



ADHD

ATTENTION DEFICIT HYPERACTIVITY DISORDER


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Neurosci Lett. 2009;454:244-48.

No causal role for the G482T and G689T polymorphisms in translation regulation of serotonin transporter (SLC6A4) or association with attention-deficit-hyperactivity disorder (ADHD).

Banerjee E, Sinha S, Chatterjee A, et al.

Purpose of the study: The G482T and G689T polymorphisms in the 3'-UTR of serotonin transporter (SLC6A4) are implicated in translational regulation and allelic variants may mediate susceptibility to attention-deficit-hyperactivity disorder (ADHD). Accordingly, we examined influence of allelic variation on stable secondary structure formation and on seed sequences necessary for microRNA-binding. Furthermore, 90 ADHD cases from India were genotyped for these markers and tested for association with ADHD.

Methods: The Mfold software was used for secondary structure predictions and miRNA-binding sequences were obtained from the PicTar database. Using a family-based study design we assessed genetic association by means of the haplotype-based haplotype relative risk (HHRR) and transmission disequilibrium test (TDT) statistics. With respect to G689T, previously published TDT data were included in pooled analysis.

Result: Secondary structure analysis reveals that G482, U482, G689 and U689 conformers are energetically similar. Unlike G482, the U482 change maps within a loop and this conformer differs in free energy by ~4.4 kcal/mol. While G482T is proximal to various miRNA-binding sequences, it is not part of the seed sequence for any of them. Thus, G482T and G689T polymorphisms do not regulate SLC6A4 translation in cis. From the HHRR ((chi)² = 0.860, p = 0.353; R.R. = 1.11; 95% C.I. = 0.89-1.65 for G482T; (chi)² = 0.902, p = 0.342; R.R. = 1.17; 95% C.I. = 0.83-1.32 for G689T), TDT ((chi)² = 1.33, p = 0.25; O.R. = 1.35; 95% C.I. = 0.94-1.94 for G482T; (chi)² = 1.45, p = 0.23; O.R. = 1.44; 95% C.I. = 0.94-2.22 for G689T) and pooled TDT ((chi)² = 0.52, p = 0.47; O.R. = 1.05; 95% C.I. = 0.96-1.15) statistics we infer that these polymorphisms are not associated with risk of ADHD.

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J Abnorm Child Psychol. 2009 Jan;37:1-15.

Delay and inhibition as early predictors of ADHD symptoms in third grade.

Campbell SB, von Stauffenberg C.

We used data from a large, longitudinal study of children in the community, the NICHD Study of Early Child Care and Youth Development, to examine how well earlier measures of delay capacity, inhibitory control, planning, and attention predicted symptoms of attention deficit hyperactivity disorder (ADHD) assessed in third grade. Children with elevated symptoms of both inattention and hyperactivity-impulsivity (n = 57) and with inattentive symptoms only (n = 80) were identified via mother and teacher reports using the "or" rule, as were children without significant symptoms (n = 790). Multinomial logistic regression analyses indicated that poorer performance on earlier measures of resistance to temptation, delay of gratification, response inhibition, attention, and planning obtained from 36 months to 1st grade predicted membership in the two symptom groups relative to the comparison group in 3rd grade, albeit with somewhat different patterns of predictors. Controls for 36 month school readiness and externalizing symptoms indicated that these results

Per la ricerca degli articoli pubblicati nella letteratura scientifica nel mese in esame sono state consultate le banche dati Medline, Embase e PsycINFO utilizzando le seguenti parole chiave (o i loro sinonimi): 'Attention deficit disorder', 'Attention deficit hyperactivity disorder', 'Infant', 'Child', 'Adolescent', 'Human'. Sono qui riportate le referenze considerate rilevanti e pertinenti.

were generally robust and not an artifact of initial cognitive or behavioral differences. Implications for developmental models of ADHD are discussed.

(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Psychiatry Clin Neurosci. 2009 Apr;63:167-75.

Better efficacy for the osmotic release oral system methylphenidate among poor adherents to immediate-release methylphenidate in the three ADHD subtypes.

Chou WJ, Chou MC, Tzang RF, et al.

AIMS: To determine factors for switching to osmotic release oral system methylphenidate (OROS-MPH) among poor adherents to immediate-release methylphenidate (IR-MPH); and to compare the efficacy of OROS-MPH on the three attention-deficit/hyperactivity disorder (ADHD) subtypes in a multi-site prospective observational study in Taiwan.

METHODS: The sample included 240 children with ADHD, aged 6-16 years, who were poor adherents to IR-MPH, 137 of whom were switched to OROS-MPH. The child psychiatrists diagnosed the Diagnostic Statistical Manual of Mental Disorders (4th edition) ADHD subtypes and assessed the medical history, adherence, side-effects, global ADHD severity, and family/school effectiveness. Parents reported their child's behavioral symptoms.

RESULTS: The determinants for an OROS-MPH switch were higher dosage, shorter treatment and thrice-daily administration of IR-MPH, and more severe inattention symptoms. Hyperactivity and oppositional symptoms were greater in the ADHD combined and hyperactive-impulsive subtypes than the inattentive subtype. Switching to OROS-MPH significantly improved behavioral symptoms and family/school measures, and this was most evident in the ADHD-combined group, followed by the ADHD-inattentive group. Inattention influenced not only academic performance, but also overall classroom behaviors and the parent-child relationship, with the latter two also influenced by oppositional symptoms.

CONCLUSIONS: This study suggests better efficacy for the OROS-MPH among poor adherents to IR-MPH; however, its effectiveness varied across the three ADHD subtypes (ClinicalTrials.gov number NCT00460720).

(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Psychiatry Res. 2009;166:210-22.

Examining executive functioning in children with autism spectrum disorder, attention deficit hyperactivity disorder and typical development.

Corbett BA, Constantine LJ, Hendren R, et al.

Executive functioning (EF) is an overarching term that refers to neuropsychological processes that enable physical, cognitive, and emotional self-control. Deficits in EF are often present in neurodevelopmental disorders, but examinations of the specificity of EF deficits and direct comparisons across disorders are rare. The current study investigated EF in 7- to 12-year-old children with autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD) and typical development using a comprehensive battery of measures assessing EF, including response inhibition, working memory, cognitive flexibility, planning, fluency and vigilance. The ADHD group exhibited deficits in vigilance, inhibition and working memory relative to the typical group; however, they did not consistently demonstrate problems on the remaining EF measures. Children with ASD showed significant deficits in vigilance compared with the typical group, and significant differences in response inhibition, cognitive flexibility/switching, and working memory compared with both groups. These results lend support for previous findings that show children with autism demonstrate generalized and profound impairment in EF. In addition, the observed deficits in vigilance and inhibitory control suggest that a significant number of children with ASD present with cognitive profiles consistent with ADHD.

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J Pediatr Psychol. 2009 Jan;34:110-12.

Response: 'Acute impact of immediate release methylphenidate administered three times a day on sleep in children with attention-deficit/hyperactivity disorder.'

Corkum P.

Reply by the current author to the comments made by Henry Olders (2008) on the original article (see record 2008-04449-005). A number of interesting points were made by the author of the commentary, some of which we are able to directly address and others which we addressed only in a speculative manner. Although research in the field of pediatric sleep is growing, there are still many questions that remain unanswered, particularly regarding the link between sleep and childhood psychopathology. As the author of the commentary correctly points out, there is limited research examining the daytime consequences of sleep

deprivation in children. If, as suggested by the author of the commentary, medication exerts its therapeutic effects through reducing sleep, a significant correlation between decreased sleep duration and improvement in ADHD symptoms should exist. In order to directly test the hypothesis proposed by the author of the commentary, we conducted further analyses based on our most recent data.

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Pediatrics. 2008;122:1155.

Attention-deficit/hyperactivity disorder and obesity: Moving to the next research generation.
Cortese S, Angriman M.

Am J Psychiatry. 2009 Jan;166:117.

Review of Adolescent substance abuse: Psychiatric comorbidity and high-risk behaviors.
Davies RD.

Reviews the book, "Adolescent Substance Abuse: Psychiatric Comorbidity and High-Risk Behaviors" edited by Yifrah Kaminer, Oscar G. Bukstein (see record 2008-05667-000). The topic of integrated treatment has typically been relegated to single chapters in texts on adolescent substance use disorder treatment. The book is the first to specifically address this issue in a direct, comprehensive manner. The authors have included contributions from some of the top researchers in the field of adolescent substance abuse. The editors have included chapters not only on the most common psychiatric conditions among youths who abuse substances, such as conduct disorder, attention deficit hyperactivity disorder (ADHD), and depression, but also on less common disorders, such as eating disorders, self-harm, and gambling. With this volume, the authors have succeeded in bringing to the fore the issue of psychiatric comorbidity among adolescents with substance use disorders.

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Acta Paediatr Int J Paediatr. 2008;97:1125-30.

Self-esteem in children with attention and/or learning deficits: The importance of gender.

Ek U, Westerlund J, Holmberg K, et al.

Objective: Our objective was to analyze self-esteem in children within a spectrum of attention disorders, that is, besides attention deficit hyperactivity disorder (ADHD), also children with subthreshold ADHD and even milder attention deficits and/or learning problems.

