

School-Based Identification and Intervention for Middle and High School Students with ADHD

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Agenda

- Diagnostic criteria & background information
- Identification and assessment of students with ADHD
- Treatment overview including medication
- Proactive school-based intervention
- Reactive school-based intervention

Conclusions

- ADHD has enormous impact on school functioning
- Medication is effective for changing behavior, but not necessarily for academic performance
- Individually tailored school-based interventions have potential for building upon medication effects
- Use balanced treatment plan that includes both proactive and reactive procedures
- Emphasis on self-management and organizational skills

DSM-IV CRITERIA FOR ADHD

- ⌘ Significant problems with inattention
- ⌘ Significant problems with hyperactivity-impulsivity
- ⌘ Symptoms present for at least 6 months
- ⌘ Symptoms that caused impairment before age 7
- ⌘ Some impairment in two or more settings
- ⌘ Impairment in social, academic, or occupational functioning
- ⌘ Not due to another disorder
- ⌘ Subtypes: Combined, Predominantly Inattentive, Predominantly Hyperactive-Impulsive

PROBLEMS ASSOCIATED WITH ADHD

- ⌘ Conduct problems (e.g., oppositional behavior, lying, stealing, and fighting)
- ⌘ Academic underachievement
- ⌘ Specific learning disabilities
- ⌘ Peer relationship problems

Adolescents with ADHD

- Symptomatic behaviors are not “outgrown” but “form” does change (e.g., inattention = organizational skills difficulties)
- General improvement over time but still at a deficit relative to typically developing peers
- Risk for conduct and academic problems
- Risk for substance abuse and sexual activity
- Higher rate of school drop-out
- Lower rate of post-secondary education

School-based Assessment of Students with ADHD

- Screening
- Multimethod Assessment
- Interpretation of Results
- Intervention Planning
- Intervention Evaluation

MULTIMETHOD ASSESSMENT STRATEGIES

- Parent and teacher interviews
- Reviews of school records
- Behavior rating scales
- Observations of school behavior
- Functional assessment of behavior
- Academic performance data

TEACHER RATING SCALES

- Broad band measure (e.g., Teacher Report Form-CBCL, Conners Teacher Rating Scale-Revised, BASC-II)
- Narrow band measure (e.g., ADHD Rating Scale-IV, ADDES-Home Version)
- School Situations Questionnaire, Original and Revised
- Others when necessary (e.g., Academic Performance Rating Scale, Social Skills Improvement System, ACES)

