Differential Diagnoses of Attention Disorders: Behavioral Manifestations and Confusions

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NEW PARADIGM

Language / executive continuum provides a better understanding of Attention Deficit Hyperactivity Disorder, Autisitic Specrum Disorder, Specific Language Disorder (Aphasia), Organizational disorders
Interplay of cognitive / metacognitive, self-regulatory, social / emotional functions best describes the continuum of disorders
Executive disorders are primary disorders of adaptation, whereas “learning disorders” are secondary disorders of academic functions.
The “silent” frontal brain “begins to speak” in the late 1980’s.
### POSTERIOR / BASAL FUNCTIONAL SYSTEMS

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<th>DRIVE</th>
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#### BEHAVIOR

Various organized integrated fixed functional systems hypothesized to be based, in relation to the frontal lobes, in more posterior / basal regions.

Stuss & Benson, 1986
Sequencing and drive, two functions closely allied with the frontal lobes, appear to have a superordinate role in the posterior / basal functional systems.

Stuss & Benson, 1986
Executive functions are the behavioral manifestations of frontal brain activity.
EXECUTIVE DISORDERS:

Focal / Diffuse TBI
Epilepsy
Meningitis
Malignancies
Heavy lead burden
Fetal Alcohol Syndrome
Very low birth weight
PKU
Developmental brain anomalies
Attention Deficit Disorder
Autistic Spectrum Disorder
Language is necessary for self-communication (thinking), interpersonal communication, concept formation & learning.
ASPECTS OF LANGUAGE

Auditory Processing

• Acoustic signal
• Phonological awareness
• Phonological sequencing
• Phonological memory
ASPECTS OF LANGUAGE

Language Comprehension

Vocabulary

Connected Speech
  Length
  Context
  Concepts
Vocal intonation / inflection
Accents / alternate pronunciation form
ASPECTS OF LANGUAGE

Language Comprehension

Linguistic Structures:
- Common word relations
- Grammatical morphemes
- Elaborated constructions

- Length
- Question forms
- Imbedded sentences
- Conjoined sentences
ASPECTS OF LANGUAGE

Language Expression

Vocabulary
  Selection
  Retrieval

Ideation
ASPECTS OF LANGUAGE

Language Expression

Formulation
  Length
  Complexity
  Temporal references
  Grammatical morphemes
  Question forms
  Negation
  Metacognitive expression
  Discourse
  Pragmatics
ASPECTS OF LANGUAGE

Language Expression

Speech and Voice
Repetition
Articulation
Prosody / inflection
Fluency
Voice Quality
Focal frontal brain injury in 19 – 31 month olds → delayed vocabulary & expressive grammar (Bates in Broman & Fletcher)
Working memory improves with age

- Speed of information processing
- Increased inhibition
- Chunking information
- Verbal rehearsal
REORGANIZATION OF ADHD CRITERIA
FROM DSM-IV

Inattention Problems:

• Attention to details
• Sustained attention
• Distracted by external stimuli

Hyperactivity Problems:

• Fidgets / squirms
REORGANIZATION OF ADHD CRITERIA FROM DSM-IV

Self-Regulation Problems:

- Listening to direct communication
- Follow-through / task completion
- Sustained mental effort
- Out of seat
- Restless / runs, climbs
- “On the go” / “Driven by a motor”
- Talks excessively
- Blurts out before question completed
- Waiting / turn taking
Metacognitive Problems:

- Organization
- Loses things
- Forgetful
REORGANIZATION OF ADHD CRITERIA FROM DSM-IV

Social Problems:

- Playing quietly
- Talks excessively
- Blurts out
- Interrupts / intrudes
REORGANIZATION OF ASD CRITERIA FROM DSM-IV

Self-Regulation Problems:

• Preoccupation / restricted interest
• Inflexibility re: routines / rituals
• Stereotyped & repetitive mannerisms
• Reactivity to environmental stimuli
• Initiate / sustain communication
REORGANIZATION OF ASD CRITERIA FROM DSM-IV

Metacognitive Problems:

• Preoccupation with parts
• Difficulty with generalizations
• Narrowed range of interests
• Symbolic or imaginative play
REORGANIZATION OF ASD CRITERIA FROM DSM-IV

Social Problems:

• Non-verbal behavior re: social interaction
• Peer relationships
• Shared enjoyment / interests
• Social / emotional reciprocity
• Pragmatics
LANGUAGE / EXECUTIVE CONNECTION

Comprehension: Literal and Concrete

• Nuance of meaning
• Figurative language
• Jokes, puns
• Multiple word meanings
• Grammatical phrases
LANGUAGE / EXECUTIVE CONNECTION

Expression

- Verbose with content limited
- Vocabulary restricted or idiosyncratic
- Word selection unusual
- Inability to summarize
- Verb tense usage
Executive / Language Continuum Components:

• Self-regulation
• Metacognition
• Social / emotional interaction
• Language