Methods: From a population-based group of 10-11-year-old children in a Swedish municipality those with ADHD/subthreshold ADHD (n = 30) and those with milder attention and/or learning problems (n = 64) were targeted for the study. The children completed the 'I think I am' scale, reflecting physical appearance, scholastic competence, mental well-being, relationships to parents and to others and global self-esteem. Data from boys and girls were compared and related to the parents' and teachers' ratings on the two dimensions of the Conners' 10-item questionnaire (impulsive-restless behaviour and emotional lability) and to the children's cognitive levels.

Results: Significant gender differences were found, girls reporting lower self-esteem concerning mental well-being and poorer relationships with parents and peers. However, children with ADHD/ subthreshold ADHD did not report significantly lower global self-esteem when compared to a reference population.

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Lakartidningen. 2009 Feb;106:528.

["Don't let any patients with for example ADHD be hidden in a terminology our culture calls cultural disease"].

Fernell E.

Journal of Child Psychology and Psychiatry. 2009 Apr;50:460-70.

Exploring the clinical utility of the Development and Well-Being Assessment (DAWBA) in the detection of hyperkinetic disorders and associated diagnoses in clinical practice.

Foreman D, Morton S, Ford T.

Background: The clinical diagnosis of ADHD is time-consuming and error-prone. Secondary care referral results in long waiting times, but primary care staff may not provide reliable diagnoses. The Development And Well-Being Assessment (DAWBA) is a standardised assessment for common child mental health

problems, including attention deficit/hyperactivity disorder (ADHD), which can be rapidly scored by skilled specialist clinicians, who may be remote from the interview, thus avoiding referral.

Method: A representative clinic sample of routine cases suspected of ADHD underwent an assessment which included the DAWBA alongside a confirmatory assessment with a skilled clinician. Another clinician provided DAWBA-based diagnoses blind to the clinic view. Bayesian statistical modeling was used to include clinic diagnostic uncertainty in the analyses.

Results: Eighty-four cases were assessed. For ADHD, the predictive value of a positive or negative DAWBA diagnosis was greater than .8, with negligible bias. Non-hyperkinetic behaviour disorders had higher, emotional and autistic disorders lower predictive values, though all greater than .75: there was, however, evidence of bias.

Conclusions: Diagnoses of ADHD based on senior clinician review of the DAWBA completed by parents, teachers and young people aged 11 plus may be sufficiently accurate to permit clinical diagnosis without direct patient contact by the diagnosing clinician. This could improve access to accurate diagnoses of ADHD in primary care while freeing up senior clinicians to focus on complex and refractory cases in secondary care.

(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Pediatrics. 2008;122:e452-e458.

Attention-deficit/hyperactivity-related symptoms among children with enterovirus 71 infection of the central nervous system.

Gau SSF, Chang LY, Huang LM, et al.

BACKGROUND. No study has investigated the association between enterovirus 71 central nervous system infection and symptoms related to attention-deficit/ hyperactivity disorder. In this study we evaluated attention-deficit/ hyperactivity disorder-related symptoms and internalizing problems as long-term sequelae resulting from entero- virus 71 central nervous system infection in children.

METHODS. We enrolled 86 children 4 to 16 years old with virus-culture-confirmed enterovirus 71 infection and central nervous system involvement diagnosed 3 to 7 years before the study and 172 control subjects, matched for age, gender, and parents' education levels. Their mothers and teachers were asked to report on possible attention-deficit/hyperactivity disorder-related symptoms, and their mothers were asked to report on possible internalizing problems. All of the children previously infected with enterovirus 71 received intelligence tests.

RESULTS. Forty-two (49%) of the children previously infected with enterovirus 71 had had viral meningitis;35 (41%) had severe central nervous system involvement, such as encephalitis, poliomyelitis-like syndrome, or encephalomyelitis;and 9 (10%) had cardiopulmonary failure and central nervous system involvement. The children previously infected with enterovirus 71 had higher scores than matched control subjects on teacher- and mother-rated scales of inattention, hyperactivity-impulsivity, oppositional symptoms, and attention-deficit/ hyperactivity disorder index. The rate of elevated attention-deficit/ hyperactivity disorder-related symptoms among children with enterovirus 71 central nervous system infection was 20%, whereas that rate among matched control subjects was only 3%. They also had more internalizing problems. Their verbal and performance IQs, as well as verbal comprehension indices, were significantly inversely correlated with symptoms of inattention, hyperactivity-impulsivity, and attention-deficit/hyperactivity disorder index scores.

CONCLUSIONS. Enterovirus 71 central nervous system infection may affect long-term regulation of attention and emotion and cause hyperactivity- impulsivity in children

Gait Posture. 2009;29:661.

Commentary to: Postural and gait performance in children with attention deficit/hyperactivity disorder [Gait Posture 2008].

Ghanizadeh A.

Neuropsychology. 2009 Mar;23:265-69.

Contraction of time in attention-deficit hyperactivity disorder.

Gilden DL, Marusich LR.

Attention-deficit hyperactivity disorder (ADHD) has been associated with anomalies in dopamine systems. Recent advances in the understanding of the core cognitive deficits in ADHD suggest that dopamine dysfunction might be expressed through shortened time scales in reward-based learning. Here this perspective is extended by the conjecture that temporal span in working memory systems might generally be shortened. As a test of this conjecture the authors focus on the implicit memory system involved in rhythmic movement, assessing the minimum tempo at which rhythmic feeling can be sustained in adults with

diagnosed ADHD and in a control group of normal adults. The authors found that people with ADHD do in fact have a rhythm cut-off that is faster in tempo than those without ADHD. This finding is consistent with the idea that impaired dopamine dynamics have systemic consequences for cognitive function, essentially recalibrating the clock that sets the time scale for the subjective experience of temporal events.
(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

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(PsycINFO Database Record (c) 2009 APA, all rights reserved). (from the journal abstract)

Journal of Attention Disorders. 2009 Mar;12:488-90.

Current literature in ADHD.

Goldstein S.

Presents summaries of recent (2007) research in attention deficit with hyperactivity disorder.
(PsycINFO Database Record (c) 2009 APA, all rights reserved)

Compr Psychiatry. 2009;50:251-56.

The effect of methylphenidate on Internet video game play in children with attention-deficit/hyperactivity disorder.

Han DH, Lee YS, Na C, et al.

Objective: A number of studies about attention-deficit/hyperactivity disorder (ADHD) and Internet video game play have examined the prefrontal cortex and dopaminergic system. Stimulants such as methylphenidate (MPH), given to treat ADHD, and video game play have been found to increase synaptic dopamine. We hypothesized that MPH treatment would reduce Internet use in subjects with co-occurring ADHD and Internet video game addictions.

Methods: Sixty-two children (52 males and 10 females), drug-naive, diagnosed with ADHD, and Internet video game players, participated in this study. At the beginning of the study and after 8 weeks of treatment with Concerta (OROS methylphenidate HCl, Seoul, Korea), participants were assessed with Young's Internet Addiction Scale, Korean version (YIAS-K), Korean DuPaul's ADHD Rating Scale, and the Visual Continuous Performance Test. Their Internet usage time was also recorded.

Results: After 8 weeks of treatment, the YIAS-K scores and Internet usage times were significantly reduced. The changes in the YIAS-K scores between the baseline and 8-week assessments were positively correlated with the changes in total and inattention scores from the Korean DuPaul's ADHD Rating Scale, as well as omission errors from the Visual Continuous Performance Test. There was also a significant difference in the number of omission errors among non-Internet-addicted, mildly Internet addicted, and severely Internet addicted participants.

Discussion: We suggest that Internet video game playing might be a means of self-medication for children with ADHD. In addition, we cautiously suggest that MPH might be evaluated as a potential treatment of Internet addiction.

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J Consult Clin Psychol. 2009 Apr;77:349-54.

Predicting attention-deficit/hyperactivity disorder and oppositional defiant disorder from preschool diagnostic assessments.

Harvey EA, Youngwirth SD, Thakar DA, et al.

The present study examined the power of measures of early preschool behavior to predict later diagnoses of attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD)/conduct disorder

(CD). Participants were 168 children with behavior problems at age 3 who underwent a multimethod assessment of ADHD and ODD symptoms and were followed annually for 3 years. Fifty-eight percent of 3-year-old children with behavior problems met criteria for ADHD and/or ODD/CD 3 years later. Using a diagnostic interview and rating scales at age 3, the authors could accurately predict later diagnostic status for 3/4 of children for ADHD and for 2/3 of children for ODD/CD. Predictive power of the best models did not increase significantly at age 4 and age 5 compared with age 3. Results provide support for the validity of early diagnoses of ADHD, although caution is needed in making diagnoses because a significant minority of children with early hyperactivity and inattention do outgrow their problems.
(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

J Abnorm Child Psychol. 2009;37:565-78.

Adrenocortical functioning in boys with attention-deficit/hyperactivity disorder: Examining subtypes of adhd and associated comorbid conditions.

Hastings PD, Fortier I, Utendale WT, et al.