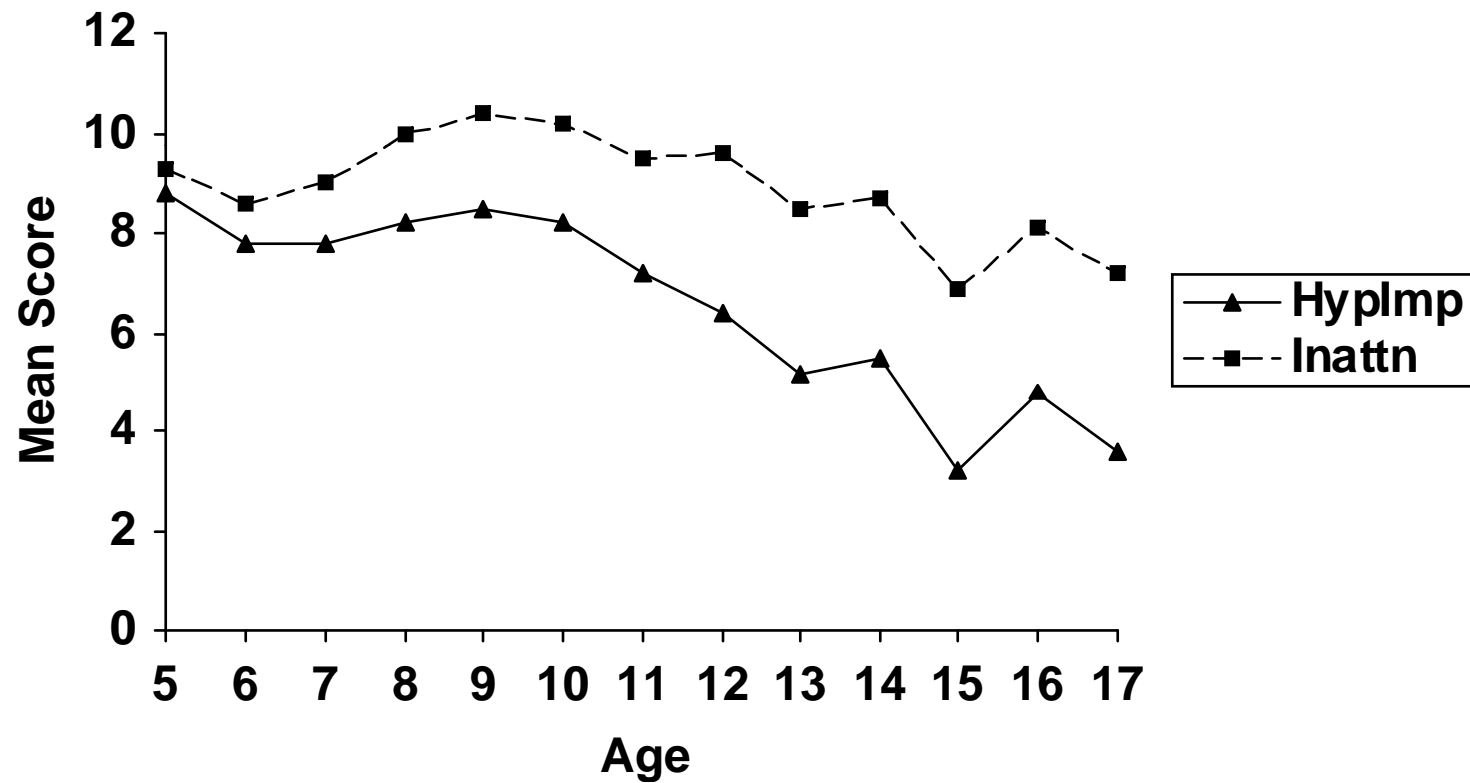
PARENT RATING SCALES

- Broad band measure (e.g., Child Behavior Checklist, Conners Parent Rating Scale-Revised, BASC-II)
- Narrow band measure (e.g., ADHD Rating Scale-IV, ADDES-Home Version)
- Home Situations Questionnaire, Original and Revised

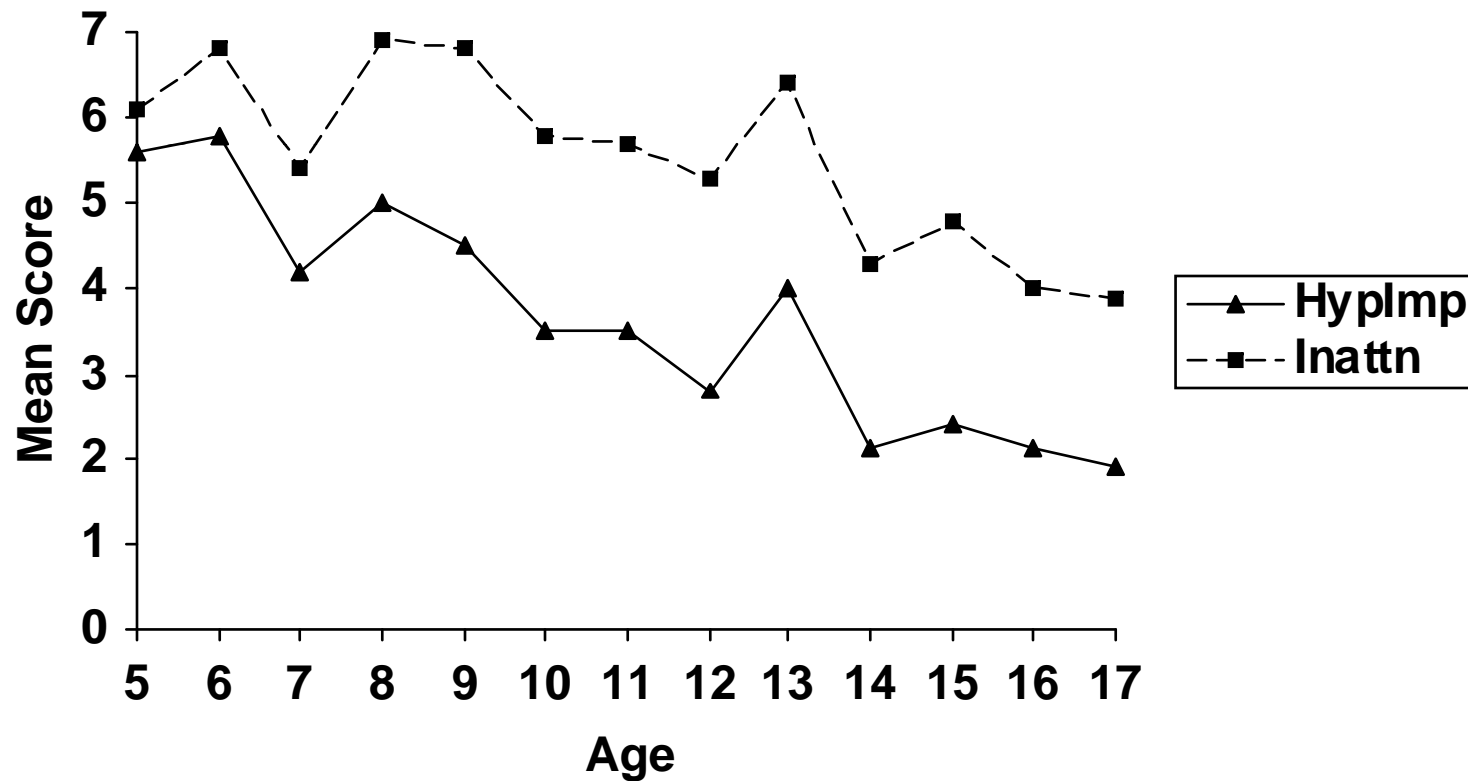
INTERPRETATION OF RESULTS

- Number of ADHD symptoms
- Deviance from age and gender norms
- Age of onset and chronicity
- Pervasiveness across situations
- Degree of functional impairment
- Rule out alternative hypotheses
- Function of challenging behaviors

