

# ***Neuropsychological Deficits Underlying Social Skills Weaknesses and Strategies for Remediation***

***International Dyslexia Association***

***54<sup>th</sup> Annual Conference***

***November 12-15, 2003***

***San Diego, CA***

***Session: S 155***

***Saturday, November 15, 2003-10:30 a.m. to noon***

# ***Kevin T. Blake, Ph.D., P.L.C.***



# Copresenter

- 28 years as a junior and senior high school English and social studies teacher
- BA from St. Olaf College
- Masters in Special Education from Augustana College
- “General Educator of the Year” by the Upper Midwest Branch of IDA
- 5 years LD Specialist at the Menninger Clinic

# Copresenter (Continued)

- Fellow, Academy of Orton-Gillingham Practitioners and Educators
- Past President of the International Dyslexia Association
- Currently, he is a consultant in private practice



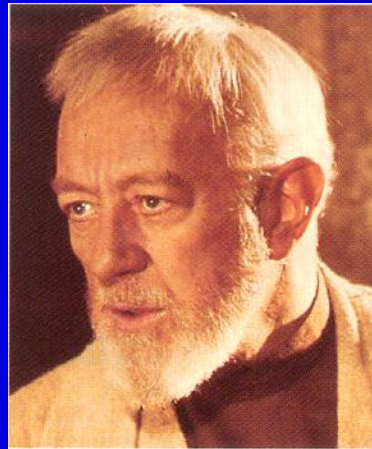
# Copresenter

Edward Hallowell, M.D., Harvard Graduate, and co-author of Driven to Distraction said while listening to him present:

*“Where the hell was he when I was in School?!!!”*

# Ben (Obi-Wan) Kenobi

(Winter, 200-2001). Life-Special Edition: 2000-The Year in Pictures, p.85.)

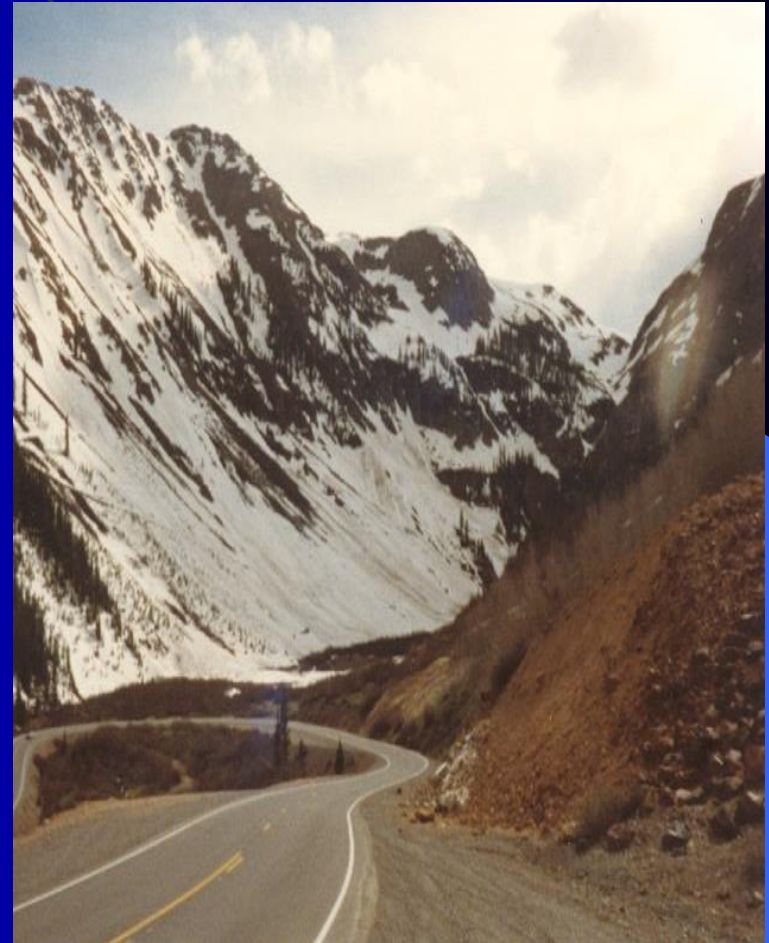


# ***C. Wilson Anderson, Jr., M.A.T.***



# ***“Road Rules” and What To Expect***

- Please hold your questions to the end.
- Handouts of PowerPoint slides should be available.
- Longer handout available at: [www.interdys.org](http://www.interdys.org)
- I will present for about 60 minutes, Wilson will do about 20 and the remaining time will be for questions.



# ***THE BIG QUESTION***

- Skill: A behavior that is learned from the environment.
- Ability: A behavior that is biologically encoded in the brain.





# What Does Neurobiological Mean?

- Stephen Pinker – “The Blank Slate: The Modern Denial of Human Nature”, or better stated, “the Lie of the Blank Slate”.

Pinker, S. (2002). The Blank Slate: The Modern Denial of Human Nature. New York, NY: Viking.)

- “Although learning disabilities may be exacerbated by other variables, such as ineffective teaching strategies or socioeconomic barriers, this paper supports the position that the essence of learning disabilities is neurobiological in nature” (p. 61).

(Fiedorowicz, C., et.al. (2001). Neurobiological Basis of Learning Disabilities. Learning Disabilities, 11 (2), pp. 61-74.)

# Skills of Social Emotional Competence

- Awareness of own emotional state
- Awareness of other's emotional state
- Emotional use of words
- Ability to cope with emotional distress
- Ability to attend to the reaction of others

(Semrud-Clikeman, M. (Spring, 2003). Executive Function and Social Communication Disorders. Perspectives, 29 (2), p. 20-22.)

# Social Disorders

- Bryan estimated from 34% to 59 % of LD children are at risk for social interaction problems.

(Bryan, T. (1997). Assessing the Personal and Social Status of Students with Learning Disabilities. Learning Disabilities Research and Practice, 12 (1), pp. 63-76.)



# Social Disorders

- Over half of all AD/HD children will suffer social rejection because of social interaction problems.
- Impulsivity?

(Barkley, R.A. (1998). Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment, Second Edition. New York, NY: Guilford, p. 191.)



# Social Disorders



- Regarding Nonverbal LD Ozonoff, et.al. (2002) wrote, “Many children with NLD have trouble reading the emotions of others and have other social difficulties...” (p. 162).

Ozonoff, S., Dawson, G., McPartland, J. (2002). A Parent's Guide to Asperger Syndrome & High Functioning Autism. New York, NY: Guilford.



# Social Disorders



- “The Core Problem with autism is their social disability” (Klin, 2001).

Klin, A. (2001). Autism, Asperger's and the PDD Spectrum. Seminar presented at the 33<sup>rd</sup> Annual Arizona Association of School Psychologists Conference, “Across the Spectrum”, October 11 and 12, 2001, Mesa, AZ.

# Neurosocial Disorder

- Rosen and Bartak broke down social interaction into three parts (which are intertwined):
  - **Social Perception:** The ability to perceive social interactions.
  - **Social Interpretation:** How we understand social interaction after it is perceived.
  - **Social Skills:** Emotional, cognitive, verbal and nonverbal ways we socially behave.

(Rosen, W., and Bartak, J. (2002). Distinguishing Features of Social Deficits in children with Neurobiological Disorders. Learning Disabilities Association International Conference, January 15, Denver, CO.)

# Neurosocial Disorders

- So many of us are so well wired to pick up proper social behavior intuitively we have overlooked those who don't and need explicit training in social interactions and have viewed them as just misbehaving.
- “*Neurosocial Disorders*” = “Social Learning Disabilities”

(Rosen, W., and Bartak, J. (2002). Distinguishing Features of Social Deficits in children with Neurobiological Disorders. Learning Disabilities Association International Conference, January 15, Denver, CO.)

# Neurosocial Disorder

- With Neurosocial Disorders you must match etiology to treatment.

(Rosen, W., and Bartak, J. (2002). Distinguishing Features of Social Deficits in children with Neurobiological Disorders. Learning Disabilities Association International Conference, January 15, Denver, CO.)

# Subtypes of Social Difficulties

1. AD/HD typically associated with Oppositional Defiant Disorder, or Conduct Disorder
2. Autism Spectrum/Asperger's Disorder/NVLD
3. AD/HD only

(Voeller, K.S. (1994). Techniques for Measuring Social Competence in Children. In R.G. Lyon (Ed.), Frames of Reference for the Assessment of Learning Disabilities: New Views on Measurement Issues. Baltimore, MD: Paul H. Brookes, pp. 523-554.)



# Social Learning Disabilities

- LD children are less socially competent and less well liked.
- Typical social cognitive problems:
  - Interpretation and perception of faces, tone of voice, gesture and body language.
  - Poor at social inference and poor social judgment

(Wren, C. (2000). Hanging By A Twig. New York, NY: Norton.)

# Brain Areas Related to Social Interaction

Schultz and Klin (in press) indicated the following brain areas control the following social behaviors:

**Frontal lobe**: Theory of mind and social perception

**Hypothalamus**: Maternal behavior

**Amygdala**: Arousal, Emotional Learning, Social orienting, Recognition of emotional significance

**Fusiform gyrus**: Face perception

**Temporal lobe**: Interpretation of biological movement, Recognition of facial expressions

Schultz, R.T., & Klin, A. (in press). Social Systems of the Brain: Evidence From Autism and Related Disorders. Philosophical Transactions of the Royal Society, Series B. (taken from: Ozonoff, S., Dawson, G., and McPartland, J. (2002). A Parent's Guide to Asperger Syndrome & High-Functioning Autism. New York, NY: Guilford, p. 58.).