Disruptions to hypothalamic-pituitary-adrenal (HPA) axis function have been associated with varying forms of psychopathology in children. Studies suggesting children with ADHD have blunted HPA function have been complicated by the prevalence of comorbid diagnoses and heterogeneity of ADHD. The goals of this research were to assess the relations between waking and stress-response salivary cortisol levels and comorbid disruptive behavior (DBD) and anxiety (AnxD) disorders and problems in boys with ADHD, and to examine whether cortisol levels varied across ADHD subtypes. One hundred seventy elementary school-age boys with ADHD provided salivary cortisol at waking and in reaction to venipuncture. Parent reports were used to assess boys' psychiatric diagnoses and severity of behavioral problems. Boys' comorbid AnxD and anxiety problems were associated with greater cortisol reactivity, whereas boys' comorbid DBD and oppositional problems predicted diminished adrenocortical activity. Reactive cortisol increases were greatest in boys with ADHD and comorbid AnxD, but without DBD. ADHD subtypes were not differentially associated with waking, pre-stress baseline, or reactive cortisol levels. However, comorbid DBD predicted decreased cortisol reactivity in boys with inattentive and hyperactive subtypes of ADHD, but not in boys with combined subtype of ADHD. The results clarify previous patterns of distinct and divergent dysregulations of HPA function associated with boys' varying kinds of psychopathology.

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Biol Psychiatry. 2009 Jan;65:39-45.

Task complexity enhances response inhibition deficits in childhood and adolescent attention-deficit/hyperactivity disorder: A meta-regression.

Huizenga HM, van Bers BMCW, Plat J, et al.

Background: The ability to inhibit motor responses, as assessed by the stop-signal reaction time (SSRT), is impaired in children and adolescents with attention-deficit/hyperactivity disorder (ADHD). However, the between-study variation in effect sizes is large. The aim of this study was to investigate whether this variability can be explained by between-study variation in Go task complexity.

Method: Forty-one studies comparing children or adolescents diagnosed with ADHD to normal control subjects were incorporated in a random-effects meta-regression analysis. The independent variables were a global index of Go task complexity (i.e., mean reaction time in control subjects [RTc]) and a more specific index (i.e., spatial compatibility of the stimulus-response mapping). The dependent variable was the SSRT difference between ADHD and control subjects.

Results: The SSRT difference increased significantly with increasing RTc. Moreover, the SSRT difference was significantly increased in studies that employed a non compatible, that is, arbitrary, mapping compared with studies that incorporated a spatially compatible stimulus-response mapping.

Conclusions: These results indicate that inhibitory dysfunction in children and adolescents with ADHD varies with task complexity: inhibitory dysfunction in ADHD is most pronounced for spatially non compatible responses. Explanations in terms of inhibition and working memory deficits and a tentative neurobiological explanation are briefly discussed.

(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Pediatrics. 2008;122:222.

Positive screening results for autism in ex-preterm infants.

Indredavik MS, Skranes J, Brubakk M, et al.

J Neurol Sci. 2009;280:15-21.

The effect of methylphenidate on postural stability under single and dual task conditions in children with attention deficit hyperactivity disorder - A double blind randomized control trial.

Jacobi-Polishook T, Shorer Z, Melzer I.

Objectives: To investigate the effects of Methylphenidate (MPH) on postural stability in attention deficit hyperactivity disorder (ADHD) children in single and dual task conditions.

Methods: A randomized controlled double-blind study analyzing postural stability in 24 ADHD children before and after MPH vs. placebo treatments, in three task conditions: (1) Single task, standing still; (2) dual task, standing still performing a memory-attention demanding task; (3) standing still listening to music.

Results: MPH resulted in a significant improvement in postural stability during the dual task condition and while listening to music, with no equivalent improvement in placebo controls.

Conclusions: MPH improves postural stability in ADHD, especially when an additional task is performed. This is probably due to enhanced attention abilities, thus contributing to improved balance control during performance of tasks that require attention. MPH remains to be studied as a potential drug treatment to improve balance control and physical functioning in other clinical populations.

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J Consult Clin Psychol. 2009 Feb;77:189-95.

Maternal attributions and child oppositional behavior: A longitudinal study of boys with and without attention-deficit/hyperactivity disorder.

Johnston C, Hommersen P, Seipp CM.

The authors examined changes over a 1-year period in mothers' attributions for child behavior and child oppositional behavior among 53 mothers and nonproblem sons and 44 mothers and sons with attention-deficit/hyperactivity disorder (ADHD). Boys averaged 8 years of age (SD = 11 months) at Time 1. Families were primarily of European Canadian cultural background and most were middle to upper middle class. Initial levels of child oppositionality did not predict changes in mothers' attributions over time. However, initial levels of mothers' attributions of oppositional child behavior to internal, stable, and global causes positively predicted child oppositional behavior, controlling for ADHD versus nonproblem status and the child's initial level of oppositional behavior. Although initial levels of overreactive and nonresponsive parenting also positively predicted child oppositional behavior, the contribution of mothers' attributions remained significant even with parenting variables controlled. Results suggest that mothers' attributions of child oppositional behavior to internal, stable, and global causes may contribute to maintenance of child problems over time and that these parenting cognitions have importance as intervention targets.

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Psychiatry Res. 2009;166:223-37.

Dysfunctional response preparation and inhibition during a visual Go/Nogo task in children with two subtypes of attention-deficit hyperactivity disorder.

Johnstone SJ, Clarke AR.

While a response inhibition problem is well-established in children with attention-deficit/hyperactivity disorder of the combined subtype (AD/HDcom), the predominantly inattentive subtype (AD/HDin) has not been investigated previously. This study examined control versus subtype differences in visually evoked response inhibition using task performance and event-related potential (ERP) measures. Children with AD/HDcom (n = 15) and AD/HDin (n = 15) and age-matched controls (n = 15) performed a cued visual Go/Nogo task requiring either activation or inhibition (30%) of a button-press response to the S2 (Go or Nogo stimulus) following the S1 (warning stimulus), presented 1380 ms earlier. Task performance and ERP indices of Warning, Go and Nogo stimulus processing, as well as preparation during the S1-S2 interval, were examined for group differences. Behavioural results indicated a response inhibition deficit in children with AD/HDcom and AD/HDin, with additional response activation problems in AD/HDcom. Topographic ERP differences between controls and both clinical groups suggested atypical (a) preparation for S2 as indexed by the late CNV, (b) early sensory/attentional processing of both S1 and S2, and (c) response inhibition as indexed by N2 and P3. In addition to replicating previous AD/HDcom findings, these results indicate that children with AD/HDin differ from controls in response preparation and inhibition during a cued visual Go/Nogo task.

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Journal of Applied Developmental Psychology. 2009 Jan;30:1-13.

The effects of focused attention on inhibition and state regulation in children with and without attention deficit hyperactivity disorder.

Ketch KM, Brodeur DA, McGee R.

This study investigated the effects of response rate and attention focusing on performance of ADHD, clinical-control (CRNA) and non-clinical control children in response inhibition tasks. All children completed the task, a computer-based task of attention and impulsivity. Focused attention on this task was manipulated using a priming arrow, and reaction time and accuracy served as dependent variables. Results indicated that children with ADHD and children in the CRNA group performed more poorly than children in the Control group. Results failed to support the assertion that state regulation or inhibition is a unique deficit in children with ADHD. Evidence was found to suggest that clinical samples have difficulty with response regulation and visual orienting skills. The presence of cognitive deficits in all clinical group children suggests that more research is needed to more clearly delineate differences between childhood psychopathologies and that treatments for cognitive deficits should benefit various groups of children including but not limited to those with ADHD.

(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

J Child Neurol. 2009;24:438-48.

The relationship between cerebral hemisphere volume and receptive language functioning in dyslexia and attention-deficit hyperactivity disorder (ADHD).

Kibby MY, Pavawalla SP, Fancher JB, et al.

Because poor comprehension has been associated with small cerebral volume and there is a high comorbidity between developmental dyslexia, attention-deficit hyperactivity disorder (ADHD), and specific language impairment, the goal of this study was to determine whether cerebral volume is reduced in dyslexia and attention-deficit hyperactivity disorder in general, as some suggest, or whether the reduction in volume corresponds to poor receptive language functioning, regardless of the diagnosis. Participants included 46 children with and without dyslexia and attention-deficit hyperactivity disorder, aged 8 to 12 years. Our results indicated that cerebral volume was comparable between those with and without dyslexia and attention-deficit hyperactivity disorder overall. However, when groups were further divided into those with and without receptive language difficulties, children with poor receptive language had smaller volumes bilaterally as hypothesized. Nonetheless, the relationship between cerebral volume and receptive language was not linear; rather, our results suggest that small volume is associated with poor receptive language only in those with the smallest volumes in both dyslexia and attention-deficit hyperactivity disorder.

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Psychiatr Genet. 2009 Feb;19:57.

Shorter dinucleotide repeat length in the DRD5 gene is associated with attention deficit hyperactivity disorder.

Kim BN, Kang D, Cho SC, et al.