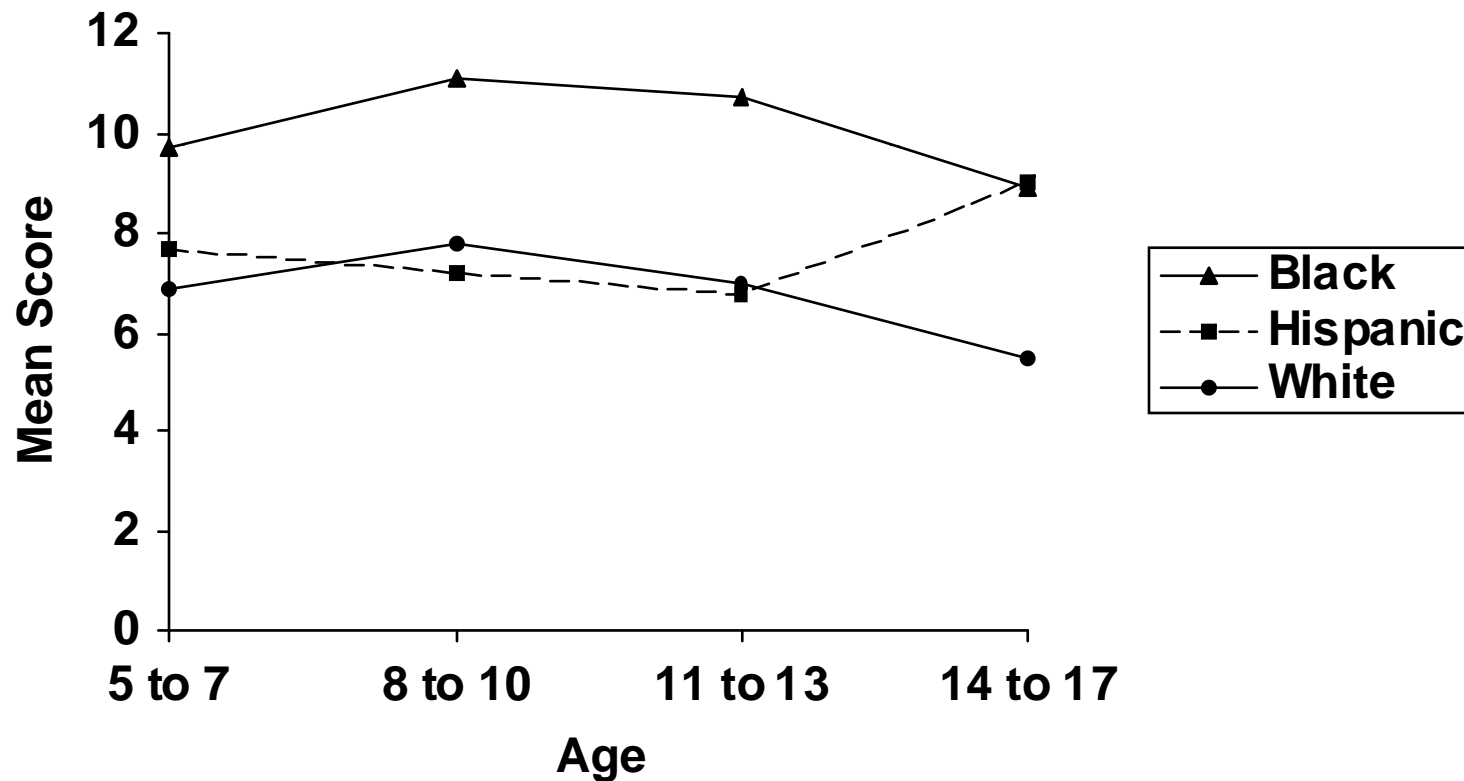
Developmental Trends for ADHD Symptoms: Boys



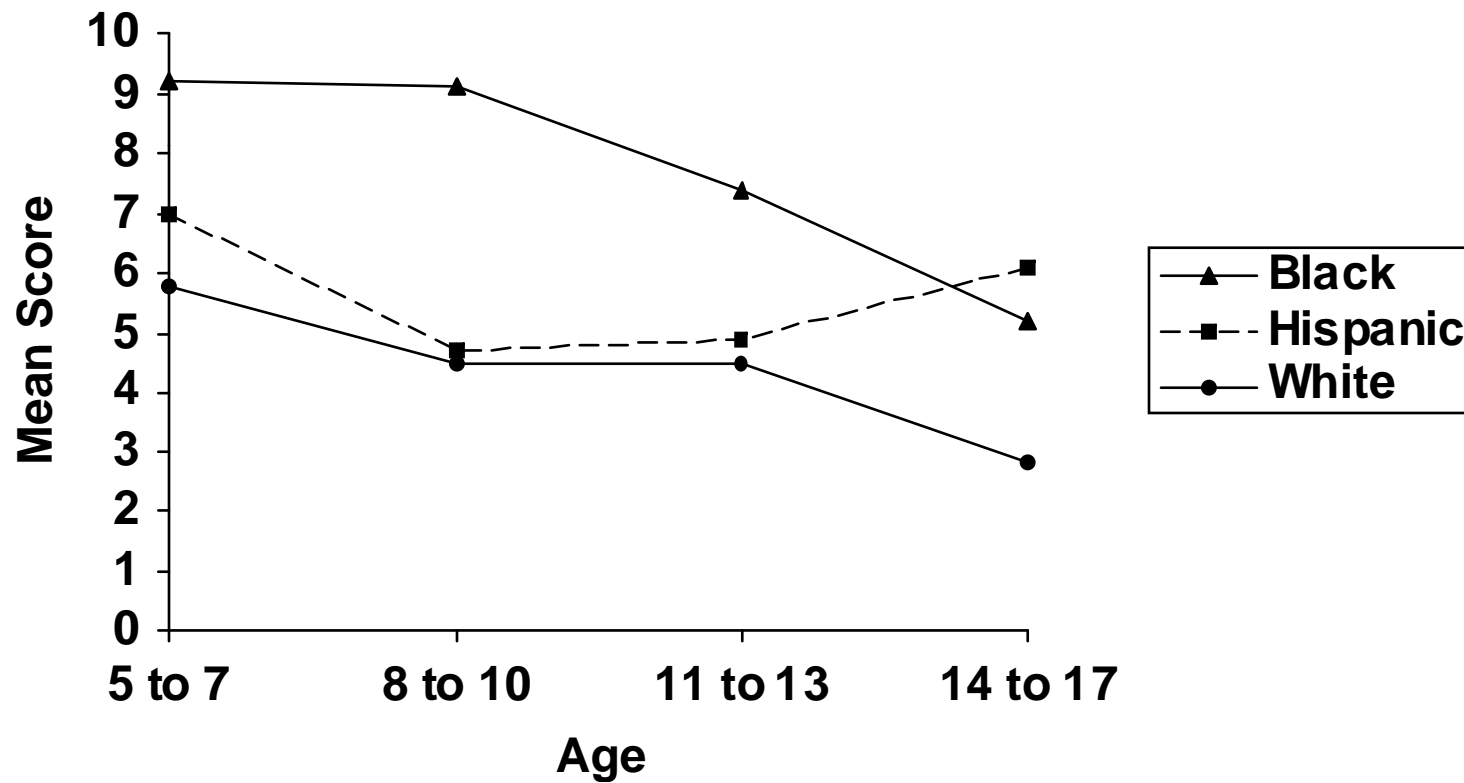
Developmental Trend for ADHD Symptoms: Girls