# Brain Areas Related to Social Interaction

- Voeller believed all the above mentioned systems are located in their own specific brain areas.
- Impairment in one area does not necessarily mean impairment in other areas.

Voeller, K.K.S. (1995). Clinical Neurological Aspects of the Right-Hemisphere Deficit Syndrome. Journal of Child Neurology, 10 (Suppliment Number 1), pp. S16-S22.)

# *Emotional Intelligence*



- Lane wrote, “Emotional Intelligence may be broadly defined as the ability to use emotional information in a constructive and adaptive manner.” (p. 2).

(Lane, R.L. (2000). Neural Correlates of Conscious Emotional Experience. In R. L. lane, L. Nadel, G. Ahern, J. Allen, A. Kazniak, S. Rapcsak, and G. Schwartz (Eds.), Cognitive Neuroscience of Emotion. New York, NY: Oxford University Press, pp. 345-370.)

# *Emotional Intelligence*

- Daniel Coleman stated that emotional intelligence is intricately imbedded in the human neuroanatomy.

(Coleman, D. (1997). Emotional Intelligence: Why It Can Matter More Than IQ. New York, NY: Bantam.)





# *Emotional Intelligence*

- A prerequisite for empathy is an awareness of one's own emotions.

(Lane, R.L. (2000). Neural Correlates of Conscious Emotional Experience. In R. L. lane, L. Nadel, G. Ahern, J. Allen, A. Kazniak, S. Rapcsak, and G. Schwartz (Eds.), Cognitive Neuroscience of Emotion. New York, NY: Oxford University Press, pp. 345-370.)



# *Emotional Intelligence*



- Reif et. al. wrote, “Studies have indicated that many students with LD have difficulty with being flexible, being willing to change , and developing large repertoires of behavioral response...clearly, adaptability is a desirable behavior in many aspects of adult life” (p. 75).

(Reiff, H.B., Hatzes, N.M.Bramel, M.H., and Gibbon, T. (2001). The Relation of LD and Gender with Emotional Intelligence in College Students. Journal of Learning Disabilities, 34 (1), pp. 66-68.)

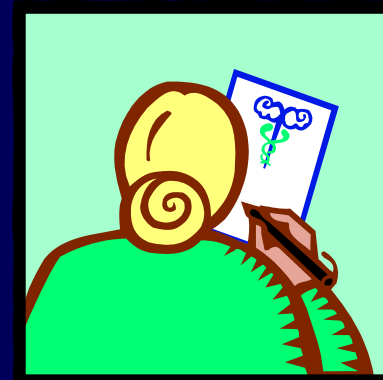
# *Emotional Intelligence*



- AD/HD Children live a lifetime of social rejection.
- Over 50% of children with AD/HD have poor social skills.
- AD/HD children often are not aware of their poor social skills and blame other for their problems.

(Barkley, R.A. (1998). Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment, Second Edition. New York, NY: Guilford, pp. 191-192.)

# Simon Baron-Cohen and Emotional Intelligence



- Autism may be an extreme form of the biological male personality.
- Males are into *Systematizing (S)*, or understanding things.
- Females are into *Empathizing (E)*, or understanding people.
- Those with Autism (mostly males) have no *Empathizing*, but are strong in *Systematizing*.
- The *E-S Spectrum*

Cowley, G. (September 8, 2003). Girls, Boys and Autism. Newsweek, pp. 42-50.

Baron-Cohen, S. (2003). The Essential Difference. New York, NY: Pereus.

# Dyslexia and Gender



- Sally Shaywitz (1996) reported:
  - Women's brains appear to have bilateral phonological processing.
  - This may explain why women tend to have fewer language deficits after left brain strokes.
  - It may also explain why more women than men compensate for dyslexia

Shaywitz, S.E. (1996). Dyslexia. Scientific American, 275 (5), pp. 98-104.





# AD/HD and Gender

- Quinn and Nadeau (2002) believe there should be female symptoms for AD/HD.
- Goldstein and Gordon (2003) say there is no research to justify this.
- ***But, AD/HD girls suffer more socially than AD/HD boys.***

Quinn, P. O., and Nadeau, K.G. (2002). Gender Issues and AD/HD. Silver Spring, MD: Advantage.

Goldstein, S. and Gordon, M. (August, 2003). Gender Issues and ADHD: Sorting Fact From Fiction. ADHD Report, 11 (4), 7-11, 16.

Langer, H. (2002). Role Expectations. In P.O. Quinn and K.G. Nadeua (Eds.), Gender Issues and AD/HD. Silver Spring, MD: Advantage, pp. 70-80.

# What is Alexithymia?



1. Tend not to have fantasies, no feelings, and sharply limited emotional vocabulary.
2. They have colorless dreams.
3. They cannot tell bodily sensations from emotions and are baffled by them.
4. They cannot make decisions because they have no “Gut Feelings”

(Coleman, D. (1995). Emotional Intelligence: Why It Can Matter More Than I.Q. New York, NY: Bantam.)

# Alexithymia



Lane wrote, “Several neuroimaging studies reveal that an area of the medial prefrontal cortex very close to that identified in our attention to emotional experience study has been implicated during the performance of theory of mind tasks...these findings suggest that the neural substrates of the mental representation of one’s own and other’s mental states are closely related” (p. 18). Lane continued that several studies of brain injured individuals when coupled with the above appeared to indicate, “...that successful social adaptation requires the ‘dual task’ ability to stay in touch with the needs of others while paying due attention to one’s own needs” (p. 20).

(Lane, R. (2000). Neural Correlates of Conscious Emotional Experience. In L.R. Lane, et. al. (Eds.), Cognitive Neuroscience of Emotion. New York, NY: Oxford University Press, pp. 345-370.)

# Alexithymia MAY BE A NEUROBIOLOGICAL DISORDER!

***25% OF THOSE WITH  
AD/HD HAVE  
ALEXITHYMIA.***

(Ratey, J.J., Hallowell, E.M., and Miller, A.C. (1995). Relationship Dilemmas for Adults with ADD: The Biology of Intimacy. In K. Nadeau (Ed.), A Comprehensive Guide to Attention Deficit Disorder In Adults. New York, NY: Bruner Mazel, pp. 218-235.)



# How To Treat Alexithymia

- Lane and Schwartz did extensive research into matching the emotional awareness of patients to the type of psychotherapy and psychopharmacology. Together they came up with the following to determine which types of interventions works best with which patients.





# Treatments Connected to Emotional Level

5. Prefrontal Cortex-  
Blends of Blends of  
Emotion-Existential  
Crisis-Existential,  
Insight therapy
4. Paralimbic-Blends of  
Emotion-Neurosis-  
Insight Therapy
3. Limbic-Discrete  
Emotion-Persistent  
conscious distress (e.g.,  
anxiety)-Cognitive  
therapy
2. Diencephalon-Action  
Tendencies-Impulsive or  
compulsive behavior-B  
Mod, Movement  
Therapy, Physical  
restraint

# Treatments Connected to Emotional Level

1. Brainstem-Visceral  
Activation-Somatic  
distress-  
Pharmacological,  
biofeedback,  
relaxation.

(Lane, D.D., and Schwartz, G.E. (1992). Levels of Emotional Awareness: Implications for Psychotherapeutic Integration. Journal of Psychotherapy Integration, 2 (1), pp. 1-18 [From reprint]).



# Professionals Who Can Help With Alexithymia

- Psychologists-American Psychological Association: [www.apa.org](http://www.apa.org)
- Psychiatrists-American Psychiatric Association: [www.apa@psych.org](http://www.apa@psych.org)
- Social Workers-National Association of Social Workers: [www.naswdc.org](http://www.naswdc.org)
- Counselors-National Board of Certified Counselors: [www.nbcc@nbcc.org](http://www.nbcc@nbcc.org)

# Professionals Who Can Help With Alexithymia (Continued)

- Behavioral Neurology-American Medical Association: [www.ama-assn.org](http://www.ama-assn.org) . Also try: [www.neurologychannel.com/mdlocator/specialist.shtml](http://www.neurologychannel.com/mdlocator/specialist.shtml)
- Speech Language Pathologist-American Speech-Language Hearing Association: [www.professional.asha.org](http://www.professional.asha.org)



# *RELAX*





# Dyslexia and The Cerebellum

Allen indicated neuroimaging studies indicate the Cerebellum is involved in the following functions:

- Attention
- Forms of Learning
- Memory tasks
- Conditional anxiety
- Complex reasoning and problem solving
- Sensory and Motor Tasks

(Allen, G. (March 11, 1998). Functional Diversity of the Cerebellum. Paper presented at the New Angles on Motor and Sensory Coordination in Learning Disabilities Topical Medical Workshop; Learning Disabilities Association, International Conference, Washington, DC; Informedia, tape R130-W1A, Garden Grove, CA.)

Kevin T. Blake, Ph.D., P.L.C. & C. Wilson Anderson, Jr., M.A.T.

# Dyslexia and The Cerebellum

*80% of dyslexics show signs of cerebellar problems!*

(Fawcett, A.J., Nicolson, R.I. (2001). Dyslexia and The Role of The Cerebellum. In A.J. Fawcett (Ed.), Dyslexia: Theory & Good Practice. Philadelphia, PA: Whurr, pp. 89-105.)

