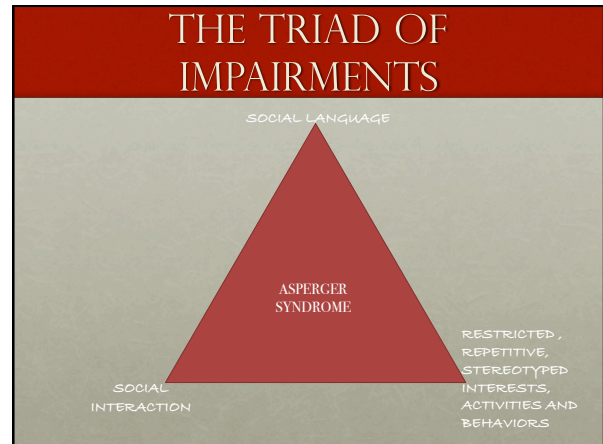



# NEUROLOGICAL DIFFERENCES IN STUDENTS WITH ASD


Karen Harrop, M.S.



The core of the Asperger Syndrome diagnosis is the children's inability to relate to themselves, others, and situations in the ordinary way.

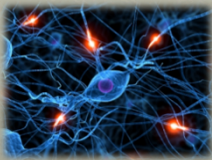


# OUTWARD BEHAVIORS



What are the social overt behaviors?

## WHAT WORKS DIFFERENTLY IN STUDENTS WITH AN AUTISM SPECTRUM DISORDER THAT CAUSES THESE CHALLENGES?



## Theory of Mind

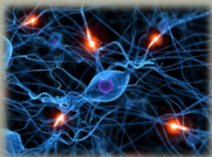
*Theory of mind is the ability to predict relationships between external states of affairs and internal states of minds.*

*"Mentalizing is a verb to describe an automatic and deeply unconscious activity. It is what we do when we attribute mental states to others to predict their behavior."*

*The intuitive ability to understand that other people have minds different to them is missing in autism.*

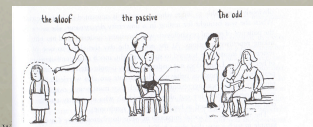
## WHY?

- Faulty decoupling mechanism
- Dysfunction of a neural basis in the brain that controls mentalizing



## Social Interactions

- Autistic Aloneness
- Three types of social impairment



- Awkward reactions within social reactions
- Inappropriate reactions within social reactions

## SOCIAL IMPAIRMENT

Failure to use appropriate nonverbal behaviors such as eye contact, facial expression, body postures, and other social gestures

## SOCIAL IMPAIRMENT

Engage in rudimentary social routines but do not engage in novel, reciprocal, and extended interactions

## SOCIAL IMPAIRMENT

Struggle to understand the social 'rules'

A bit too honest?

What...it's true!



## Ad Nauseum

*I just wanted to paint!*



## Reading others intentions

- He pushed me!
- He was rude to me!



## Inappropriate emotional reactions

- Your fingers are sticky!
- Get out of the road!



## Awkward!!!





## ACADEMICS

## COOPERATIVE LEARNING



## READING COMPREHENSION

- Fact recall vs. understanding character motivation
- Prediction of behavior
- Inferring emotion



### Written Expression, History, Social Studies

Write a letter home as if you were this soldier.

What would you say to your parents?

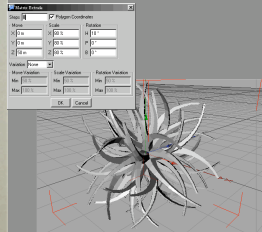
Would you tell them what you really feel  
or what you want them to know?



## MARKETING, JOURNALISM, ETC.

Marketing

Design and market your invention



## Inferential Learning

The learning that happens from simply being around others and by being interested in what others are talking about and doing.



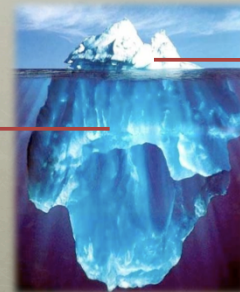
## What do we do?

✓ Social thinking can be taught!

✓ Strategies for supporting social thinking and social skills

## OUTWARD BEHAVIORS – UNDERLYING CHARACTERISTICS

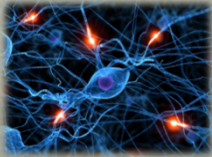
What is the underlying characteristic that causes them?  
THEORY OF MIND DEFICITS



What are the social overt behaviors?

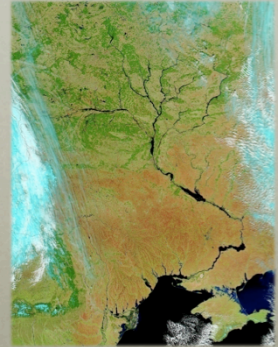
- Difficulty deciphering non-verbal cues
- Difficulty understanding social rules
- Difficulty taking the perspective of others
- Difficulty with social interactions

WHAT WORKS DIFFERENTLY  
IN STUDENTS WITH AN  
AUTISM SPECTRUM DISORDER  
THAT CAUSES THESE  
CHALLENGES?



WHAT IS  
CENTRAL  
COHERENCE?

Central Coherence is the force (the river) that pulls together all of the details (the tributaries) to make a big picture.

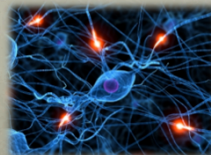


SENTENCE  
COMPLETION  
TASK

- Hunting with a knife and ....



WHAT WORKS DIFFERENTLY  
IN STUDENTS WITH AN  
AUTISM SPECTRUM DISORDER  
THAT CAUSES THESE  
CHALLENGES?



## HOW DO WE USE CENTRAL COHERENCE?

- We fit details into greater patterns of knowledge.
  - Categorization
  - Generalization
  - Read social contexts
  - Understand actions
  - Mentalizing

## NATURAL AND UNCONSCIOUSLY..

She took the dog for a walk on a long lead.

The box was as heavy as lead.

## OUTWARD BEHAVIORS



What  
are the overt  
behaviors?

## READING

- Reading Accuracy
- Reading Comprehension
- Knowing what are important pieces of information and what are not.





## MATH

- Story Problems
- Generalization



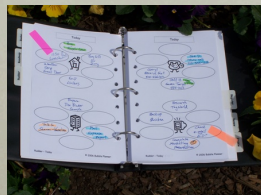
## WRITTEN LANGUAGE

- Organizing thoughts
- Creating an overall theme for a paper



## ORGANIZATIONAL SKILLS

- Planning out big projects



## SOCIAL!

- The gist of :
  - the conversation
  - literal
  - tangential
  - the TV show
  - the movie
- Problem Solving



• Obsessive Interests

PASSIONS

## ADAPTIVE SKILLS


- Shopping
- Routines



## REPETITIVE MOTIONS?

- Acting on items
- Thoughts or preoccupations
- “passions”

## OUTWARD BEHAVIORS – UNDERLYING CHARACTERISTICS



What are the overt behaviors?

- Difficulty identifying the main point
- Difficulty finding the big picture
- Difficulty in categorizing
- Difficulty in generalizing

What is the underlying characteristic that causes them?

WEAK  
CENTRAL  
COHERENCE