Teacher-rated Inattention as a Function of Age & Ethnicity



Teacher-rated HypImp as a Function of Age & Ethnicity



DIFFERENTIAL DIAGNOSIS

- Disorders to be “ruled out”:
 - Separation Anxiety Disorder
 - Other Anxiety Disorders
 - Depression/affective disorders
 - Tourette’s Disorder
- Disorders which frequently co-occur with ADHD:
 - Oppositional Defiant Disorder
 - Conduct Disorder
 - Learning Disabilities

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ADHD INATTENTIVE TYPE VS. COMBINED TYPE

- Lethargy, staring, and daydreaming less likely in combined type
- Lacks impulsive, disinhibited, or aggressive behavior
- Greater risk for anxiety symptoms
- Greater family history of anxiety disorders and LD

ADHD VS. ANXIETY DISORDERS

- Not overly concerned with competence
- Not anxious or nervous
- Exhibit little or no fear
- Have no difficulty separating from parents
- Infrequently experience nightmares
- Inconsistent performance
- Not concerned with future
- Are not socially withdrawn
- May be aggressive
- May be able to pay attention if work is stimulating

DEPRESSION VS. ADHD

- Not usually as motorically active
- Marked changes in affect/mood
- Concentration problems have acute onset possibly following stress event
- Changes in eating and sleeping habits
- Loss of interest or pleasure in most activities

ODD/CD VS. ADHD

- Lacks impulsive, disinhibited behavior
- Able to complete tasks requested by others
- Resists initiating response to demands
- Lacks poor sustained attention and marked restlessness
- Often associated with parental child management deficits or family dysfunction

LD VS. ADHD

- Significant IQ/Achievement discrepancy
- Lacks early childhood history of hyperactivity
- “ADHD” behaviors arise in middle childhood
- “ADHD” behaviors appear to be task- or subject-specific
- Not socially aggressive or disruptive
- Not impulsive or disinhibited

INTERVENTION PLANNING: QUESTIONS TO BE ADDRESSED

- What are the behavioral objectives?
- What is the function of challenging behavior?
- What are the student's strengths and weaknesses?
- What are the optimum intervention strategies?
- What additional resources are available to address the child's ADHD-related problems?

INTERVENTION PLANNING

- Severity of ADHD-related behaviors
- Functional assessment of behavior
- Presence of associated disorders
- Response to prior interventions
- Availability of community resources

Possible Functions of ADHD Behavior

- ⌘ Avoid/escape effortful tasks
- ⌘ Obtain peer attention
- ⌘ Obtain teacher attention
- ⌘ Obtain tangible object
- ⌘ Sensory stimulation

Design Interventions Based on Functional Assessment

⌘ Descriptive analysis

- Identify antecedents, consequences, sequential conditions
- Direct observation, teacher interview, parent interview, student interview

⌘ Experimental Analysis

- Develop hypotheses related to function of behavior
- Test hypotheses using direct observation

⌘ Develop intervention plan based on results of experimental analyses

INTERVENTION EVALUATION: QUESTIONS TO BE ADDRESSED

- Are changes occurring in the target and collateral behaviors?
- Are the treatment changes socially valid and clinically significant?
- Are target behaviors normalized?
- Are “side-effects” present?

INTERVENTION EVALUATION

- Periodic collection of assessment data (e.g., teacher ratings, observations, academic performance measures)
- Consumer satisfaction ratings
- Comparison with normal peers
- Revision of treatment plan based on assessment data

School Services for Students with ADHD

- ⌘ Qualifies for special education on basis of having another disability (e.g., LD)
- ⌘ Qualifies for special education on basis of “other health impairment”
- ⌘ Qualifies for accommodations on basis of Section 504