# Dyslexia and The Cerebellum

- Automaticity is the problem!
- When multitasking and rapid processing are needed
- Thinking is a frontal lobe function
- It is a problem of fluency
- “...fluency is in essence the ability to repeat previous actions or thoughts more and more quickly without conscious thought” (p. 101).

(Fawcett, A.J., Nicolson, R.I. (2001). Dyslexia and The Role of The Cerebellum. In A.J. Fawcett (Ed.), Dyslexia: Theory & Good Practice. Philadelphia, PA: Whurr, pp. 89-105.)

# Dyslexia and The Cerebellum

## *Nicolson Said Bottom Line:*

“...That means if you have a task that takes 4 hours for the non-dyslexic kid to learn, it will take twice as long for the dyslexic kid; 8 hours. But, its not linear. You have a task which takes 100 hours it will take 10 times as long. If you have a task that takes 10,000 hours it will take 100 times as long, and so on...Therefore if you have something like reading, writing and spelling which takes 100s...”

# Dyslexia and The Cerebellum

“...of hours that’s the sort of thing in which dyslexic children are particularly adversely affected.”

(Nicolson, R., and Fawcett, A. (November, 2000). Dyslexia The Cerebellum and Phonological Skill . Paper presented at the International Dyslexia Association Annual Conference, Washington, DC.)

# European Perspectives of AD/HD

## ***Disorder of Attention Motor Control and Perception (DAMP):***

Swedish researchers have been doing longitudinal research since 1977 with a group of children with AD/HD and Developmental Coordination Disorder which they view as one disorder called DAMP. At age 22 30% of the children still met criteria for AD/HD and DCD.

(Gillberg, C. (2001). ADHD with Comorbid Developmental Coordination Disorder: Long-Term Outcome in a Community Sample, ADHD Report, 2 (2), pp. 5-9)

(Gillberg, C., and Kadesjo, B. (2000). Attention-Deficit/Hyperactivity Disorder and Developmental Coordination Disorder. In T.E. Brown (Ed.), Attention-Deficit Disorders and Comorbidities in Children, Adolescents and Adults. Washington, DC: American Psychiatric Press, pp. 393-406.)



# Exhaustion and Learning Disorders

Roffman wrote, “One final ongoing issue that is worthy of mention for many with LD/ADHD is the problem of fatigue. The extra effort required to cope with the continued social and academic demands of schooling can be chronically exhausting” (p. 217).

(Roffman, A.J. (2000). Meeting The Challenge of Learning Disabilities In Adulthood. Baltimore, MD: Brookes.)

# Mr. Waterman's Lost 6<sup>th</sup> Sense

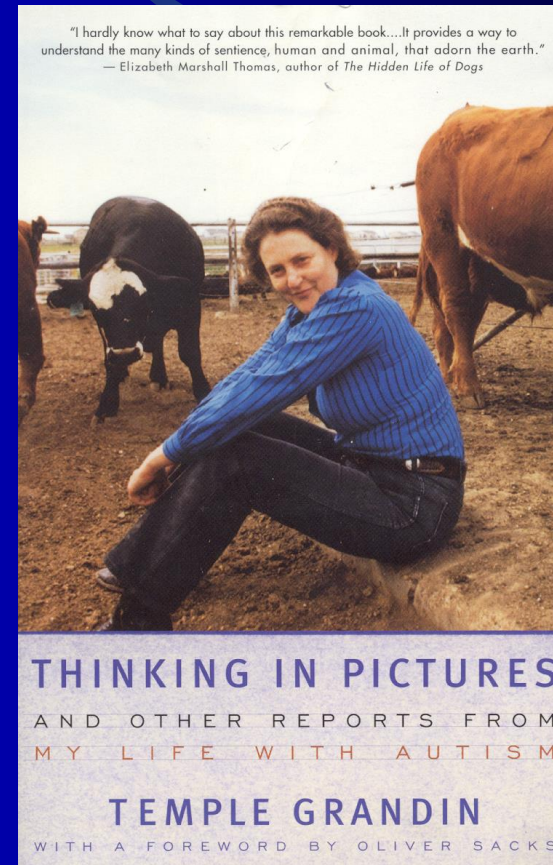
- What is our 6<sup>th</sup> sense?
- Proprioception
- “No one understood what was wrong or why my life was such a struggle...Sometimes I wonder. It's been a huge mental drain on me and still takes an awful lot of cognitive energy to maintain my movements” (p. 18).

(Azar, B. (June, 1998). Why Can't This Man Feel Whether or Not He's Standing Up? Monitor of the American Psychological Association, 29 (6), pp. 48-49.)

# Observation of an Autistic Genius:

- Temple Grandin said for those with autism spectrum disorders social adaptation must occur on a conscious level.
- I believe the same is true for many with Dyslexia, AD/HD, NVLD, etc.

(Grandin, T. (1995). Thinking in Pictures and Other Reports from my Life with Autism. New York, NY: Vintage.)



# Anxiety and Learning Disorders

Roffman wrote, “Adults with LD/ADHD often experience pressure as they work to cope with their symptoms. Anxiety develops out of such day-to-day occurrences as the loss of yet another set of keys...” (p. 49).

(Roffman, A.J. (2000). Meeting The Challenge of Learning Disabilities In Adulthood. Baltimore, MD: Brookes.)

# Kevin T. Blake, Ph.D., P.L.C.'s Observation

- “If you have a neurosocial deficit (i.e., in the brain hardware for social interaction) you are forced to create software to compensate for it. That’s hard and takes time and energy. It also takes an action which is for most people unconscious and makes it conscious, hence it will never be as “automatic and efficient” as an ability...”

# Kevin T. Blake, Ph.D., P.L.C.'s Observation (Continued)

- “...Such compensation skills divide attention and make tasks which are by their nature not conscious more onerous and less efficient creating frustration. When additional stimuli is added on an unpredictable basis this requires a cognitive shift and these learned skills tend to break down which may lead to a feeling of vulnerability and anxiety...”



# Kevin T. Blake, Ph.D., P.L.C.'s Observation (Continued)

- “...People with such disabilities tend to fatigue faster in social situations and perform cognitively less efficiently when engaged in their social “skills” compensations.
- A source of frustration and anxiety for individuals with these deficits is most peoples’ social interactions are automatic because they do not have these deficits and they frequently do not understand the struggles of those who must socialize on a cognitive level.”

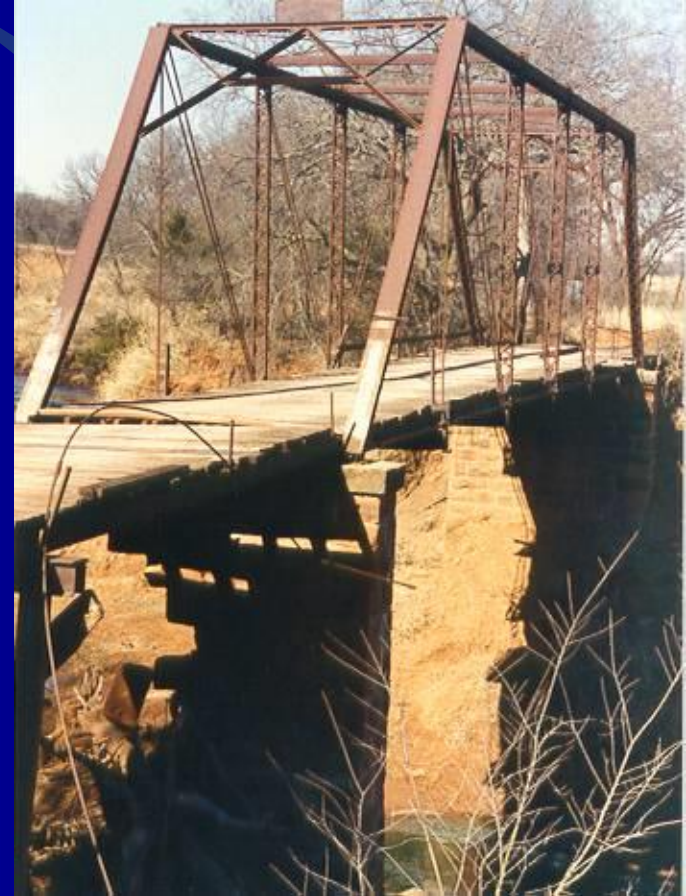
# Reading Disorder-Dyslexia

The Symptoms of Dyslexia are:

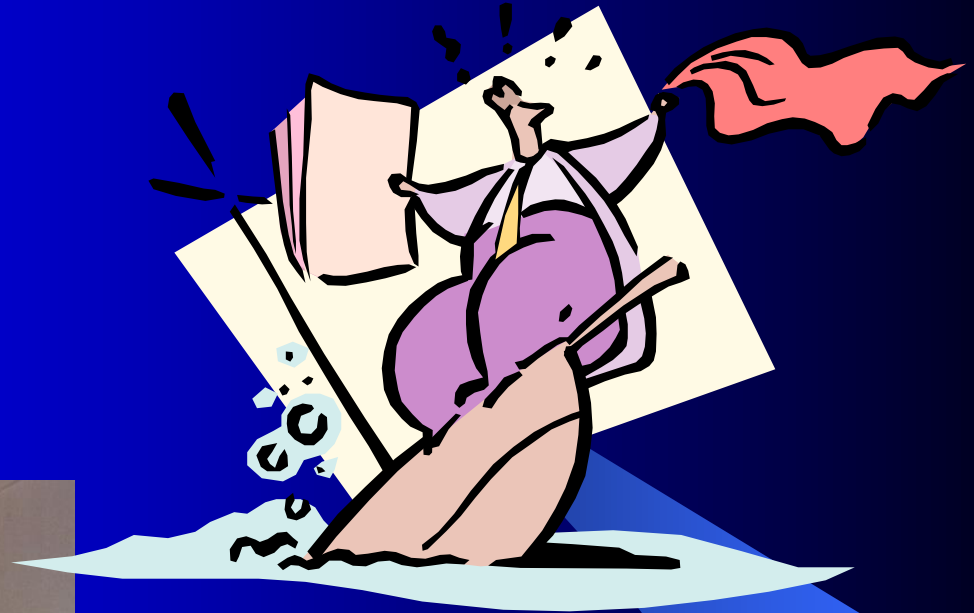
1. Weak Phonemic Awareness
2. Slow Rapid Automatized Naming
3. Poor Orthographic Processing
4. Exceptionally Poor Automatization
5. Poor Coordination

(Fawcett, A.J. (2001). Dyslexia: Theory & Good Practice. Philadelphia, PA: Whurr.)

