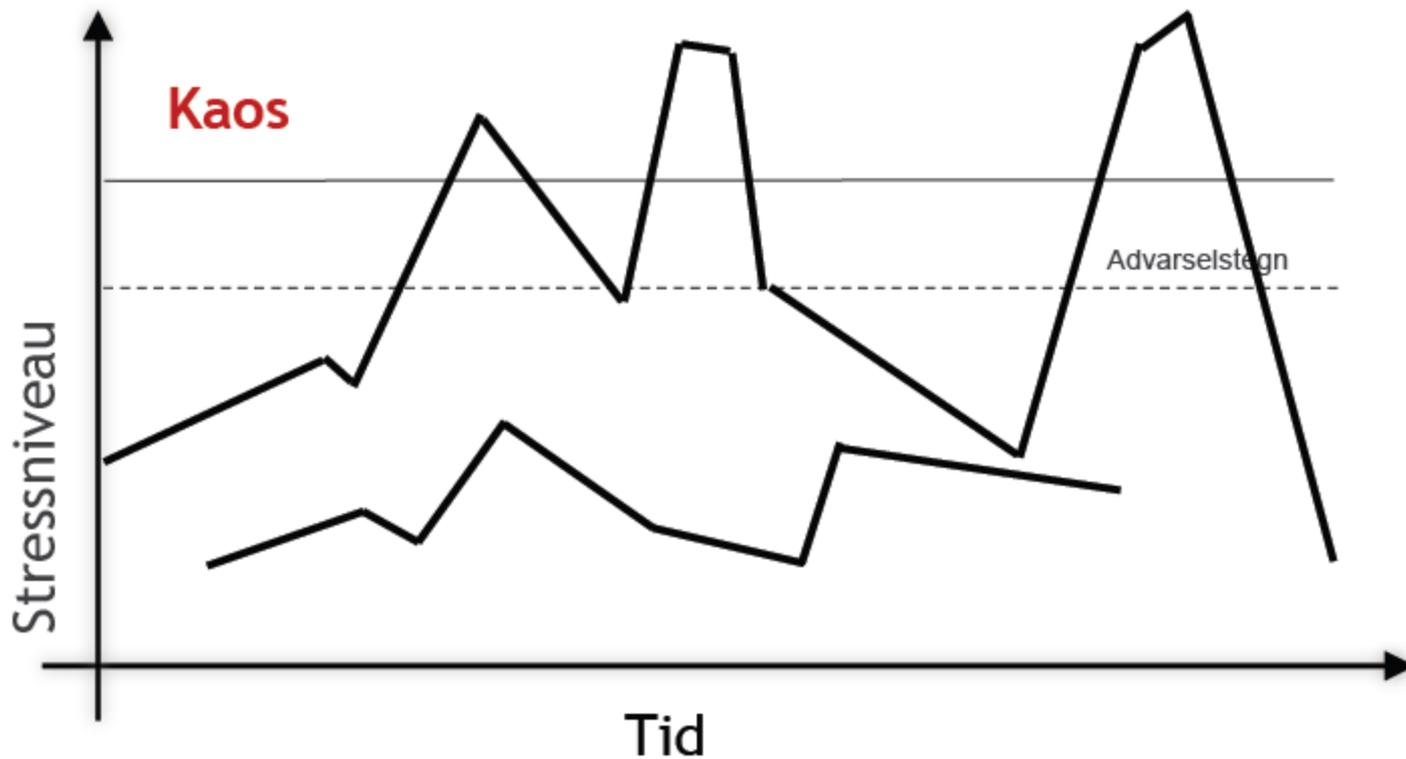
Østergaard (2008) Motorisk usikre børn

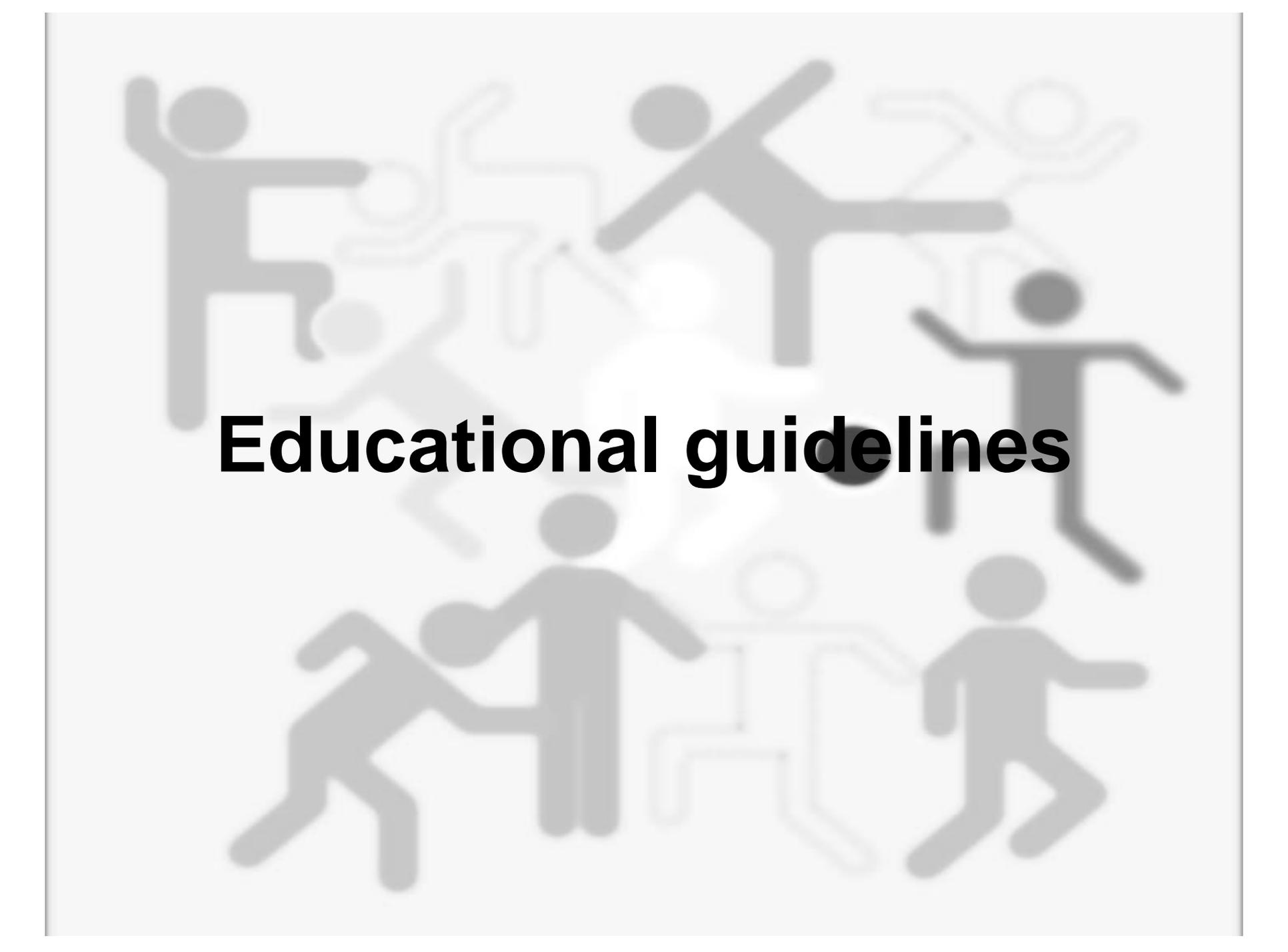
Stress



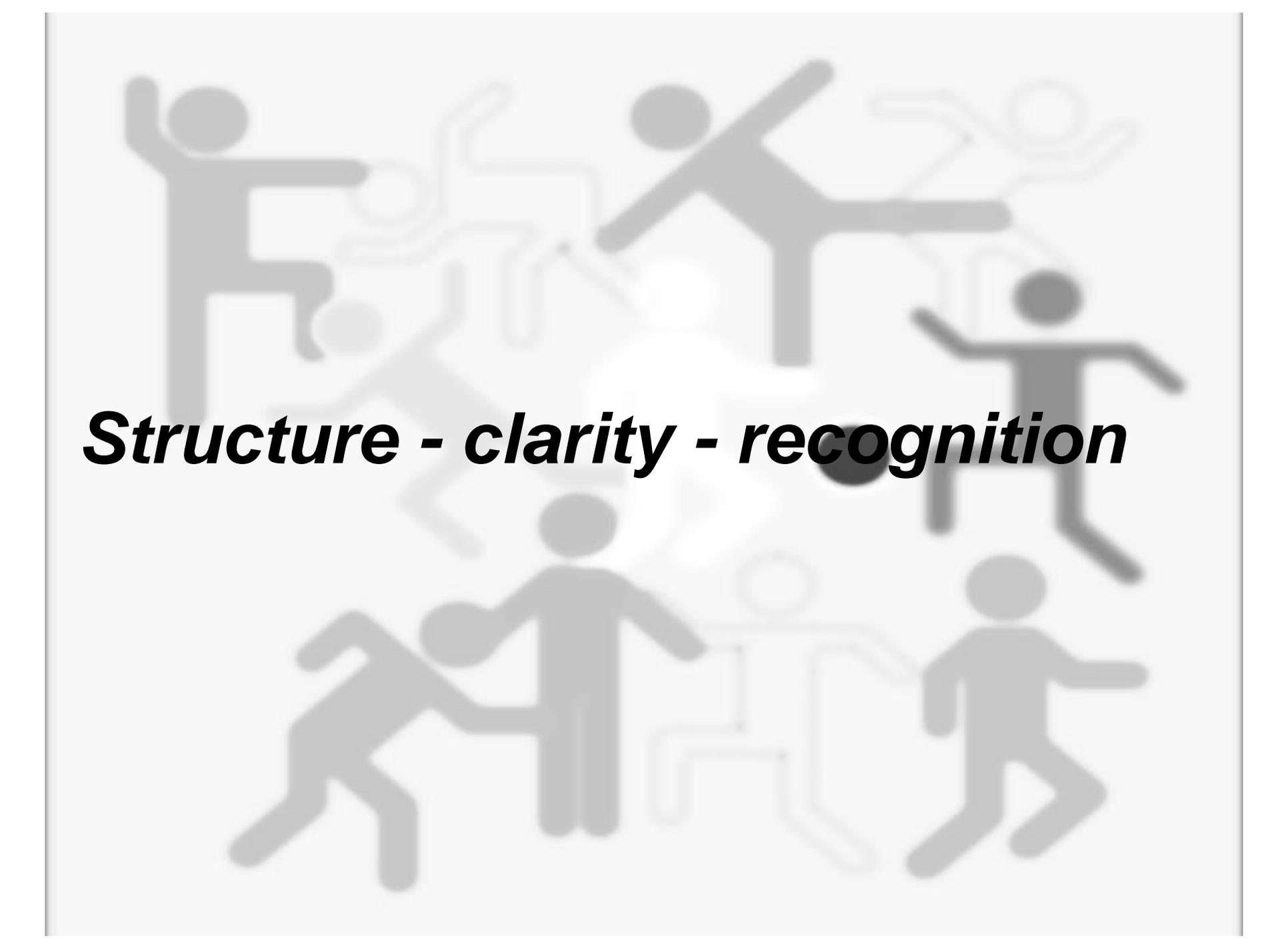
Hejlskov-Uhrskovs stressmodel

(Frit efter Nuechterlein & Dawson)



The background of the slide features a collection of stylized human figures in various poses, rendered in a light gray color. These figures are scattered across the page, some appearing to be in motion or engaged in activities, creating a sense of dynamic energy. The figures are simple, rounded shapes with no facial features, emphasizing movement and form.

Educational guidelines



Structure - clarity - recognition

Structure – clarity – recognition

- The coach must have a plan for each training session.