It has been suggested that attention deficit hyperactivity disorder (ADHD) is associated with the dinucleotide repeat polymorphism of the dopamine D5 receptor (DRD5) gene and the Taq I polymorphism of the dopamine beta-hydroxylase (DBH) gene. We genotyped 175 ADHD cases and 215 unaffected controls for case-control analysis. Three hundred and nineteen parents were assessed from 147 parent-child trios and 25 parent-child pairs for family-based analysis. We found differences between cases and controls when all alleles were divided into short and long groups. Even though our data do not support an association between the DRD5 148-bp allele and ADHD, some biased transmissions were detected in family-based analysis and shorter alleles were associated with ADHD in both case-control and family-based analyses. Further studies are required to replicate our findings and to unravel the link between ADHD and the length of the dinucleotide repeat polymorphism of the DRD5 gene.

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J Abnorm Child Psychol. 2009;37:579-89.

Social information processing in elementary-school aged children with ADHD: Medication effects and comparisons with typical children.

King S, Waschbusch DA, Pelham Jr WE, et al.

Examined social information processing (SIP) in medicated and unmedicated children with ADHD and in controls. Participants were 75 children (56 boys, 19 girls) aged 6-12 years, including 41 children with ADHD and 34 controls. Children were randomized into medication conditions such that 20 children with ADHD participated after receiving placebo and 21 participated after receiving methylphenidate (MPH). Children

were shown scenarios depicting peer interactions and asked to interpret each scenario and to generate possible responses to the scenario. Results showed that children with ADHD who received MPH generated more hostile responses to provocation than controls, but children with ADHD on placebo did not. Results also showed that children with ADHD regardless of medication generated more hostile responses to provocation than to peer entry, whereas controls did not. Findings suggest that children with ADHD generate more aggressive responses to provocation than controls and that this may be exacerbated by administration of MPH. Limitations and future directions are discussed.

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Drug Alcohol Depend. 2009 Feb;100:169-72.

Effects of smoking abstinence on reaction time variability in smokers with and without ADHD: An ex-Gaussian analysis.

Kollins SH, McClernon FJ, Epstein JN.

Smoking abstinence differentially affects cognitive functioning in smokers with ADHD, compared to non-ADHD smokers. Alternative approaches for analyzing reaction time data from these tasks may further elucidate important group differences. Adults smoking ≈ 15 cigarettes with ($n = 12$) or without ($n = 14$) a diagnosis of ADHD completed a continuous performance task (CPT) during two sessions under two separate laboratory conditions—a “Satiated” condition wherein participants smoked up to and during the session; and an “Abstinent” condition, in which participants were abstinent overnight and during the session. Reaction time (RT) distributions from the CPT were modeled to fit an ex-Gaussian distribution. The indicator of central tendency for RT from the normal component of the RT distribution (μ) showed a main effect of Group (ADHD < Control) and a Group \times Session interaction (ADHD group RTs decreased when abstinent). RT standard deviation for the normal component of the distribution (σ) showed no effects. The ex-Gaussian parameter tau, which describes the mean and standard deviation of the non-normal component of the distribution, showed significant effects of session (Abstinent > Satiated), Group \times Session interaction (ADHD increased significantly under Abstinent condition compared to Control), and a trend toward a main effect of Group (ADHD > Control). Alternative approaches to analyzing RT data provide a more detailed description of the effects of smoking abstinence in ADHD and non-ADHD smokers and results differ from analyses using more traditional approaches. These findings have implications for understanding the neuropsychopharmacology of nicotine and nicotine withdrawal.

(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

J Neural Transm. 2009;116:117-20.

Emotional memory in ADHD patients with and without comorbid ODD/CD.

Krauel K, Duzel E, Hinrichs H, et al.

The present study investigated whether children and adolescents with attention deficit hyperactivity disorder (ADHD) and comorbid oppositional defiant disorder (ODD) or conduct disorder (CD) show a memory bias for negative emotional pictures. Subjects participated in an incidental memory paradigm involving neutral, positive and negative pictures. In ADHD only patients, memory performance was enhanced to the level of healthy control subjects both by positive and negative pictures, whereas in ADHD patients with comorbid ODD/CD, memory performance was only normalized by negative pictures.

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J Abnorm Child Psychol. 2009 Jan;37:45-58.

Are oppositional-defiant and hyperactive-inattentive symptoms developmental precursors to conduct problems in late childhood? Genetic and environmental links.

Lahey BB, Van Hulle CA, Rathouz PJ, et al.

Inattentive-hyperactive and oppositional behavior have been hypothesized to be developmental precursors to conduct problems. We tested these hypotheses using a longitudinal sample of 6,466 offspring of women selected from nationally representative US households. Conduct problems across 8-13 years were robustly predicted by conduct problems at 4-7 years, but also were independently predicted to a small extent by both inattentive-hyperactive and oppositional behaviors at 4-7 years. Longitudinal multivariate behavior genetic analyses revealed that the genetic and environmental factors that influence conduct problems at both 4-7 and 8-13 years also influence the putative precursors at 4-7 years. After genetic and environmental influences on conduct problems at 4-7 years were taken into account, however, inattentive-hyperactive and oppositional behavior at 4-7 years shared causal influences with conduct problems 8-13 years to a negligible extent. These findings suggest that after early conduct problems are controlled, little is gained in terms of prediction or understanding genetic and environmental influences on later child conduct problems by treating

early inattentive-hyperactive and oppositional behavior as developmental precursors to later conduct problems.

(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Biol Psychiatry. 2009 Jan;65:84-88.

Decreased callosal thickness in attention-deficit/hyperactivity disorder.

Luders E, Narr KL, Hamilton LS, et al.

Background: Neuroimaging studies of attention-deficit/hyperactivity disorder (ADHD) have revealed structural abnormalities in the brains of affected individuals. One of the most replicated alterations is a significantly smaller corpus callosum (CC), for which conflicting reports exist with respect to the affected callosal segments.

Methods: We applied novel surface-based geometrical modeling methods to establish the presence, direction, and exact location of callosal alterations in ADHD at high spatial resolution. For this purpose, we calculated the thickness of the CC at 100 equidistant midsagittal points in an age-matched male sample of 19 individuals with ADHD and 19 typically developing control subjects.

Results: In close agreement with many prior observations, the CC was shown to be significantly thinner in ADHD subjects in anterior and, particularly, posterior callosal sections. Covarying for intelligence did not significantly alter the observed ADHD effects. However, group differences were no longer present in anterior sections when covarying for brain volume and after excluding ADHD subjects comorbid for oppositional defiant disorder.

Conclusions: Decreased callosal thickness may be associated with fewer fibers or a decrease in the myelination of fibers connecting the parietal and prefrontal cortices. This might affect interhemispheric communication channels that are necessary to sustain attention or motor control, thus contributing to symptoms of hyperactivity and impulsivity, or inattention, observed in ADHD. Future studies are necessary to determine whether callosal abnormalities reflect maturational delays or persist into adulthood.

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J Abnorm Child Psychol. 2009 Jan;37:107-18.

Empathy and social perspective taking in children with attention-deficit/hyperactivity disorder.

Marton I, Wiener J, Rogers M, et al.

This study explored empathy and social perspective taking in 8 to 12 year old children with and without Attention-Deficit/Hyperactivity Disorder (ADHD). The sample comprised 92 children, 50 with a diagnosis of ADHD and 42 typically developing comparison children. Although children with ADHD were rated by their parents as less empathic than children without ADHD, this difference was accounted for by co-occurring oppositional and conduct problems among children in the ADHD sample. Children with ADHD used lower levels of social perspective taking coordination in their definition of problems, identification of feelings, and evaluation of outcomes than children without ADHD, and these differences persisted after the role of language abilities, intelligence and oppositional and conduct problems were taken into account. Girls were more empathic and had higher overall social perspective taking scores than boys. Implications for research and practice are discussed.

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J Pediatr Surg. 2009;44:743-48.

Screening for attention-deficit/hyperactivity disorder in a select sample of injured and uninjured pediatric patients.

Maxson RT, Lawson KA, Pop R, et al.

Purpose: Injury is the leading cause of morbidity and mortality to children. The purpose of this study is to compare attention-deficit/hyperactivity disorder (ADHD) screening results in a select group of injured pediatric patients to noninjured patients.

Methods: Parents of patients 6 to 12 years of age were enrolled in the study. Patients were either admitted for specific injury mechanisms (n = 133) or appendicitis (n = 157). Demographic and medical data were collected, and an ADHD screening tool was administered. Logistic regression models were used to compare screening results between groups.

Results: The injured patient group was 3.25 times more likely to screen positive for ADHD (odds ratio, 3.25; 95% confidence interval, 1.57-6.72; P = .002) than the appendicitis group. Among the injured patients who screened positive for ADHD, only 34.0% reported currently receiving treatment.

Conclusions: Our results suggest that pediatric patients with certain injury mechanisms may warrant screening and referral for ADHD. Appropriate identification and treatment of undiagnosed ADHD may reduce

the burden of injury recidivism. Screening and referral for ADHD within a trauma service should be evaluated for effectiveness as an injury prevention initiative.
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Journal of Attention Disorders. 2009 Jan;12:372-80.