(Blake, K.. (2003) Personal Observation)



# Social Anxiety /Shyness



- Fight or Flight Response

Benson, H. (1983). The Relaxation Response. New York, NY: Outlet Books.

Benson, H. (1994). Beyond The Relaxation Response. New York, NY: Berkley Books.

# *Fight or Flight Response Vs. Tend and Befriend Response*



- *Shelley Taylor, Ph.D.*

Taylor, S.E. (2002). The Tending Response.  
New York, NY: Holt.

# Those at Risk for Social Phobia

- Learning Disabled
- Those with AD/HD
- Those with NVLD
- Those with Asperger's Disorder



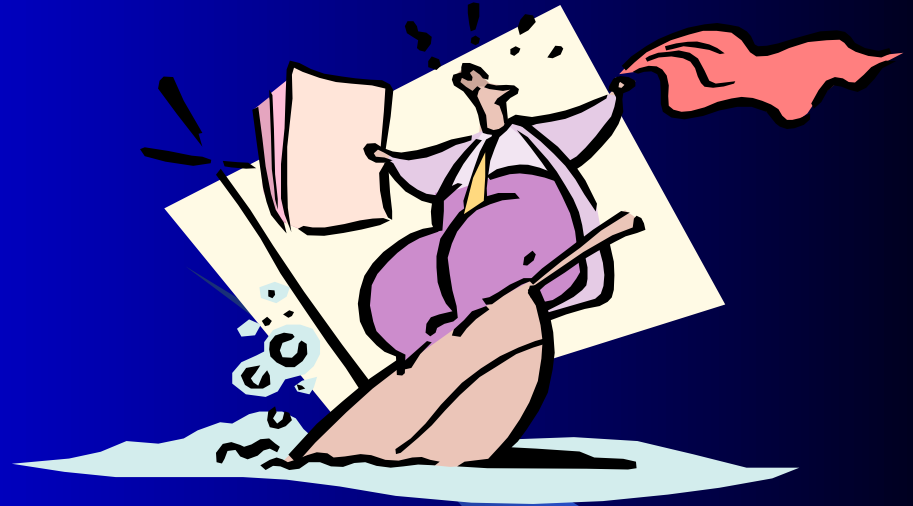
Spren, O. (1988). Learning Disabled Children Grow-Up: A Follow-Up Into Adulthood. New York, NY: Oxford Press.

Murphy, K.R. , and Le Vert, S. (1995). Out of The Fog: Treatment Options and Coping Strategies for Adults with Attention Deficit Disorder. New York, NY: Hyperion.

Hooper, S.R., and Olley, J.G. (1996). Psychological Comorbidity in Adults with Learning Disabilities. In N. Gregg, C. Hoy, and A.F. Gay (Eds.), Adults with Learning Disabilities: Theoretical and Practical Perspectives. New York, NY: Guilford, pp. 162-183.

McAfee, J. (2002). Navigating the Social World: A Curriculum for Individuals with Asperger's Syndrome, High Functioning Autism and Related Disorders. Arlington, TX: Future Horizons.

# Social Anxiety/Shyness



- 10 to 15% of newborns have an inherited enhanced startle response
- A 20 year follow-up study of such children with fMRI imaging indicated they are still shy neurologically, especially to strangers.

Zimbardo, P.G. (2000). The Personal and Social Dynamics of Shyness: Adults and Children. Paper presented at the 50<sup>th</sup> Annual Arizona Psychological Association Conference, October 21, 2000, Tucson, AZ.

Jozefowicz, C. (2003). Once Shy, Always Shy?, Psychology Today, 36 (5), p. 27.



# Treatment of Social Anxiety/Shyness

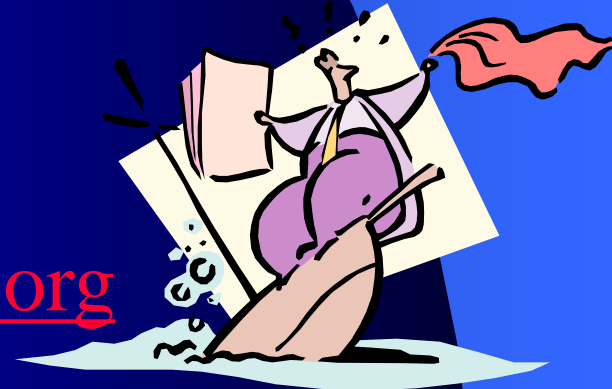


- Zimbardo (2000) described a 26 week treatment program at his shyness clinic That includes the following: Cognitive Behavior Modification, Support Groups, Medications, Video Social Skills Training, etc.
- [www.shyness.com](http://www.shyness.com) and [www.shynessinstitute.com](http://www.shynessinstitute.com)

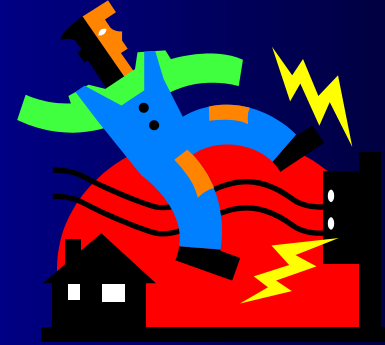
Zimbardo, P.G. (2000). The Personal and Social Dynamics of Shyness: Adults and Children. Paper presented at the 50<sup>th</sup> Annual Arizona Psychological Association Conference, October 21, 2000, Tucson, AZ.

# People Who Can Help With Social Anxiety/Shyness

- American Psychiatric Association:  
[www.apa@psych.org](http://www.apa@psych.org)
- American Psychological Association:  
[www.apa.org](http://www.apa.org)
- National Board of Certified Counselors:  
[www.nbcc@nbcc.org](http://www.nbcc@nbcc.org)
- National Association of Social Workers: [www.naswdc.org](http://www.naswdc.org)



# Memory Disorders



- Dysnomia:

- “...is a word-finding problem in remembering and expressing words” (p. 373).
- “Dyslexic people are slower at naming series of various types of familiar stimulus items—objects, colors, numbers, letters” (p. 29).
- This is part of the Rapid Automatized Naming Deficit, or “Double Deficit” of dyslexia

(Lerner, J. (1997). Learning Disabilities: Theories Diagnosis, and Teaching Strategies, 7<sup>th</sup> Edition. Boston, MA: Houghton Mifflin.)

(Clark, D.B. (1988). Dyslexia: Theory and Practice of Remedial Instruction. Parkton, MD: York.)

(Wolf, M., and O’Brien, B. (2001). On Issues of Time, Fluency, and Intervention. In A.J. Fawcett (Ed.), Dyslexia: Theory and Good Practice. Philadelphia, PA: Whurr, pp. 124-140.)

# Memory Disorders



- Remembering Faces:
  - *Prosopagnosia*: Inability to recognize faces, even one's own face" (p. 1168).

(Taber's (1981). Taber's Cyclopedic Medical Dictionary. Philadelphia, PA:F.A. Davis)

# Memory Disorders



- Remembering Faces:
  - This is an important ability for survival.
    - It lets you know “friends and foes”.
    - It helps you maintain relationships.
    - It helps you remember the social status of others.

(Ratey, J.J. (2001). A User's Guide to the Brain: Perception, , attention and the Four Theaters of the Brain. New York, NY: Vintage.)

# Memory Disorders



- Remembering Faces:
  - LD and AD/HD people often have problems remembering faces.

(Roffman, A.J. (2000). Meeting The Challenge of Learning Disabilities In Adulthood. Baltimore, MD: Brookes.)





# Memory Disorders



- Remembering Faces:
  - The non-disabled are “pre-wired” to find the human face and voice the most important stimuli in the world.
  - Those with Autism cannot learn through imitation. They copy behavior.
  - Those with Asperger’s Disorder don’t look at the eyes they look at the mouth.

(Klin, A. (October 11-12, 2001). Autism, Asperger’s and the PDD Spectrum. Seminar presented at the 33<sup>rd</sup> Annual Arizona Association of School Psychologists Conference, Mesa, AZ.)