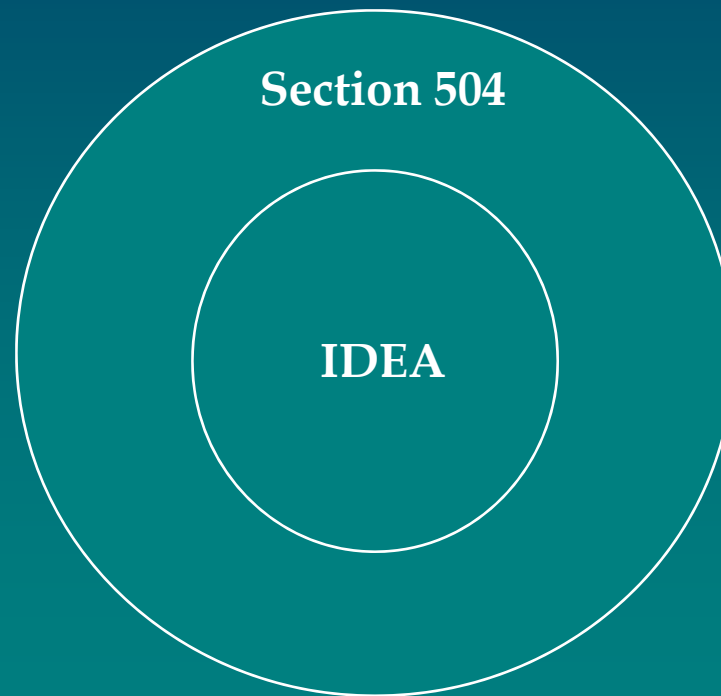
ADHD as “Other Health Impaired”

- ⚡ Chronic or acute health problem that results in limited alertness?
- ⚡ Adversely affects educational performance?
- ⚡ Are special education and/or related services necessary?
 - ⚡ This is where response-to-intervention approach may be helpful

Accommodations for ADHD based on Section 504

- ⚡ Physical or mental impairment which substantially limits one or more major life activities
- ⚡ Learning, speaking, walking, seeing, hearing, or caring for one's self
- ⚡ Is the degree of impairment substantial?

Relation of IDEA & Section 504



Most Common Interventions for Children & Adolescents with ADHD

- Psychotropic Medication (e.g., CNS stimulants such as methylphenidate)
- Home-based contingency management (behavioral parent training)
- School-based contingency management interventions (e.g., token reinforcement)
- Academic tutoring
- Daily report card or school-home notes

MEDICATIONS FOR ADHD

⚡ Stimulant Medications

- Methylphenidate (Ritalin, Concerta, Metadate, Focalin)
- Dextroamphetamine (Dexedrine)
- Adderall
- Lisdexamfetamine (Vyvanse)

⚡ Tricyclic Antidepressants

- Desipramine (Norpramine); Imipramine (Tofranil)

⚡ Other Antidepressants

- Bupropion (Wellbutrin); Fluoxetine (Prozac)

■ Other Medications

- Clonidine (Catapres)
- Guanfacine (Tenex)
- Atomoxetine (Strattera)

Problems with Currently Available Research Literature

- Limited data on school-based interventions in gen. ed. settings
- “One size fits all” approach is typical
- Emphasis on reduction of disruptive behavior rather than improvement in social behavior or academic skills
- Few studies of adolescents, particularly at high school level
- Focus on short-term outcomes & limited data on generalization of effects

CHALLENGES TO INTERVENTION AT SECONDARY LEVEL

- ⌘ Multiple teachers/staff
- ⌘ Resistance of faculty
- ⌘ Defiance of student
- ⌘ Student reaction to peer pressure
- ⌘ Competing demands for student time
- ⌘ Potential emotional problems
- ⌘ Few research studies to guide practice

Balanced “Game” Plan



- Too often rely solely on defense (reactive) strategies
- Need a strong “offense” (proactive) and a strong “defense” (reactive)
- Intervention plan should always include both proactive & reactive procedures (emphasis on positive)

School-Based Interventions for ADHD

- ⚡ Manipulating Antecedents (Proactive)
 - Providing Choices
 - Training in Organizational Skills
 - Note-Taking Instruction
 - Homework Management
 - Peer or Adult Coaching

School-Based Interventions for ADHD (cont.)

- ⚡ Manipulating Consequences (Reactive)
 - Behavioral Contracting
 - Home-school communication program
 - Self-Monitoring
 - Self-Evaluation

Functional Assessment with Adolescents (Ervin, DuPaul et al., 1998)

- Descriptive assessment of function of problem (off-task) behavior for two middle school students with ADHD
- Data led to hypothesized functions of escape (from written tasks) and access to peer attention for the two students
- For student 1 (escape), allowed to complete written assignments on the computer rather than by hand
- For student 2 (peer attention), provided with peer attention contingent on work completion
- On-task behavior for both students improved from a range of 54-78% in baseline to 88-95% post-tx

Functional Assessment with Adolescents (Hoff, Ervin, & Friman, 2005)

- Descriptive assessment of function of disruptive behavior for one 6th grade boy with ADHD
- Assessment based on teacher interview, student interview, & direct observation
- Data led to hypothesized functions of escape (task avoidance) and access to peer attention
- Intervention involved moving student away from distracting peers & providing access to preferred reading material when teacher was occupied with other activities
- Disruptive behavior reduced from 49.9% of observed intervals to 2.3%
- High acceptability by teacher and student

Challenging Horizons Program (Evans, Axelrod, & Langberg, 2004)

<http://chp.cisat.jmu.edu>

- School based treatment program for middle school youth with ADHD
 - After-school model
 - 3 days per week throughout school year
- Work with parents, teachers, community providers
 - Social skills
 - Study skills
 - Homework management

CHP: Academic Interventions

<http://chp.cisat.jmu.edu>

- Homework Management Plan
- Organization skills
- Taking Notes
- Study Skills
- Written language

CHP: Organizational Skills

- Assignment notebook checking
 - Methods
 - ❖ Check assignment notebook and compare to “gold standard”
 - ❖ Record percentage
 - ❖ Provide contingencies
 - ❖ Report to parents
 - ❖ Teacher initials
 - ❖ Don't facilitate - If we only make task of tracking assignments easier (e.g., teacher writes them down for a child) then we remove incentives for independence