Discriminating between children with ADHD and classmates using peer variables.

Mrug S, Hoza B, Gerdes AC, et al.

Objective: Impaired peer relationships have long been recognized as one of the major functional problems of children with ADHD, but no specific guidelines on clinical levels of impairment in this domain exist.

Method: This study used Receiver Operating Characteristics methodology to determine what aspects of peer functioning best discriminate between children with ADHD and their classmates. Optimal cutoffs indicative of clinical levels of impairment associated with ADHD diagnosis were determined for all variables. The participants were 165 children with AD/HD who were part of the Multimodal Treatment Study of Children With ADHD and their 1,298 classmates.

Results: Variables that best discriminated between children with ADHD and their classmates included peer rejection and negative imbalance between given and received liking ratings (i.e., children with ADHD liked others more than they were liked).

Conclusion: Peer rejection and negative imbalance show most promise for identifying clinically significant levels of peer relationship impairment in children with ADHD.

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J Trop Pediatr. 2009;55:116-21.

Randomised controlled study-efficacy of clonidine versus carbamazepine in children with ADHD.

Nair V, Mahadevan S.

Background: Attention deficit hyperactivity disorder (ADHD) is one of the most common childhood psychiatric disorder with a prevalence of 8 - 12%. Even though psychostimulants remain the treatment of choice, its cost and availability in developing countries limits the usage of the drug. In view of free availability and low cost, a Randomized controlled study was carried out using two second line drugs (clonidine and carbamazepine) in a tertiary care hospital, Pondicherry, South India.

Objective: To compare the efficacy of clonidine and carbamazepine in children with ADHD.

Method: With approval of ethics committee, a prospective, Double-blind, Randomized controlled study of clonidine and carbamazepine was conducted with 50 children with ADHD (age group 4 - 12 years), over a period of 2 years (2005 - 07) in a tertiary care hospital, Pondicherry, South India.

Results: Clonidine was effective in improving the hyperactivity and impulsivity symptoms in children with ADHD as compared to carbamazepine. Statistical significant improvement was not noted with respect to inattention symptoms and other comorbid conditions.

Conclusion: Clonidine can be a safer and cheaper alternative in treatment of children with ADHD, with a predominant effect on their hyperactivity and impulsivity symptoms.

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Phytomedicine. 2009;16:284-86.

Observational study: Matricaria chamomilla may improve some symptoms of attention-deficit hyperactivity disorder.

Niederhofer H.

Objective: Noradrenaline and serotonin reuptake inhibitors have been proven to be effective in some cases of ADHD. In this open trial, Matricaria chamomilla, a serotonin and noradrenaline reuptake inhibitor, actually used as an antidepressant, has been checked for this indication.

Method: Three 14-16-year-old male psychiatric outpatients, diagnosed with attention-deficit disorder (ADHD) have been rated at baseline and while taking Matricaria chamomilla to determine its efficacy as a treatment for ADHD. Improvement was valued using comparisons of Conners' parent ratings.

Results: Patients' mean scores improved for Conners' hyperactivity, inattention and immaturity factors.

Conclusions: Although the sample size is very small and therefore generalization is very difficult, this observation indicates that Matricaria chamomilla might be a slightly effective treatment also for ADHD.

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Neuropsychologia. 2009 Mar;47:1149-59.

The neural correlates of deficient error awareness in attention-deficit hyperactivity disorder (ADHD).

O'Connell RG, Bellgrove MA, Dockree PM, et al.

The ability to detect and correct errors is critical to adaptive control of behaviour and represents a discrete neuropsychological function. A number of studies have highlighted that attention-deficit hyperactivity disorder (ADHD) is associated with abnormalities in behavioural and neural responsiveness to performance errors. One limitation of previous work has been a failure to determine the extent to which these differences are attributable to failures of conscious error awareness, a process that is dependent on the integrity of the frontal lobes. Recent advances in electrophysiological research make it possible to distinguish unconscious and conscious aspects of error processing. This study constitutes an extensive electrophysiological investigation of error awareness and error processing in ADHD. A Go/No-Go response inhibition task specifically designed to assess error awareness was administered to a group of adults diagnosed with ADHD and a group of matched control participants. The ADHD group made significantly more errors than the control group but was less likely to consciously detect these errors. An analysis of event-related potentials elicited by errors indicated that an early performance monitoring component (early positivity) was significantly attenuated in the ADHD group as was a later component that specifically reflects conscious error processing (Pe). Dipole source modelling suggested that abnormal Pe amplitudes were attributable to decreased activation of the anterior cingulate cortex. Decreased electrodermal activity in the ADHD group also suggested a motivational insensitivity to performance errors. Our data provide evidence that neuropsychological deficits associated with ADHD can be exacerbated by error processing abnormalities. Error awareness may represent an important cognitive and physiological phenotype for ADHD

Rev Neurol. 2009;48:S119-S122.

Training of executive function in preschool children with combined attention deficit hyperactivity disorder: A prospective, controlled and randomized trial.

Papazian O, Alfonso I, Luzondo RJ, et al.

Introduction. School-age children with attention deficit hyperactivity disorder, combined type (ADHD-C) have executive function (EF) alterations. ADHD-C and EF alterations improve with methylphenidate or after training of working memory.

Aim. To determine EF training effect on ADHD-C and EF alterations in preschoolers.

Subjects and methods. Inclusion criteria: randomly assigned, 2-4 years old with ADHD-C, from 7-1-2004 to 6-30-2005, normal neurological examination, no evidences of underlying chronic disorders, no taking long term medications and parents agree to train or no EF daily. Parents filled out DSM-IV diagnostic criteria form for ADHD-C and children were tested with the Standard Dimensional Change Card Sort Task at the first visit and once a year from 1 to 3 years. Inattention, hyperactivity/impulsivity and EF average scores were statistically analyzed by the t Student for significance.

Results. Of 25, 13 were trained. ADHD-C incidence went down to 16 (64%), 6 (24%) and 10 (40%) trained and untrained. Incidence was 50, 40 and 25% 100, and 66.66y 100 after 1, 2 and 3 years with and without training. Inattention average score was 8.25, 8.4 and 7 before and 6, 5.8, and 5.5 before and after 1, 2 and 3 years of training. Hyperactivity/impulsivity average score was 8.5, 8.4 and 7.75 before and 5.75, 5.6, and 5.25 after 1, 2 and 3 years of training. EF average score was 5.2, 4.8, and 5.5 before and 8.5, 10 and 9.5 after 1, 2 and 3 years of training. Degree of improving of inattention, hyperactivity/impulsivity and EF were statistically significant for training of EF for 1, 2 and 3 years ($p = 0.013, 0.002, 0.0249$).

Conclusions. Children with preschool ADHD-C and EF disorders should receive training of EF for at least 3 years from age of diagnoses to improve their condition.

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Developmental Psychology. 2009 Jan;45:77-89.

Gene X environment interactions in reading disability and attention-deficit/hyperactivity disorder.

Pennington BF, McGrath LM, Rosenberg J, et al.

This article examines Gene x Environment (G x E) interactions in two comorbid developmental disorders--reading disability (RD) and attention-deficit/hyperactivity disorder (ADHD)--as a window on broader issues on G x E interactions in developmental psychology. The authors first briefly review types of G x E interactions, methods for detecting them, and challenges researchers confront in interpreting such interactions. They then review previous evidence for G x E interactions in RD and ADHD, the directions of which are opposite to each other: bioecological for RD and diathesis stress for ADHD. Given these results, the authors formulate and test predictions about G x E interactions that would be expected at the favorable end of each symptom dimension (e.g., above-average reading or attention). Consistent with their prediction, the authors found initial evidence for a resilience interaction for above-average reading: higher heritability in the presence of

lower parental education. However, they did not find a G x E interaction at the favorable end of the ADHD symptom dimension. The authors conclude with implications for future research.
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Pediatrics. 2008;122:221.

Measurement of growth in stimulant-naive children with attention-deficit/ hyperactivity disorder by using cross-sectional and longitudinal approaches.
Poulton A, Nanan R.

Pediatrics. 2008;122:910.

Overweight in children and adolescents in relation to attention-deficit/ hyperactivity disorder.
Poulton A, Kwok S, Nanan R.

Behav Brain Funct. 2009;5.

Attention deficit hyperactivity disorder comorbid oppositional defiant disorder and its predominately inattentive type: Evidence for an association with COMT but not MAOA in a Chinese sample.
Qian QJ, Liu J, Wang YF, et al.

Background: There are three childhood disruptive behavior disorders (DBDs), attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), and conduct disorder (CD). The most common comorbid disorder in ADHD is ODD. DSM-IV describes three ADHD subtypes: predominantly inattentive type (ADHD-IA), predominantly hyperactive-impulsive type (ADHD-HI), and combined type (ADHD-C). Prior work suggests that specific candidate genes are associated with specific subtypes of ADHD in China. Our previous association studies between ADHD and functional polymorphisms of COMT and MAOA, consistently showed the low transcriptional activity alleles were preferentially transmitted to ADHD-IA boys. Thus, the goal of the present study is to test the hypothesis that COMT Val158Met and MAOA-uVNTR jointly contribute to the ODD phenotype among Chinese ADHD boys.