(Volkmar, F.(April 23, 2003). Asperger Syndrome: Clinical Features, Assessment, and Intervention Guidelines. Seminar presented by New England Educational Institute, Phoenix, AZ)

# Executive Memory Function Problems



- Working Memory:
  - “...denotes a person’s information-processing capacity” (p. 4-5)
  - Is the “memory buffer in the brain”
  - It allows for “theory of mind”

(Wechsler Adult Intelligence Scale- Third Edition, Wechsler Memory Scale-Third Edition (1997). Technical Manual. San Antonio, TX : Psychological Corporation.)

(Brown, T. E. (October 11, 2001). Assessment and Treatment of Complicated ADHD Across the Lifespan. Seminar Presented at the Arizona Association of School Psychologists 33<sup>rd</sup> Annual Conference, Mesa, AZ.)

(Frith, C. D. and Frith, U. (1999). Intersecting Minds-A Biological Basis. Science, 286, pp. 1692-1695.)

# Executive Functioning and Social Abilities



- Stage 1: Problems Encoding Social Information-EF level-Traditional Social Skills programs typically don't work because the child cannot connect behavior to the situation.
- Stage 2 and afterward: Problems generating responses-easier to remediate with Traditional Social Skills programs.

(Semrud-Clikeman, M. (Spring, 2003). Executive Function and Social Communication Disorders. Perspectives, 29 (2), p. 20-22.)

# Working Memory and AD/HD



- “AD/HD kids are not ‘clueless’. They’re ‘cueless’.”



(Goldstein, S. (November 20, 1998).  
Pathways to Success: Evening the Odds in the Treatment of Attention-Deficit Hyperactivity Disorder. Seminar presented in Tucson, AZ.)

# EF and AD/HD



- It appears the problems those with AD/HD have with academic achievement, and social communication and behavior are related to EF difficulties.
- This does not appear to be the case in those with ODD and/or CD without AD/HD.

(Clark, C., Prior, M., and Kinsella, G. (2002). The Relationship Between Executive Function Abilities, Adaptive Behavior, and Academic Achievement in Children with Externalizing Behavior Problems, Journal of Child Psychology and Psychiatry, 43, p. 785-796. From: (June, 2003). Executive Function and Communication Difficulties May Contribute to Adaptive Behavior Problems. ADHD Report, p. 12-13.)

# Summary of Barkley's Theory

Step 1: *Response Delay*

Step 2: *Prolongation*

Step 3: *Rule Governed Behavior*

Step 4: *Dismemberment of the Environment*

Barkley, R.A. (1997). ADHD and the Nature of Self-Control. New York, NY: Guilford.





# Treatments For Memory Disorders

- Mnemonics-memory tricks
- Diaries and Social Statements for help
- Technology-Watchminder watch, etc.-  
[www.addwarehouse.com](http://www.addwarehouse.com)
- Nootropic Medications-Piracetam, etc.

Nosek, K. (1997). Dyslexia in Adults: Taking Charge of Your Life. Dallas, TX: Taylor.

Smith, L. And Godfrey, H.D.P. (1995). Family Support Programs Rehabilitation: A Cognitive-Behavioral Approach to Traumatic Brain Injury. New York, NY: Plenum.

Barkley, R.A. (1998). Attention Deficit Hyperactivity Disorder (Second Edition). New York, NY: Guilford.

Goldstein, S. and Goldstein, M. (1997). Drugs Affecting Learning, Attention, and Memory. In S. Goldstein (Ed.), Managing Attention and Learning in Late Adolescence & Adulthood: A Guide for Practitioners. New York, NY: John Wiley & Sons, pp. 327-373.

# Professionals Who Can Help with Memory

- AD/HD Coach: [www.addbrain.com](http://www.addbrain.com)
- Professional Organizer: [www.napo.net](http://www.napo.net)
- Psychiatrists: [www.apa@psych.org](http://www.apa@psych.org)
- Psychologists: [www.apa.org](http://www.apa.org)
- Masters Level Counselors: [www.nbcc.org](http://www.nbcc.org)
- Social Workers: [www.naswdc.org](http://www.naswdc.org)
- Behavioral Neurologists: [www.ama-assn.org](http://www.ama-assn.org)
- Speech-Language Pathologists: [www.professional.asha.org](http://www.professional.asha.org)

# Treatments for Remembering Faces



- Consult with a Behavioral Neurologist and Neuro-Ophthalmologist: [www.ama-assn.org](http://www.ama-assn.org)
- Try aforementioned list of professionals who can help with memory problems.
- Simon Baron-Cohen stated the CD-ROM Mind Reading – An Interactive Guide To Human Emotions may be helpful.

Baron-Cohen, S. (2002). Mind Reading – An Interactive Guide To Human Emotions. London, England: Human Emotions, Ltd.



# Visual Spatial Processing Disorders



- Nonverbal Learning Disorders:
- Learning Disorders break down into two types:
  1. ***Auditory Verbal Processes:*** Reading and Language Disorders
  2. ***Visual, Perceptual Motor (Nonverbal) Processes:*** Problems in social interaction, math and coordination, etc.

Goldstein, S. (1997). Managing Attention and Learning Disorders in Late Adolescence & Adulthood: A Guide for Practitioners. New York, NY: John Wiley and Sons, pp. 23-24.

# Nonverbal Learning Disorder

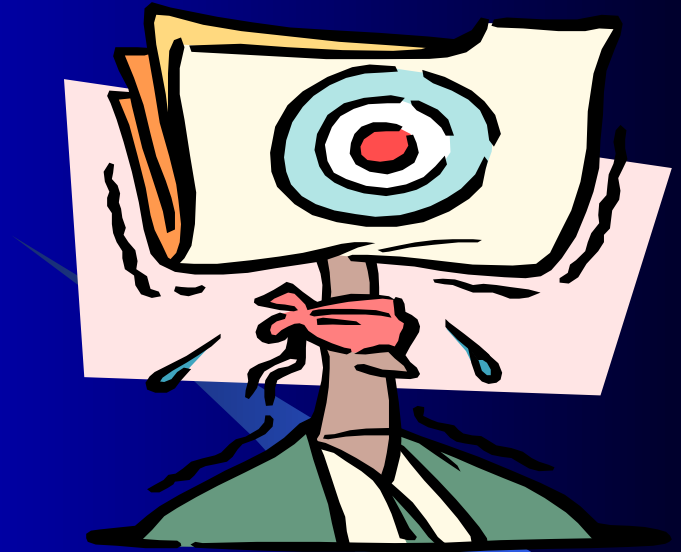


- Approximately 80% of those with Learning Disorders have Reading Disorder/Dyslexia (Shaywitz, 2003).
- 1-2% of population have NVLD exclusively and about 30% have “Mixed” language LD and NVLD (Berg and Stockdale, 2000).

Shaywitz, S. (2003). Overcoming Dyslexia. New York, NY: Knoph.

Berg, M., and Stockdale, C. (2000). Teaching the Language of Space & Time. Paper presented at the International Dyslexia Association 51<sup>st</sup> Annual Conference, November 8-11, 2000, Washington, DC.

# Visual-Spatial Processing Disorders



- Emotional Facial Expression Recognition:
  - “Does this mean we come into the world expecting to see human faces and ready to respond with our own prewired facial expressions? Yes!” (Ratey, 2001, p. 300).

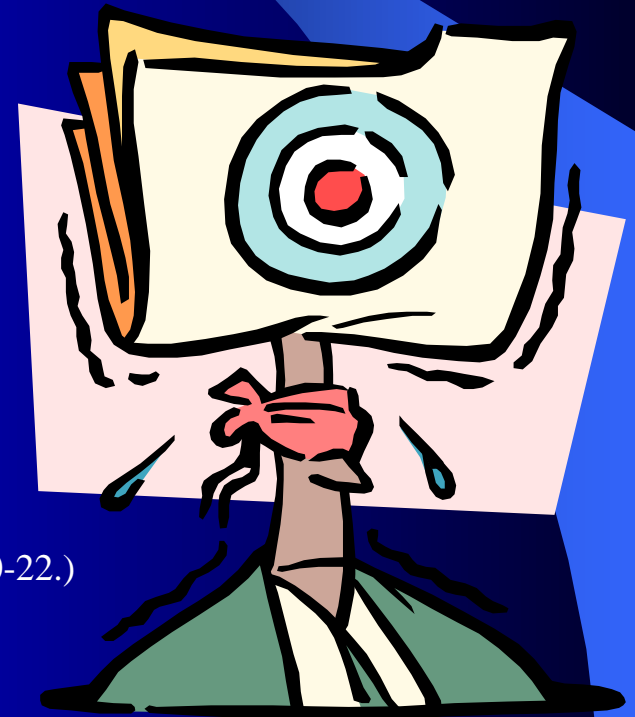
Ratey, J. J. (2001). A User's Guide to the Brain: Perception, Attention, and the four Theaters of the Brain. New York: NY: Vintage.



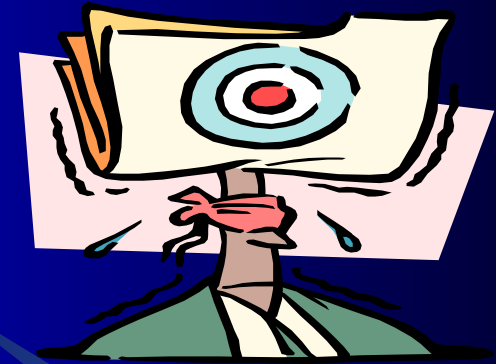
# Facial Expression and Social Ability

- Positive emotions are the easiest to decode.
- Negative emotions are the most difficult.
- Poor interpreters of facial expression have less acceptance and poorer adjustment.