CHP: Organizational Skills

- Notebooks (binders), Book bags, & Lockers
 - Develop a checklist
 - Dump, clean, & sort
 - Provide contingencies
 - ❖ Begin with daily checks
 - ❖ Taper towards weekly random checks
 - ❖ Always accompany a check with fixing errors

CHP: Organizational Skills

- Example checklist for Binder
 - Section for each class student is taking
 - HW folder in front of binder with HW to be completed on left side & HW to be turned in on right side
 - All folders & papers secured by three-rings & no loose papers or folders

CHP: Note-Taking

■ Note taking process

- Format
- Present information, think aloud, and coach notes
- Begin to ask class to help with think aloud and discuss main ideas & details
- Fade prompts

■ Notes

- Check quality of notes
- Main ideas harder than details

CHP: Note-Taking

■ Generalization

- This is the hardest part
- Obstacles to independently taking notes in class
 - ❖ Feeling different
 - ❖ Recognizing opportunities
 - ❖ Don't feel like it
- Teacher facilitation

ENHANCING NOTE-TAKING SKILLS

- ⌘ Allow tape recording of lectures for later note-taking instruction
- ⌘ Provide a structured note-taking format
- ⌘ Review notes with a peer
- ⌘ Teacher review of notes with student
- ⌘ Teacher review of revised notes
- ⌘ Reinforce efforts at better note-taking

CHP: Homework Management

■ Parents require:

- Amount of time doing academic work
- Quality products at end of time

■ Details

- Amount of time is negotiated based on grades
- If no school work brought home, parents assign work
- Home privileges contingent on completion of time

CHP: Homework Management

- After-school program (8 weeks)
 - Counselors check accuracy of HW assignment recording & teacher initialing
 - Weekly check with teachers to prevent forging
 - 55-min group intervention time including HW completion, math worksheets, outlining chapters in texts or recreation time
 - HW completed first before activities
 - Recreation time based on earned points
- Two 1-hr parent sessions in evening
 - Description of after-school program
 - Transfer of forms and tracking to parents

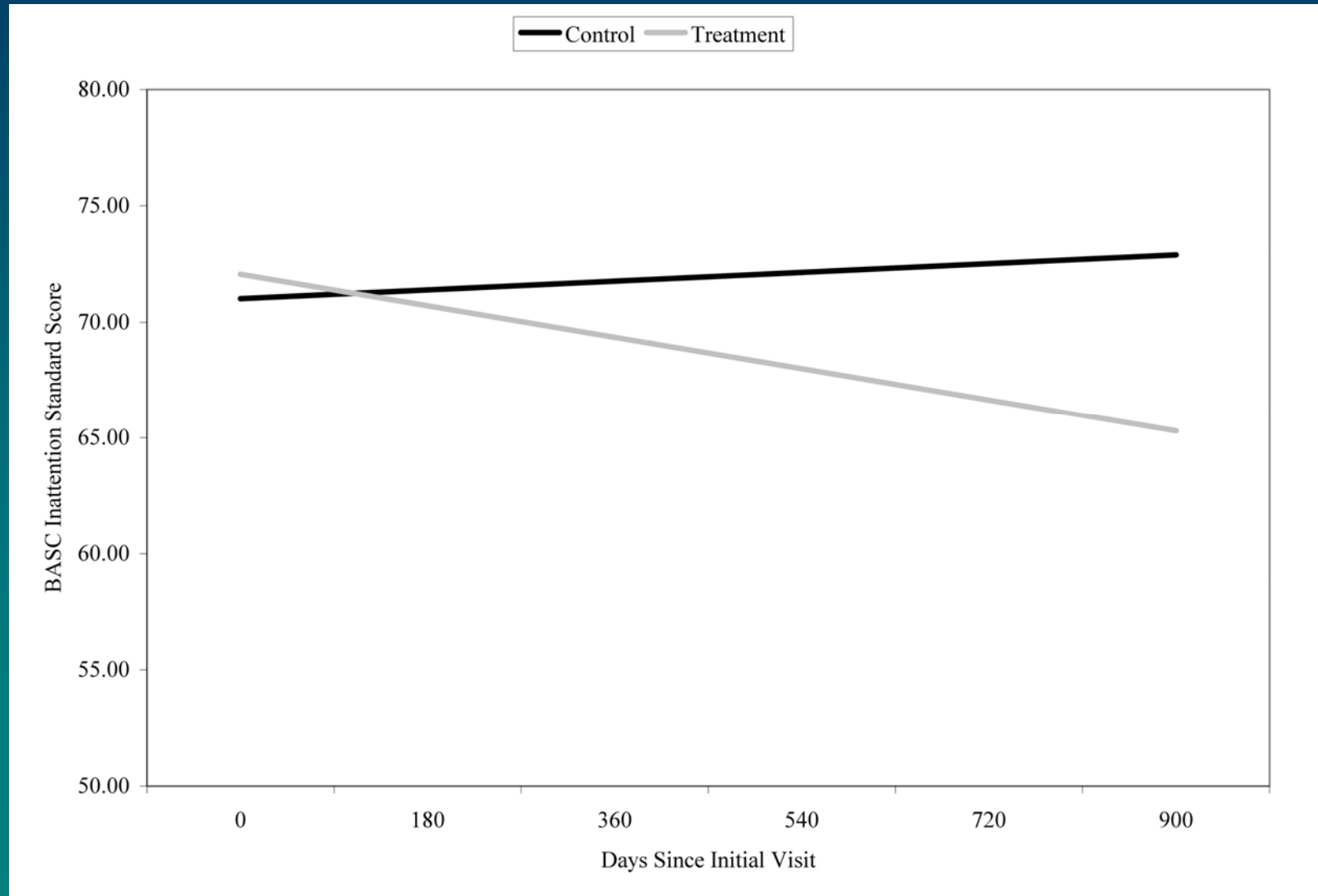
CHP Outcomes

- Some initial promising group outcome data
 - Improvements in meeting organizational skills criteria, HW accuracy, & academic performance (e.g., Langberg et al., 2007)
- Individuals vary greatly in response
 - Some students show mastery within days
 - Others display “honeymoon” followed by decline and then gradual improvement
 - Still others show gradual improvement across months
 - Some show no improvement
- Important to persist past the low points that characterize the great variability in behavior and performance associated with ADHD particularly in adolescence