Methods: 171 Chinese boys between 6 and 17.5 years old (mean = 10.3, SD = 2.6) with complete COMT val158met and MAOA-uVNTR genotyping information were studied. We used logistic regression with genotypes as independent variables and the binary phenotype as the dependent variable. We used $p < 0.05$ as the level of nominal statistical significance. Bonferroni correction procedures were used to adjust for multiple comparisons.

Results: Our results highlight the potential etiologic role of COMT in the ADHD with comorbid ODD and its predominately inattentive type in male Chinese subjects. ADHD with comorbid ODD was associated with homozygosity of the high-activity Val allele, while the predominantly inattentive ADHD subtype was associated with the low-activity Met allele. We found no evidence of association between the MAOA-uVNTR variant and ADHD with comorbid ODD or the ADHD-IA subtype.

Conclusion: Our study of attention deficit hyperactivity disorder comorbid oppositional defiant disorder and its predominately inattentive type highlights the potential etiologic role of COMT for ADHD children in China. But we failed to observe an interaction between COMT and MAOA, which suggests that epistasis between COMT and MAOA genes does not influence the phenotype of ADHD-IA with comorbid ODD in a clinical sample of Chinese male subjects. To confirm our findings further studies with a larger number of subjects and healthy controls are needed.

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J Abnorm Child Psychol. 2009;37:521-34.

Hyperactivity in boys with attention-deficit/hyperactivity disorder (ADHD): A ubiquitous core symptom or manifestation of working memory deficits?
Rapport MD, Bolden J, Kofler MJ, et al.

Hyperactivity is currently considered a core and ubiquitous feature of attention-deficit/hyperactivity disorder (ADHD); however, an alternative model challenges this premise and hypothesizes a functional relationship between working memory (WM) and activity level. The current study investigated whether children's activity level is functionally related to WM demands associated with the domain-general central executive and subsidiary storage/rehearsal components using tasks based on Baddeley's (Working memory, thought, and action. New York: Oxford University Press 2007) WM model. Activity level was objectively measured 16 times per second using wrist- and ankle-worn actigraphs while 23 boys between 8 and 12 years of age completed control tasks and visuospatial/ phonological WM tasks of increasing memory demands. All children exhibited significantly higher activity rates under all WM relative to control conditions, and children

with ADHD ($n(\text{element of})=(\text{element of})12$) moved significantly more than typically developing children ($n(\text{element of})=(\text{element of})11$) under all conditions. Activity level in all children was associated with central executive but not storage/rehearsal functioning, and higher activity rates exhibited by children with ADHD under control conditions were fully attenuated by removing variance directly related to central executive processes.

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European Archives of Psychiatry and Clinical Neuroscience. 2009 Feb;259:98-105.

Attention deficit/hyperactivity disorder in female offenders: Prevalence, psychiatric comorbidity and psychosocial implications.

RÄ¶sler M, Retz W, Yaqoobi K, et al.

Attention deficit/hyperactivity disorder (ADHD) is associated with social maladaptation and delinquency in later life. This study was conducted to determine the prevalence of ADHD and comorbid conditions in female prison inmates. One hundred and ten adult female prison inmates of a German prison for women were investigated. SCID-I and -II interviews and standardized German instruments for the assessment of ADHD in adults (HASE) were used. The lifetime prevalence of ADHD was 24.5 and 10% for persisting ADHD according to DSM-IV criteria. A decline of the prevalence of persisting ADHD with age from 17.9% (age <25 years) to 10% (age 26–45 years) and 0% (age >45 years) was observed. Female prisoners with ADHD were younger at their first conviction as compared with females without ADHD and they showed longer incarceration periods in relation to age. The prevalence of other axis I disorders was high in both the ADHD and the non-ADHD female population, but significantly higher in ADHD females. Mean number of axis I diagnoses was 3.6 in females with ADHD and 2.3 in females without ADHD. No differences were found between females with and without ADHD regarding the prevalence of psychotic, affective, anxiety, somatization and posttraumatic disorders. Substance use disorders and in particular the use of stimulants were more frequent in females with ADHD as well as borderline personality disorder and eating disorders. The results suggest a high prevalence of ADHD in female prisoners that exceeds the prevalence estimates from epidemiological studies in general female populations. Moreover, it appears that ADHD is particularly frequent in adolescent and young adult female offenders and increases the risk for further psychiatric morbidity. The results indicate the need of adequate psychiatric support of female prison inmates including therapeutic programs for ADHD.

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Pediatrics. 2008;122:562-73.

Pervasive behavior problems at 6 years of age in a total-population sample of children born at (less-than or equal to) 25 weeks of gestation.

Samara M, Marlow N, Wolke D.

OBJECTIVE. The goal was to test whether extremely preterm children have more pervasive behavior problems than classroom peers, by using parent and teacher consensus reports. Is there an excess number of extremely preterm boys with behavior problems?

METHODS. A total-population study of all extremely preterm children in the United Kingdom and Ireland was performed. All children born at (less-than or equal to) 25 > 5/6 > weeks of gestation in the United Kingdom and Ireland between March and December 1995 were assessed at 76 months of age (range: 62-87 months) (EPICure study). Pervasive behavior problems were defined as scoring > 90th percentile on parent and teacher reports with a standard behavior scale, the Strengths and Difficulties Questionnaire. Of the 241 of 308 survivors who responded (78% of survivors), 200 had full reports on behavior problems from teachers and parents; they were compared with 148 control children.

RESULTS. A total of 19.4% of extremely preterm children (boys: 23.2%; girls: 15.6%), compared with 3.4% of control children (boys: 4.6%; girls: 2.5%) had total behavior scores in the clinical range. Hyperactivity (extremely preterm: 30.6%; control: 8.8%) and conduct problems (extremely preterm: 12.5%; control: 5.4%) could be accounted for by cognitive deficits, but attention (extremely preterm: 33.3%; control: 6.8%), peer (extremely preterm: 25.4%; control: 5.4%), and emotional (extremely preterm: 13.5%; control: 4.1%) problems were not explained by poor cognitive functioning. Extremely preterm boys had behavior problems in excess of gender differences found in the control group in hyperactivity, attention, and prosocial problems, and the impact on parents and teachers was greater for extremely preterm boys than girls.

CONCLUSIONS. Pervasive behavior problems are more frequent in children born at the limits of viability than previously reported for larger preterm populations. Extremely preterm boys seem most vulnerable, and the impact on parents and teachers is considerable.

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Archives of Psychiatric Nursing. 2009 Apr;23:94.

Unintentional injury risk among preschoolers with behavior disorders: Response to Garzon et al. Schwebel DC.

Comments on an article by D. L. Garzon, H. Huang and R. D. Todd (see record 2008-13668-008). Authors explained in their article that unintentional injury is a critical and frequently overlooked topic in public health, and the links between psychiatric disorder and injury risk remain poorly understood by behavioral scientists despite their relevance to the development of injury prevention and intervention programs. That said, I believe that the conclusions made by Dr. Garzon and her team are somewhat misleading. The study suffers from the challenge of recruiting a large sample size all too common in clinical research and overinterprets statistical significance at the expense of underinterpreting effect sizes. I do agree with Garzon and colleagues that the increased injury risk might be smaller among preschoolers with behavior disorders than that among older children with behavior disorders. One hypothesis for this possibility, still in need of empirical investigation, is that preschoolers' safety is protected by parents and other adults more than that of older children.

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Clin Immunol. 2009;131:24-30.

Severe combined immunodeficiency (SCID) and attention deficit hyperactivity disorder (ADHD) associated with a coronin-1A mutation and a chromosome 16p11.2 deletion.

Shiow LR, Paris K, Akana MC, et al.

Defects causing severe combined immunodeficiency (SCID) have been reported in pathways mediating antigen receptor rearrangement, antigen receptor and cytokine signaling, and purine metabolism. Recognizing that the actin regulator Coronin-1A is essential for development of a normal peripheral T cell compartment in mouse models, we identified absence of Coronin-1A in a girl with T-B+NK+ SCID who suffered recurrent infections including severe post-vaccination varicella at age 13 months. Murine Coronin-1A is essential for the release of T cells from the thymus, consistent with the paradoxically detectable thymus in our patient. Molecular analysis revealed a 2 bp deletion in the paternal CORO1A coding sequence paired with a 600 kb de novo deletion encompassing CORO1A on the maternal allele. This genomic region at 16p11.2 is subject to recurrent copy number variations associated with autism spectrum disorders, including attention deficit and hyperactivity, present in our patient. This case highlights the first link between actin cytoskeleton regulation and SCID.

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J Abnorm Child Psychol. 2009 Jan;37:131.

'Neurocognitive functioning in AD/HD, predominantly inattentive and combined subtypes': Erratum.

Solanto MV, Gilbert SN, Raj A, et al.