(Semrud-Clikeman, M. (Spring, 2003). Executive Function and Social Communication Disorders. Perspectives, 29 (2), p. 20-22.)



# Facial Expression and Social Ability

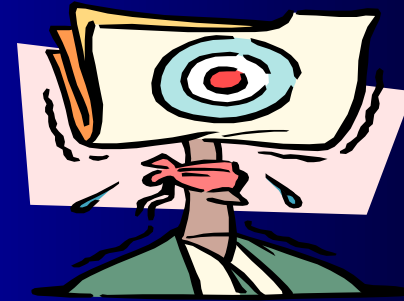


- Most and Greenbank (2000) stated LD children are less accurate in identifying emotional expressions than non-LD children.
- Brown (2001) indicated AD/HD children are less accurate in facial expression identification than their non-AD/HD peers.

Most, T., and Greenbank, A. (2000). Auditory, Visual, and Auditory—Visual Perception of Emotions by Adolescents With and Without Learning Disabilities, and their Relationship to Social Skills. *Journal of Learning Disabilities*, 15 (4), pp. 171-178.

Brown, T. E. (2001). Social Ineptness & “Emotional Intelligence” in ADHD. Paper Presented at the 13<sup>th</sup> Annual Children and Adults With Attention Deficit Disorders International Conference, October 18-20 2001, Anaheim CA.

# Facial Expression and Social Ability

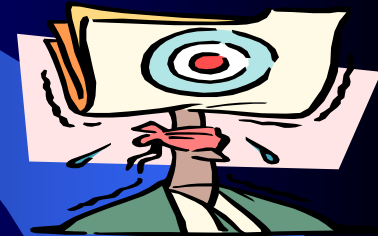


- Regarding the expression of facial expressions in children and adults with AD/HD Kuhle, Hoch, Rautzenberg, and Jansen (2001) concluded, “Altogether, the movements, like the facial expressions, are uncontrolled and jerky and are often wrongly dimensioned in time and space” (p. 6).

Kuhle, H.J., Hoch, C., Rautzenberg, P., and Jansen, F. (2001). Short-Term Video-Based Observation of Behavior with Special Reference to Eye-Contact, Facial Expression and Motor Activity in Diagnosis and Therapy of Attention Deficiency/ Hyperactivity Syndrome (ADHS). (First Published in): Praxis der Kinderpsychologie und Kinderpsychiatrie 50: 607-621. Obtained from: Kuehle, H. (October 17, 2002). Video Assisted Observation of Visual Attention and Motor Behavior for the Diagnosis and Determination of the Individual Stimulant Dosage in Children with AD/HD. Research Poster Session, 14<sup>th</sup> Annual CHADD International Conference, Miami Beach, FL.

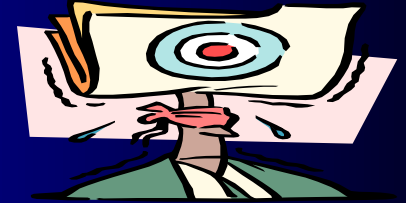
# Expressing Facial Expressions and AD/HD

- AD/HD childrens' eyes drift away from those they are in conversation with.
- This is usually associated with an interruption in the flow and fully registering the content of the conversation.
- Often parents feel rejected by AD/HD children when they do this.



Kuehle, H.J., Hoch, C, and Jansen, F. (2002). Video Assisted Observation of Visual Attention, Facial Expression of the Individual Stimulant Dosage and Motor Behavior for the Diagnosis and for the Determination in Children with AD/HD. Obtained from: Kuehle, H. (October 17, 2002). Video Assissted Observation of Visual Attention and Motor Behavior for the Diagnosis and Determination of the Individual Stimulant Dosage in Children with AD/HD. Research Poster Session, 14<sup>th</sup> Annual CHADD International Conference, Miami Beach, FL.

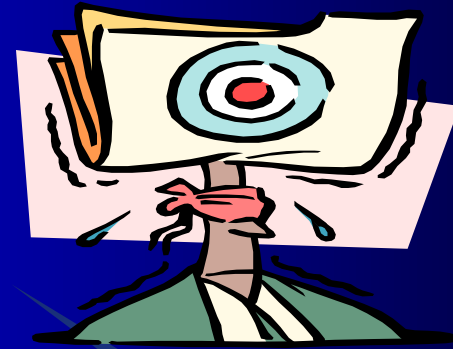
# Expressing Facial Expressions and AD/HD



- AD/HD children smile abruptly.
- There is little or no transition between emotional states.
- Sometimes their facial expression bleeds over into the next emotional state.
- Expression of emotion often appears exaggerated. The quality of expression can be limited due to this.
- Even body movements are jerky and uncontrolled.

Kuehle, H.J., Hoch, C, and Jansen, F. (2002). Video Assisted Observation of Visual Attention, Facial Expression of the Individual Stimulant Dosage and Motor Behavior for the Diagnosis and for the Determination in Children with AD/HD. Obtained from: Kuehle, H. (October 17, 2002). Video Assisted Observation of Visual Attention and Motor Behavior for the Diagnosis and Determination of the Individual Stimulant Dosage in Children with AD/HD. Research Poster Session, 14<sup>th</sup> Annual CHADD International Conference, Miami Beach, FL.

# Flirting and Social Abilities

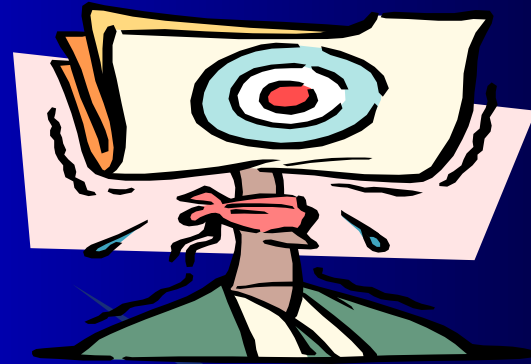


- "...a flirting plan is wired into us, and that it has been embedded in our genes and in our brain's operating system the same way and for the same reasons that every other sexual trait has been - by trial and error, with conservation of what works best" (Rodgers, 1999, p. 38).

Rodgers, J.E. (February, 1999). Fascinating Flirting. Psychology Today, 32 (1), 36-41, 64-65, 67, 69-70



# Flirting and Social Abilities



- Attwood's (1998) story of the man with Asperger's Disorder in a singles bar.
- Cordoni stated you need the same behaviors to get a job as you need to get a date.

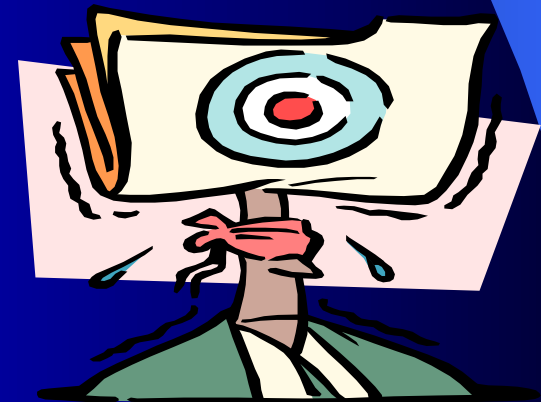
Attwood, T. (1998). Asperger's Syndrome: A Guide for Parents and Professionals. Philadelphia, PA: Jessica Kingsley.

Cordoni, B. (1987). Living With A Learning Disability. Carbondale, IL: Southern Illinois University Press.

# Treating Problems Reading Facial Expressions

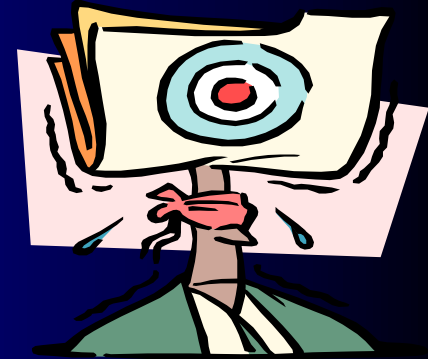
- Volkmar, F. (April 23, 2003). Asperger Syndrome: Clinical Features, Assessment, and Intervention Guidelines. Seminar presented by the New England Educational Institute, Phoenix, AZ.
- Gauthier, I. And Tarr, M.J. (1997). Becoming a “Greeble” Expert: Exploring Mechanisms for Face Recognition. Vision Research, 37 (12), 1673-1682.