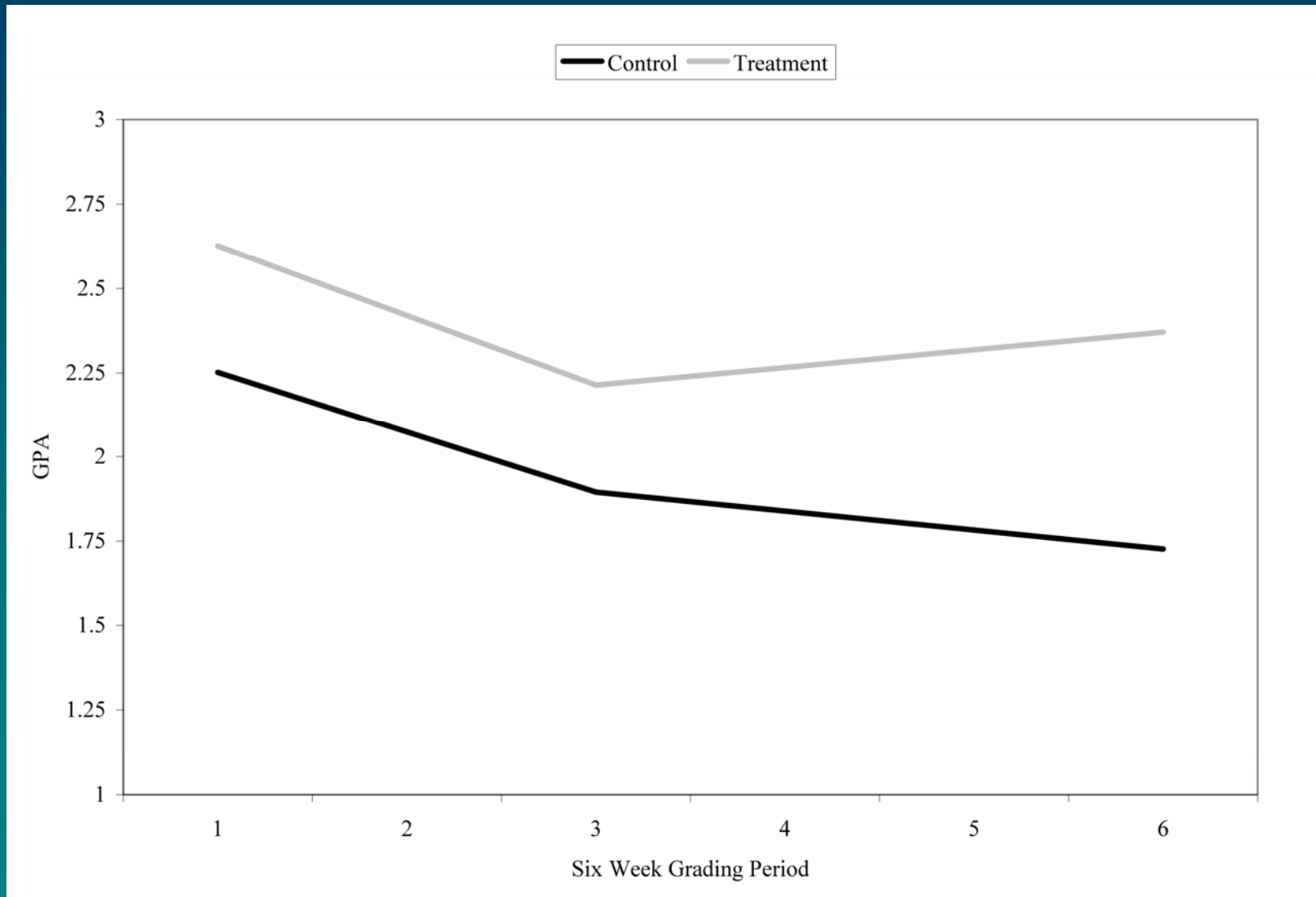
Cumulative Benefits of CHP for Middle School Students with ADHD (Evans et al., 2007)

- *N* – 79 10 to 14 yr olds with ADHD
- 42 in CHP schools; 37 in control schools
- In CHP schools, each student assigned a “mentor” (primarily gen. ed teachers) who coordinated CHP interventions; with help of sch psychologists as consultants
- Control group rec’d tx as usual including tutoring, counseling, and/or medication
- CHP associated with more improvement in inattention and social impairment
- Within-grade GPA decreased more in control group in grades 6 & 8; “protective” function of CHP?