Reports an error in "Neurocognitive functioning in AD/HD, predominantly inattentive and combined subtypes" by Mary V. Solanto, Sharone N. Gilbert, Anu Raj, John Zhu, Sabrina Pope-Boyd, Brenda Stepak, Lucia Vail and Jeffrey H. Newcorn (Journal of Abnormal Child Psychology, 2008[Jan], Vol 36[1], 129). In the original article the following were omitted from the list of keywords: ADHD; Attention deficit Hyperactivity Disorder. In addition, in the Abstract, at the end of the first sentence: that appears in parentheses in line 2 should appear without the slash ' i.e. it should appear as follows: (ADHD). (The following abstract of the original article appeared in record 2008-06231-011). Reports an error in "Neurocognitive functioning in AD/HD, predominantly inattentive and combined subtypes" by Mary V. Solanto, Sharone N. Gilbert, Anu Raj, John Zhu, Sa'brina Pope-Boyd, Brenda Stepak, Lucia Vail and Jeffrey H. Newcorn (Journal of Abnormal Child Psychology, 2007[Oct], Vol 35[5], 729-744). In the article, there is an apostrophe in the middle of Sabrina's name that should not be there. Her name should read as follows: Sabrina Pope-Boyd. In addition to the above, the following two errors occurred in the abstract: (1) Top second column-should read: "and tasks assessing the impact on reaction time OF varying... ("OF" was omitted)" (2) Last line of abstract-"neurological" should be replaced by "neuropsychological". (The following abstract of the original article appeared in record 2008-00365-004). The Predominantly Inattentive (PI) and Combined (CB) subtypes of AD/HD differ in cognitive tempo, age of onset, gender ratio, and comorbidity, yet a differentiating endophenotype has not been identified. The aim of this study was to test rigorously diagnosed PI, CB, and typical children on measures selected for their potential to reveal hypothesized differences between the subtypes in specific neurocognitive systems (anterior vs. posterior attentional systems) and processes (arousal vs. activation). Thirty-four CB and 26 PI children meeting full DSM-IV criteria for subtype both in school and at home, without confounding reading disability or emotional disorder, were enrolled along with 20 typically developing children. Neurocognitive functions measured included attention, inhibitory control, working memory, learning, and executive functions. Tasks included the Stroop, Wisconsin Card Sorting Test,

Continuous Performance Test (CPT), Buschke Selective Reminding Test, and the Tower of London (TOL), as well as instruments developed by Posner and Sternberg, and tasks assessing the impact on reaction time varying preparatory intervals and stimulus/response complexity. After co-varying for IQ, subtypes differed primarily on measures of impulsivity during tests of vigilance (CPT) and executive function (TOL), with the CB group showing greater impulsivity than both other groups. In addition, the PI group showed worse performance than CB and control groups on the WISC-III Processing Speed Index. Whether analyzed with or without an IQ co-variate, there was no support in the data for hypothesized differences between subtypes in functioning of the anterior vs. posterior attentional systems, nor in involvement of arousal vs. activation processes. The results indicate that the PI and CB subtypes are best differentiated by ratings, observations and tests of cognitive tempo and behavioral impulsivity. Neuropsychological methods have yet to identify critical neurological substrates of these differences.
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Pediatrics. 2009;123:248-55.

Attention-deficit/Hyperactivity disorder: How much responsibility are pediatricians taking?

Stein REK, Horwitz SM, Storfer-Isser A, et al .

BACKGROUND. Attention-deficit/hyperactivity disorder, the most common childhood behavioral condition, is one that pediatricians think they should identify and treat/manage.

OBJECTIVE. Our goals were to explore the relationships between pediatricians' self-reports of their practice behaviors concerning usually inquiring about and treating/managing attention-deficit/ hyperactivity disorder and(1) attitudes regarding perceived responsibility for attention-deficit/hyperactivity disorder and(2) personal and practice characteristics.

METHODS. We analyzed data from the 59th Periodic Survey of the American Academy of Pediatrics for the 447 respondents who practice exclusively in general pediatrics. Bivariate and logistic regression analyses were used to identify attitudes and personal and practice characteristics associated with usually identifying and treating/managing attention-deficit/hyperactivity disorder.

RESULTS. A total of 67% reported that they usually inquire about and 65% reported that they usually treat/manage attention-deficit/hyperactivity disorder. Factors positively associated with usually inquiring about attention-deficit/hyperactivity disorder in adjusted multivariable analyses include perceived high prevalence among current patients, attendance at a lecture/conference on child mental health in the past 2 years, having patients who are assigned or can select a specific pediatrician, practicing in suburban communities, practicing for > 10 years, and being female. Pediatricians' attitudes about responsibility for identification of attention-deficit/hyperactivity disorder were not associated with usually inquiring about attention-deficit/hyperactivity disorder in either unadjusted or adjusted analyses. Attitudes about treating/managing attention-deficit/ hyperactivity disorder were significantly associated with usually treating/managing attention-deficit/hyperactivity disorder in unadjusted and adjusted analyses. Those who perceived that pediatricians should be responsible for treating/managing had almost 12 times the odds of reporting treating/managing attention-deficit/hyperactivity disorder, whereas those who believe physicians should refer had threefold decreased odds of treating/managing. Other physician/practice characteristics significantly associated with the odds of usually treating/managing attention-deficit/ hyperactivity disorder include belief that attention-deficit/hyperactivity disorder is very prevalent among current patients, seeing patients who are assigned or can select a specific pediatrician, and practice location.

CONCLUSIONS. Taking responsibility for treating attention-deficit/hyperactivity disorder and practice characteristics seem to be important correlates of pediatrician self-reported behavior toward caring for children with attention-deficit/hyperactivity disorder.

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Eur Child Adolesc Psychiatry. 2009;18:240-49.

Efficacy and safety of atomoxetine as add-on to psychoeducation in the treatment of attention deficit/hyperactivity disorder : AAA randomized, double-blind, placebo-controlled study in stimulant-naive Swedish children and adolescents.

Svanborg P, Thernlund G, Gustafsson PA, et al.

Objective: The primary objective of this study was to assess the impact of atomoxetine in combination with psychoeducation, compared with placebo and psychoeducation, on health-related quality of life (HRQL) in Swedish stimulant-naive pediatric patients with attention deficit/hyperactivity disorder (ADHD). HRQL results will be presented elsewhere. Here, psychoeducation as well as efficacy and safety of the treatment are described.

Patients and methods: A total of 99 pediatric ADHD patients were randomized to a 10-week double-blind treatment with atomoxetine (49 patients) or placebo (50 patients). Parents of all patients received four

sessions of psychoeducation. Atomoxetine was dosed up to approximately 1.2 mg/kg day ((less-than or equal to)70 kg) or 80 mg/day (>70 kg). Improvement of ADHD symptoms was evaluated using the ADHD rating scale (ADHD-RS) and clinical global impression (CGI) rating scales. Safety was assessed based on adverse events (AEs).

Results: The study population was predominantly male (80.8%) and diagnosed with the combined ADHD subtype (77.8%). The least square mean (lsmean) change from baseline to endpoint in total ADHD-RS score was -19.0 for atomoxetine patients and -6.3 for placebo patients, resulting in an effect size (ES) of 1.3 at endpoint. Treatment response (reduction in ADHD-RS score of (greater-than or equal to)25 or (greater-than or equal to)40%) was achieved in 71.4 or 63.3% of atomoxetine patients and 28.6 or 14.3% of placebo patients. The lsmean change from baseline to endpoint in CGI-Severity was -1.8 in the atomoxetine group compared with -0.3 in the placebo group. The difference between treatments in CGI-Improvement at endpoint was -1.4 in favor of atomoxetine. No serious AEs occurred. The safety profile of atomoxetine was in line with the current label.

Conclusions: Atomoxetine combined with psychoeducation was superior to placebo and psychoeducation in ADHD core symptoms improvement. The large ES might be a result of including stimulant-naive patients only, but also may indicate a positive interaction between atomoxetine treatment and psychoeducation, possibly by increased compliance.

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Br J Clin Pharmacol. 2009;67:466-68.

Large increase of the use of psycho-stimulants among youth in the Netherlands between 1996 and 2006.

Trip AM, Visser ST, Kalverdijs LJ, et al.

AIM To describe the use of psycho-stimulants in the Netherlands between 1996 and 2006 in children and adolescents, and in relation to age and sex.

METHODS With the pharmacy prescription database the IADB.nl, yearly prevalences of psycho-stimulants per 1000 children were calculated, as was the length of psycho-stimulant use with Kaplan-Meier method in SPSS 12.0.

RESULTS Psycho-stimulant use increased in boys (0-19) from 4.5(per mille) in 1996 to 31.1(per mille) in 2006 and for girls from 0.7 to 8.1(per mille), respectively. The largest increase was among boys aged 10-19 years. There is a trend towards prescribing the sustained release preparation of methylphenidate (Concerta).

CONCLUSIONS In the Netherlands a large increase in psycho-stimulants use is observed. However, in the Netherlands the prevalence ratio male/female declined from 6.4 in 1996 to 3.8 in 2006.

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Psychiatr Genet. 2009;19:102-03.

Arginine vasopressin receptor gene-based single-nucleotide polymorphism analysis in attention deficit hyperactivity disorder.

Van West D, Del-Favero J, Deboutte D, et al.

Pediatrics. 2008;122:1155-56.