## ● ***FACIAL EXPRESSIONS CAN BE TAUGHT!***



# Treating Problems

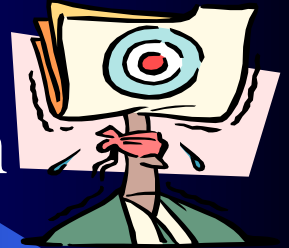
## Reading Facial Expressions



- Facial expressions can be taught!
- Gaining Face computer program ([www.cloder.com/gainingface/overview.html](http://www.cloder.com/gainingface/overview.html))
- Ekman tape ([www.paulekman.com](http://www.paulekman.com))
- Baron-Cohen: “Mind Reading – An Interactive Guide to Human Emotions (CD-ROM)”; [www.human-emotions.com/mindreading/default.asp](http://www.human-emotions.com/mindreading/default.asp)

# Possible Treatment of Problems with Facial Expression and AD/HD

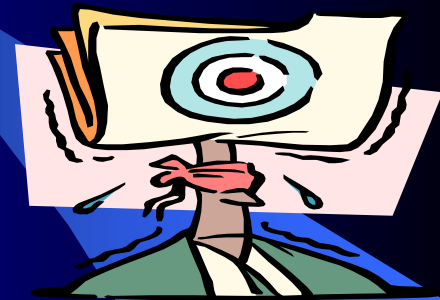
- Optimal dosing of a stimulant medication causes a significant reduction in visual attention loss.
- Facial expressions will become smooth and variable.
- Too high a dose can cause a return of the symptoms.
- Can properly ID 80% of the AD/HD children with video procedure.



Kuhle, H.J., Hoch, C., Rautzenberg, P., and Jansen, F. (2001). Short-Term Video-Based Observation of Behavior with Special Reference to Eye-Contact, Facial Expression and Motor Activity in Diagnosis and Therapy of Attention Deficiency/ Hyperactivity Syndrome (ADHS). (First Published in): Praxis der Kinderpsychologie und Kinderpsychiatrie 50: 607-621. Obtained from: Kuehle, H. (October 17, 2002). Video Assisted Observation of Visual Attention and Motor Behavior for the Diagnosis and Determination of the Individual Stimulant Dosage in Children with AD/HD. Research Poster Session, 14<sup>th</sup> Annual CHADD International Conference, Miami Beach, FL.

# How to Treat Flirting Difficulties

- Social Skills training by Mental Health Professionals and Speech-Language Pathologists (Websites on slide #37 and #38).
- Treat Neurosocial Comorbidities
- Future Prosthetic Devices (Azar, 2000)
- Try an “Emotional Seeing Eye Dog” (Grandin, 1995)



Azar, B. (2000). Two Computer Programs Face Off. Monitor on Psychology, 31 (1), pp. 48-49.

Grandin, T. (1995). Thinking in Pictures: And Other Reports From My Life with Autism. New York, NY: Vintage.

# Treatment of Visual-Spatial Processing Disorders



- “When Britt could talk through the task, she was successful even with space and time...’Verbally mediated. Yes! Britt was at a loss when she could not talk her way through space and time tasks. That must be a key!” (Stockdale; From: Neff, Lippman-Neff and Stockdale, 2002, p. 54).

(Neff, B., Neff-Lippman, J., and Stockdale, C. (2002). The Source for Visual-Spatial Disorders. East Moline, IL: LinguSystems,

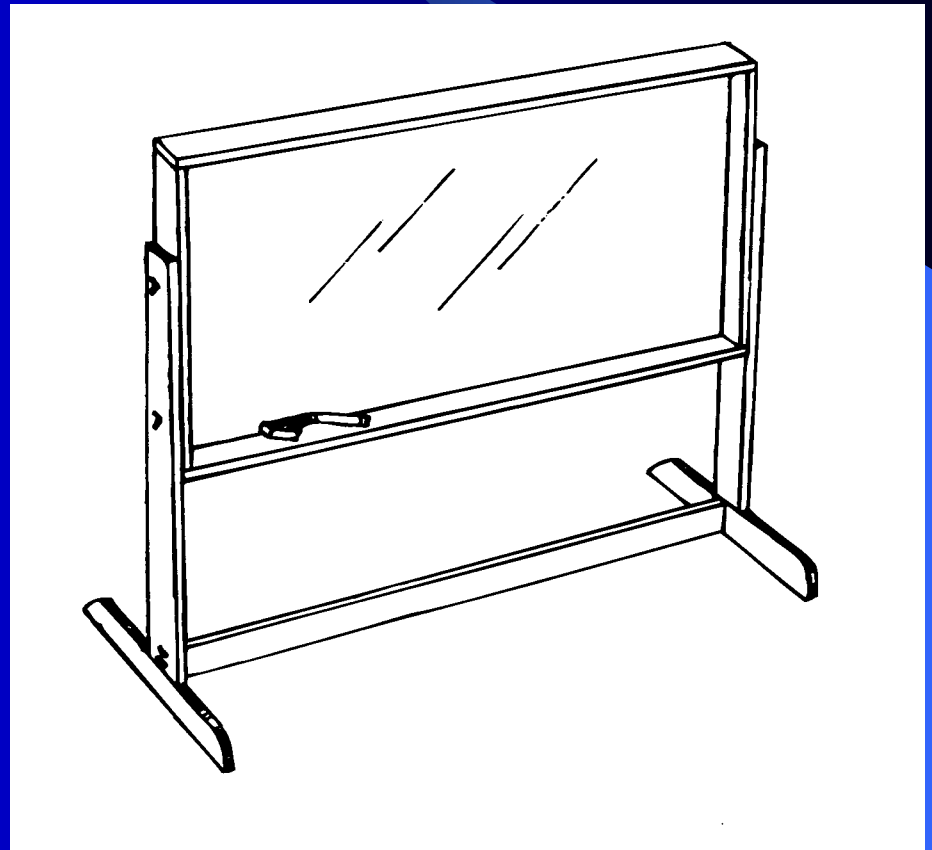


# ARK Foundation's Learning Window

(Neff, B., Neff-Lippman, J., and Stockdale, C. (2002). The Source for Visual-Spatial Disorders. East Moline, IL: LinguSystems, p. 176.)

ARK Foundation:

[www.ARKFd@aol.com](mailto:www.ARKFd@aol.com)



# NVLD Treatment Plan for Social Skills



- Verbal Mediation of Poor Visual-Spatial Abilities
  1. Describe pictures in detail verbally
  2. Teach the the relationship between objects and pictures
  3. Describe social interactions in movies
  4. Videotape child in social situation and teach from that

Rourke, B.P. (1995). Syndrome of Nonverbal Learning Disabilities: Neurodevelopmental Manifestations. New York, NY: Guilford.

# People Who Can Help with Visual-Spatial Processing Disorders

- American Speech-Language Hearing Association: [www.professional.asha.org](http://www.professional.asha.org)
- Behavioral Neurologist and/or Neuro-Ophthalmologist: [www.ama-assn.org](http://www.ama-assn.org)
- National Board of Certified Counselors: [www.nbcc@nbcc.org](http://www.nbcc@nbcc.org)
- National Association of Social Workers: [www.naswdc.org](http://www.naswdc.org)



# Central Auditory Processing Disorder



- “The inability to understand spoken language in a meaningful way in the absence of what is commonly considered a hearing loss” (Sineps and Hunter, 1997).
- “...auditory processing disorders can coexist with hearing loss...” (Bellis, 2002).

Sineps, D., and Hunter, L. (1997). I Can Hear But...When Auditory Perception and Listening Break Down: Implications For Language and Reading. Paper presented at the International Dyslexia Association Annual Conference, Minneapolis, MN, November 13, 1997, Session T-45.

Bellis, T.J. (2003). When The Brain Can't Hear: Unraveling The Mystery of Auditory Processing Disorder. New York, NY: Atria, p. 22.

# Central Auditory Processing Disorder



- “A deficiency in one of the following phenomena: sound localization and lateralization, auditory discrimination, auditory pattern recognition , recognition of temporal aspects of audition, auditory performance decrease with competing acoustic signals, and auditory performance decrease with degraded signals.”

American Speech-Language Hearing Association: Task Force on Central Auditory Processing Consensus Development (1996). American Journal of Audiology, 5, pp. 41-54.

# Central Auditory Processing Disorder



- CAPD is not well defined
- May be due to under myelinated corpus callosums
- Those with CAPD process sounds at a slower rate.
- High rate of Otitis Media (ear infections)

Barkley, R. A. (2002). ADHD and Oppositional Defiant Children. Seminar Presented February 19-20, 2002, Phoenix, AZ.

Sineps, D., and Hunter, L. (1997). I Can Hear But...When Auditory Perception and Listening Break Down: Implications for Language and Reading. Paper Presented at the International Dyslexia Association Annual Conference, Minneapolis, MN, November 13, 1997, Session T-45.

Bellis, T.J. (2002). When the Brain Can't Hear: Unraveling The Mystery of Auditory Processing Disorder. New York, NY: Atria.



# CAPD and AD/HD



- Comorbidity rates between 45 and 75%
- CAPD will often respond to Stimulant Medication (Tannock and Brown, 2000).
- AD/HD should be treated first then the CAPD (Bellis, 2002)
- CAPD may be Inattentive AD/HD (Barkley, 2002)

Tannock, R., and Brown, T.E. (2000). Attention-Deficit Disorders in Children and Adolescents, In T.E. Brown (Ed.), Attention-Deficit Disorders and Comorbidities in Children, Adolescents, and Adults. Washington, DC: American Psychiatric Press, pp. 231-296.

Bellis, T.J. (2002). When the Brain Can't Hear: Unraveling The Mystery of Auditory Processing Disorder. New York, NY: Atria.

Barkley, R.A. (2002). AD/HD and Oppositional Defiant Children. Seminar Presented February 19-20, Phoenix, AZ.