- Prepare the children for the next training session
- Introduce the rules of the activity each time, also the social rules
- Teach in a visual, auditory and bodily manner

Structure – clarity - recognition

- Use visual guidelines
- Have a "time-out" place
- Differentiated agreements on the team
- The coach(es) must evaluate every training session – how/what to do next time



Handstand



Acrobat Ty



Falshand mit ball



Parkour



Überschwing

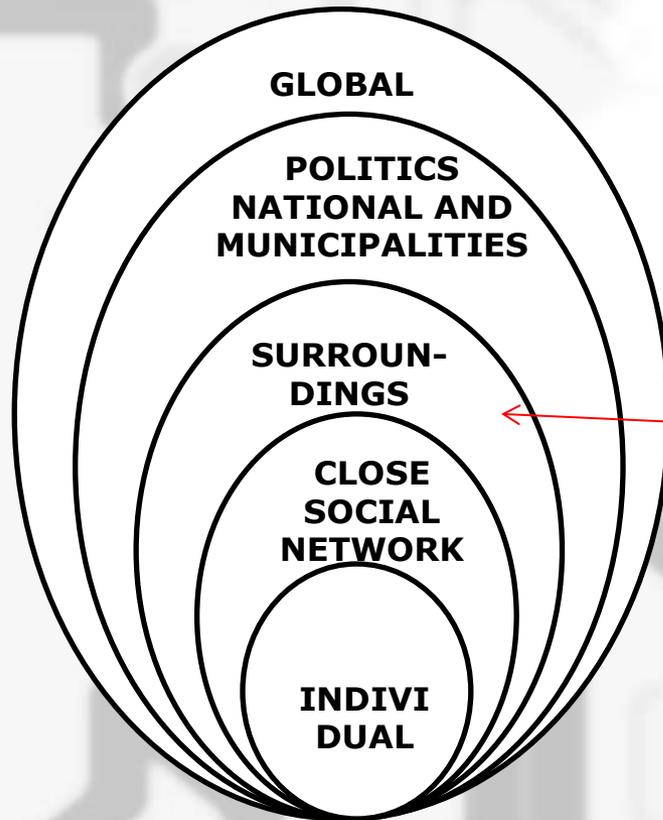
"Blackboard"



Communication - parents

- Introduce the parents to the standards for the team and in the sports club, e.g. expectations for participation, suitable equipment, changing room procedures, etc.
- Make sure they know about social arrangements, competitions for the team/club. Regular emails, sms or notes
- Invite the parents to stay when their children train
- Be in dialogue with the parents if the child reacts unpredictably – ask them, but don't blame them

Complex effort - accessibility



SPORTS CLUB, COACHES, SPORT BOARD, CLUB MEMBERS, AND THEIR PARENTS, THE OTHER CHILDREN, CONTENT AND DIDACTICS IN THE TRAINING

A quote from a boy with autism

“Sport makes me feel comfortable. By doing sport I´m happy and satisfied with myself. And it also helps me with the anxiety I struggle with”

Emil, 20 years, ASD

Idræt flytter grænser

- for børn med autisme og ADHD



Handicapidrættens
Videnscenter





Thanks😊

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