CHP Outcomes: Parent Ratings (Evans et al., 2007)



CHP Outcomes: GPA (Evans et al., 2007)



Homework & Study Skills Intervention (Meyer & Kelley, 2007)

- $N = 42$ students (36 boys, 6 girls) in 6th to 8th grade all of whom had ADHD & homework problems
- Intervention included self-monitoring of HW completion and training in SQ4R method (for social studies rdg comprehension & test preparation)
 - Survey titles & headings prior to reading
 - Formulate Questions
 - Read to find answers to questions
 - Recite answers to questions in own words
 - Write answers to questions
 - Review text & question answers
- Training held over 1-2 sessions

Homework & Study Skills Intervention (Meyer & Kelley, 2007)

- Parents prompted teen to begin HW, organize materials, & complete monitoring checklists daily
- Parents did not participate in completing checklist or critiquing accuracy; provided contingencies for completion of HW and monitoring checklists (80%)
- Results indicated significant reduction in HW problems and improvements in classroom preparedness as reported by teachers relative to a wait-list control group
- Improvements maintained at 4-wk follow-up
- Parents and students reported high levels of satisfaction

CHECKLIST BEHAVIORS	YES	NO
1. I turned in my homework today		
2. I wrote down my HW assignments & obtained teacher initials		
3. I brought home materials needed to do HW		
4. I completed all homework		
5. I checked my work		
6. I began my HW within 30 min of arriving home		
7. I completed my HW in my quiet area		
8. I completed the steps in my SQ4R study strategy		
9. I organized my book bag & notebook so that I can find and turn in assignments tomorrow		
10. I needed parent reminders to complete HW		
11. I needed parent reminders complete checklist		
12. I needed parent reminders to organize		
13. I received my reward for completing form		

From Meyer & Kelley (2007)

Coaching Teens with ADHD (Guare & Dawson, 1995)

⌘ Phase I

- Identify long-term goals
- Determine goal criteria
- Delineate barriers to reaching goals

⌘ Phase II (Coaching sessions)

- Review
- Evaluate
- Anticipate
- Plan

⌘ Adult vs. peer coaching?

⌘ Outcomes systematically evaluated

STUDENT CONTRACT

- ⌘ Specify several short-term objectives
- ⌘ Identify possible contingencies
 - Positive for reaching goal
 - Aversive for rule violations
- ⌘ Determine time period for meeting goals
- ⌘ Include both short and long-term payoffs
- ⌘ Agreement by both student and teacher (counselor) to follow through
- ⌘ Periodic revisions of contract as necessary

COMPONENTS OF EFFECTIVE HOME-SCHOOL COMMUNICATION PROGRAM

- ⌘ Daily/weekly goals specified in a positive manner
- ⌘ Both academic and behavioral goals included
- ⌘ Small number of goals at a time
- ⌘ Quantitative feedback about performance
- ⌘ Feedback provided by subject or class period
- ⌘ Communication is made on a regular basis (either daily or weekly)
- ⌘ Home-based contingencies tied to performance (both short-term and long-term)

HOME-SCHOOL PROGRAM (cont.)

- ⌘ Parental cooperation solicited prior to implementation
 - Student input into goals and contingencies
- ⌘ Goals/procedures modified as necessary

Self-monitoring of organizational skills

- Adolescents with ADHD typically have difficulties in class prep. and HW
- For some students, problems related to poor attention to detail and low motivation to complete mundane tasks
- Possible students can be trained to monitor own behaviors (e.g., being ready for class)

Self-monitoring of org. skills: Controlled case study (Gureasko- Moore, DuPaul, & White, 2006)

- Three 7th grade students with ADHD
- All had significant problems being prepared for class
- Checklist of preparatory behaviors developed with teachers (% steps)
- Training in self-monitoring (4 days)
- Self-monitoring followed by fading
- Gains in organizational skills maintained without treatment
- Replicated and extended to homework completion & unmedicated students (Gureasko-Moore et al., 2007)

SELF-MANAGEMENT PROGRAM

- ⌘ Initially incorporates external and internal evaluation but works toward complete self-monitoring and evaluation
- ⌘ Teacher and student independently “grade” student performance regarding behavior and academics for specified work period
 - Established performance criteria
 - Points earned for performance
 - Bonus points for “matching” ratings
 - Penalties for “inflated” ratings
 - Points turned in for school based or home based privileges

Sample Self-Management Criteria

⌘ 5 = Excellent

- Followed all rules for entire interval; Work 100% correct

⌘ 4 = Very Good

- Minor infraction of rules; Work at least 90% correct

⌘ 3 = Average

- No serious rule offenses; Work at least 80% correct

⌘ 2 = Below Average

- Broke rules to some degree: Work 60 to 80% correct

⌘ 1 = Poor

- Broke rules almost entire period; Work 0 to 60% correct

⌘ 0 = Unacceptable

- Broke rules entire period; No work completed

SELF-MANAGEMENT (cont.)

♃ Gradual weaning from external ratings

- Longer work periods to be rated
- Periodic, random “matching” challenges
- Eventual reliance on self-ratings only

♃ Factors to consider:

- Practical constraints
- “Drift” of student ratings
- Prepare student using external system

Interventions for Students with ADHD: Guiding Principles

- Intervention design linked directly to assessment data (e.g., FBA, CBA)
- Consultative problem-solving process integral to intervention design
- Intervene at “point of performance”
- Go beyond “train and hope”
- Intervention evolves based on ongoing assessment

Guiding Principles for Intervention (cont.)

- Don't place entire onus on classroom teacher; look to other possible treatment mediators
- All behavior serves a purpose; intervention should lead to functionally equivalent behavior
- Aim for balance between proactive and reactive strategies
- Typically no single intervention is sufficient; multi-component and multi-setting intervention is presumed more effective

Conclusions

- ADHD has enormous impact on school functioning
- Medication is effective for changing behavior, but not necessarily for academic performance
- Individually tailored school-based interventions have potential for building upon medication effects
- Use balanced treatment plan that includes both proactive and reactive procedures
- Emphasis on self-management and organizational skills