# Diagnosing CAPD

- Team approach:
  - Audiologist (Case Manager)
  - Speech-Language Pathologist
  - Educator
  - Psychologist
  - Parents



Bellis, T.J. (1996). Assessment and Management of Central Auditory Processing Disorders In the Educational Setting: From Science to Practice. San Diego, CA: Singular.

***\*\*National Coalition for Auditory Processing Disorders: [www.ncapd.org](http://www.ncapd.org)***

# Diagnosing CAPD



- Physicians – “If there is a disease or disorder related to hearing, you may be referred to an otolaryngologist, a physician who specializes in diseases and disorders of the head and neck” (National Institute on Deafness and Other Communication Disorders, May 8, 2002, p. 3).
- American Medical Association: [www.ama-assn.org](http://www.ama-assn.org)

# Treating CAPD

- Help with Grieving Process
- Environmental Modifications
  - FM Loop Systems, Amplification, Seating, Etc.
- Remediation (Direct Therapy)
  - Phonological Awareness, Temporal Patterning, Prosody Training, Interhemispheric Training
- Compensatory Strategies



Bellis, T.J. (2002). When the Brain Can't Hear: Unraveling The Mystery of Auditory Processing Disorder. New York, NY: Atria.

# Helpful Websites for CAPD



- National Institute on Deafness and Other Communication Disorders: [www.nidcdinfo@nidcd.nih.gov](http://www.nidcdinfo@nidcd.nih.gov)
- American Academy of Audiology: [www.audiology.org](http://www.audiology.org)
- American Speech-Language Hearing Association: [www.asha.org](http://www.asha.org)
- National Coalition for Auditory Processing Disorders: [www.ncapd.org](http://www.ncapd.org)

# Hey, Wilson I'm going to finish in about 5 minutes...





# Balance and Coordination Disorders



- Children with Coordination Disorders tend to have:
  - Poor Social Competence
  - Low Self-Esteem
  - Reluctance to engage in Physical Activities

Fox, A.M. (Summer, 1998). Clumsiness In Childhood: Developmental Coordination Disorder. Learning Disabilities, 9 (2), pp. 57-64.

# Developmental Coordination Disorder (DCD)



- These children have significant difficulty learning and internalizing tasks. It's not the timing of when they learn the tasks.

Fox, A.M. (Summer, 1998). Clumsiness In Childhood : Developmental Coordination Disorder. Learning Disabilities, 9 (2), pp. 57-64.

# Subtypes of DCD



- Ideational Motor Planning
- Nonverbal Learning Disorders
- Proprioception and Kinesthetic Disorders
- Minimal Cerebral Palsy (CP)
  - 60% of children with CP outgrow their CP symptoms

Blondis, T.A. (October 18, 2002). FC1-The Association of Developmental Coordination Disorder (DCD) and AD/HD. Lecture presented at the 14<sup>th</sup> Annual CHADD Conference, Miami Beach, FL.

# Comorbidity and DCD

- 80% of Dyslexics have coordination problems
- 55% of those with AD/HD have DCD
- Those with NVLD often have psychomotor problems on their body's left side.
- 50-90% of those with Asperger's Disorder have coordination problems



Fawcett, A.J., and Nicolson, R.I. (2001). The Role of the Cerebellum . In A. J. Fawcett (Ed.), Dyslexia: Theory and Good Practice. Philadelphia, PA: Whurr, pp. 89-106.

Gillberg, C. (2001). ADHD with Comorbid Developmental Coordination Disorder: Long-Term Outcome in a Community Sample. ADHD Report, 9 (2), pp. 5-9.

Wren, C. (2000). Hanging by a Twig. New York, NY: Norton, p. 150.

Attwood, T. (1998). Asperger's Syndrome: A Guide for Parents and Professionals. Philadelphia, PA: Jessica Kingsley, p. 103.

# Treatment and DCD



- Children with DCD need to learn to verbally mediate to work around their coordination difficulties.
- Two large well designed Canadian studies have demonstrated Sensory Integration Training does not work. The same applies to the British “Kinesthetic Therapy”.

Blondis, T.A. (October 18, 2002). FC-1 The Association of Developmental Coordination Disorder (DCD) and AD/HD. Lecture presented at the 14<sup>th</sup> Annual CHADD International Conference, Miami, FL.

# Treatment and DCD



- “Acquired” AD/HD may respond better to Sensory Integration Training and Kinesthetic Therapy than “Genetic” AD/HD.
- They may work better with Brain Damage than with Developmental Disorders.

Barkley, R.A. (2002). Mental and Medical Outcomes of AD/HD. Paper presented at the 14<sup>th</sup> Annual International Conference, October 17-19, 2002, Miami Beach, FL



# Treatment and DCD



- Cognitive Orientation to Occupational Performance (CO-OP):
  - Teaches cognitive strategies to overcome DCD
  - Hand over hand techniques
  - Repetition and corrective feedback

Fox, A. M. (Summer, 1998). Clumsiness in Childhood: Developmental Coordination Disorder. Learning Disabilities, 9 (2), pp. 57-64.

Smith, I. (2000). Motor Functioning and Asperger's Syndrome. In A. Klin, F. Volkmar, and S.S. Sparrow (Eds.), Asperger's Syndrome. New York, NY: Guilford, pp. 97-124.

# DCD and Helpful Professionals



- Occupational Therapy Association: [www.aota.org](http://www.aota.org)
- American Physical Therapy Association: [www.apta.org](http://www.apta.org)
- American Speech-Language Therapy Association: [www.professional.asha.org](http://www.professional.asha.org)
- Behavioral Neurologists: [www.ama-assn.org](http://www.ama-assn.org)
- Mental Health Professionals (See slide #37)

# DCD and Balance



- Children with DCD have poor muscle tone and need to develop strength.
- Dyslexics have trouble with balance.
- Dyslexics have abnormal postural reflexes and reflexes in general.
- These abnormalities can cause problems with riding a bike, skipping, hopping, throwing and catching, swimming, fine motor skills, etc.

Blondis, T.A. (October 18, 2002). FC-1 The Association Of Developmental Coordination Disorder (DCD) and ADHD. Lecture presented at the 14<sup>th</sup> Annual CHADD International Conference, Miami Beach, FL.

Fawcett, A. (2001). Dyslexia: Theory and Good Practice. Philadelphia, PA:Whurr.

Goddard Blythe, S. (April, 2001). Neurological Dysfunction as a Significant Factor in Children Diagnosed with Dyslexia. Paper presented at the British Dyslexia Association 5<sup>th</sup> Annual Conference, University of York, England.

# DCD and Balance



- Body Core=Trunk and Pelvis...provides the body “breaks” to slow down movement
- Legs and arms as well as muscles attach to spine and torso. The spine and torso provide a base.
- The body core is also the body’s center of gravity.

(September 23, 2003). Strength Training and Stability. From website:  
<http://www.benning.army.mil/usapfs/Training/Strength/>



# DCD and Balance



- Treatment:

- Core strength and control can be developed by balance and stabilization training.
- American Physical Therapy Association:  
[www.apta.org](http://www.apta.org)

(September 23, 2003). Strength Training and Stability. From website:  
<http://www.benning.army.mil/usapf/Training/Strength>

# DCD and Balance



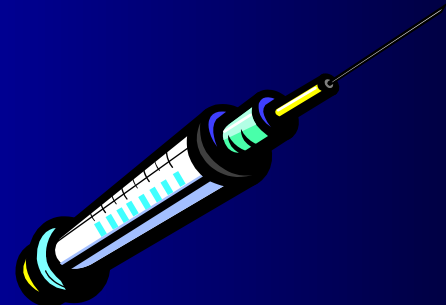
- *Alternative Therapy:*

- Neuro-Developmental Delay and its treatment.
- Institute for Neuro-Physiological Psychology (INPP)
- Primitive Reflexes
- Peter Blythe and Sally Goddard Blythe

Goddard, S. (2002). Reflexes, Learning and Behavior: A Window into The Child's Mind. Fern Ridge Press.

# Places to Check Out “New” Treatments for Dyslexia, LD, AD/HD, NVLD, Asperger’s Disorder, Etc.

- National Center for Complimentary and Alternative Medicine: [www.nccam.nih.gov](http://www.nccam.nih.gov)
- Ingersoll, B., and Goldstein, S. (1993). Attention-Deficit Disorder and Learning Disabilities: Realities Myths and Controversial Treatments. New York, NY: Doubleday.
- [www.quackwatch.com](http://www.quackwatch.com)





# Additional Topics Covered in Long Handout: [www.interdys.org](http://www.interdys.org)

- Hyperacusis
- Speech and Language Disorders
- Sensory Sensitivities
- Synesthesias
- Additional  
Intervention Programs



# Intervention Programs

- The ***SOCIAL COMPETENCE INTERVENTION PROGRAM (SCIP)***, “...is a multisensory intervention addressing perceptual deficits that is combined with a metacognitive component to assist with generalization to classroom and play settings. It involves retraining children in the fundamentals of social perception” (p. 21).

(Semrud-Clikeman, M. (Spring, 2003). Executive Function and Social Communication Disorders. Perspectives, 29 (2), p. 20-22.)

# Wilson Anderson's Social Skill Program



- **SOCIAL SKILLS DEVELOPMENT**

- Based on *Girls and Boys Town* model
- “Refrigerator Friendly”
- Reproducible, 24 pages
- Available from:

[www.edconsultmidwest.com](http://www.edconsultmidwest.com)

***Thank you and have a safe trip home!***