In Reply.

Waring ME, Lapane KL.

Pediatrics. 2008;122:e1-e6.

Overweight in children and adolescents in relation to attention-deficit/ hyperactivity disorder: Results from a national sample.

Waring ME, Lapane KL.

OBJECTIVE. As the prevalence of childhood obesity increases, identifying groups of children who are at increased risk of overweight is important. The current study estimated the prevalence of overweight in children and adolescents in relation to attention-deficit/hyperactivity disorder and medication use.

PATIENTS AND METHODS. This study was a cross-sectional analysis of 62 887 children and adolescents aged 5 to 17 years from the 2003-2004 National Survey of Children's Health, a nationally representative sample of children and adolescents in the United States. Attention-deficit disorder/attention-deficit/hyperactivity disorder was determined by response to the question "Has a doctor or health professional ever told you that your child has attention-deficit disorder or attention-deficit/hyperactive disorder, that is, ADD or

ADHD?" Children and adolescents were classified as underweight, normal weight, at risk of overweight, or overweight according to BMI for age and gender.

RESULTS. After adjustment for age, gender, race/ethnicity, socioeconomic status, and depression/anxiety, children and adolescents with attention-deficit disorder/attention-deficit/hyperactivity disorder not currently using medication had - 1.5 times the odds of being overweight, and children and adolescents currently medicated for attention-deficit disorder/attention-deficit/hyperactivity disorder had - 1.6 times the odds of being underweight compared with children and adolescents without either diagnosis.

CONCLUSIONS. This study provides heightened awareness for pediatric providers about the relationship between attention-deficit disorder/attention-deficit/hyperactivity disorder, medication use, and weight status. Future work is needed to better understand the longitudinal and pharmacologic factors that influence the relationship between attention-deficit disorder/attention-deficit/hyperactivity disorder and weight status in children and adolescents.

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Child Adolesc Psychiatry Ment Health. 2009;3.

Change in the direct cost of treatment for children and adolescents with hyperkinetic disorder in Germany over a period of four years.

Wehmeier PM, Schacht A, Rothenberger A.

Background: In many developed countries, the treatment of hyperkinetic disorder (or ADHD) consumes a considerable amount of resources. The primary aim of this study was to determine change in the direct cost of treatment for children and adolescents with hyperkinetic disorder in Germany over time, and compare the cost with the cost of treatment for two physical disorders: epilepsy and asthma.

Methods: The German Federal Statistical Office provided data on the direct cost of treating hyperkinetic disorder, epilepsy and asthma in Germany for 2002, 2004, and 2006. The direct costs of treatment incurred by hyperkinetic disorder in these years were compared with those incurred by epilepsy and asthma.

Results: The total direct cost of treatment for the hyperkinetic disorder was (euro) 177 million in 2002, (euro) 234 million in 2004, and (euro) 341 million in 2006. The largest proportion of the cost was incurred by the age group < 15 years: (euro) 158 million in 2002, (euro) 205 million in 2004, and (euro) 287 million in 2006. The direct cost of treatment for epilepsy in this age group was a total of (euro) 157 million in 2002, (euro) 155 million in 2004, and (euro) 155 million in 2006. For asthma, the total direct cost of treatment in this age group was (euro) 266 million in 2002, (euro) 257 million in 2004, and (euro) 272 million in 2006.

Conclusion: The direct cost of treatment for hyperkinetic disorder in the age group < 15 years increased considerably between 2002 and 2006. Over the same period of time and for the same age group, expenditure for epilepsy and asthma was more or less constant. The increase in expenditure for the treatment of hyperkinetic disorder may be due to increasing demand for diagnostic and therapeutic services and improved availability of such services. The study is limited by the difficulty of obtaining consistent data on the direct cost of treatment for both physical and psychiatric disorders in Germany.

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Child Adolesc Psychiatry Ment Health. 2009;3.

Morning and evening behavior in children and adolescents treated with atomoxetine once daily for Attention-Deficit/Hyperactivity Disorder (ADHD): Findings from two 24-week, open-label studies.

Wehmeier PM, Dittmann RW, Schacht A, et al.

Background: The impact of once daily atomoxetine treatment on symptoms in children and adolescents with ADHD may vary over the day. In order to capture such variations, two studies were undertaken in children and adolescents with ADHD using two instruments that capture morning and evening behavior and ADHD-related difficulties over the day. This secondary measure analysis builds on two primary analyses that were conducted separately for children and adolescents and also published separately.

Methods: In two open-label studies, ADHD patients aged 6-17 years (n = 421), received atomoxetine in the morning (target-dose 0.5-1.2 mg/kg/ day) for up to 24 weeks. Morning and evening behavior was assessed using the investigator-rated Weekly Rating of Evening and Morning Behavior (WREMB-R) scale. ADHD-related difficulties at various times of the day (morning, during school, during homework, evening) were assessed using the Global Impression of Perceived Difficulties (GIPD) scale, rated by patients, parents and physicians. Data from both studies were combined for this secondary measure analysis.

Results: Both WREMB-R subscores decreased significantly over time, the evening subscore from 13.7 (95% CI 13.2;14.2) at baseline to 8.0 (7.4;8.5) at week 2, the morning subscore from 4.3 (4.0;4.5) to 2.4 (2.2;2.6). Scores then remained stable until week 24. All GIPD items improved correspondingly. At all times of the day, patients rated ADHD-related difficulties as less severe than parents and physicians.

Conclusion: These findings from two open-label studies suggest that morning and evening behavior and ADHD-related difficulties in the mornings and evenings improve over time with once daily atomoxetine treatment.

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Acta Paediatr Int J Paediatr. 2009;98:828-33.

The Conners' 10-item scale: Findings in a total population of Swedish 10-11-year-old children.

Westerlund J, Ek U, Holmberg K, et al.

Aim: To present normative data for the Swedish version of the Conners' 10-item scale, to validate the scale by comparing children with and without attention deficit/hyperactivity disorder (ADHD), to explore the factor structure of this scale and to investigate behavioural characteristics and gender differences among 10- to 11-year-old children, as rated by parents and teachers respectively.

Methods: Parents and teachers rated 509 10- to 11-year-old children (261 boys and 248 girls) from a population-based cohort in a Swedish municipality.

Results: The Conners' 10-item scale discriminated very well between children with and without ADHD. Confirmatory factor analyses confirmed a two-dimensional structure of the scale with items measuring restless/impulsive behaviour in one factor and items measuring emotional lability in another. An ANOVA revealed that parents and teachers reported different behavioural characteristics in boys as compared to girls.

Conclusion: The Conners' 10-item scale is a valid screening instrument for identification of ADHD. The two subscales can be used separately, in addition to the total score, to get a more detailed picture of the child's behaviour. Parents and teachers pay attention to different aspects of problem behaviour in boys and girls. The less disruptive behaviour of girls needs to be highlighted.

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Emotional & Behavioural Difficulties. 2009 Mar;14:69-84.

Variability of ADHD symptoms across primary school contexts: An in-depth case study.

Wheeler L, Pumfrey P, Wakefield P.

By focusing on the findings from one case study, this article demonstrates a replicable individualised approach to identifying variability of ADHD symptoms across contexts at given times in a main phase and follow-up phase (situational variability) and across both phases (temporal variability) in a primary school setting. Currently we have found no studies that focus on both situational and temporal variability in the same curricular contexts. A mixed-method approach combines quantitative and qualitative research strategies. Two classroom observation schedules incorporating the DSM-IV diagnostic criteria for ADHD have been used over a two-year period to gather unique quantitative data on the variability of ADHD symptoms. Other data-gathering techniques include the use of field notes and interviews. Identification is made of contextual and curricular settings and approaches which may reduce ADHD behaviours. Such indicators may help teachers to enhance on-task behaviour in pupils with ADHD. Discussion focuses on: the delivery and organisation of the curriculum; teaching and learning styles; and grouping and support in the mainstream classroom.

(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Nicotine Tob Res. 2009;11:313-22.

Association between smoking and retrospectively reported attention-deficit/hyperactivity disorder symptoms in a large sample of new mothers.

Willoughby MT, Kollins SH, McClernon FJ.

Introduction: This study investigated the association between retrospectively reported attention-deficit/hyperactivity disorder (ADHD) symptoms experienced during childhood and five cigarette smoking - related outcomes in adulthood.

Methods: A large sample (N = 1,117) of new mothers participating in an ongoing longitudinal study completed retrospective reports of their childhood ADHD symptomatology, as well as concurrent and retrospective reports of their smoking behavior. Linear regression models tested the association between ADHD symptomatology and smoking outcomes.

Results: Childhood ADHD symptomatology was predictive of the number of cigarettes smoked per day currently and during pregnancy, as well as the age at onset of smoking. We found nonlinear associations between hyperactive - impulsive symptoms and the number of cigarettes smoked per day in pregnancy, as well as between inattentive symptoms and the number of cigarettes smoked per day currently. Women who retrospectively reported intermediate levels of ADHD symptoms during their childhood reported smoking more cigarettes per day than women who reported low or high levels of ADHD symptoms during childhood.

We also found multiplicative relationship between inattentive and hyperactive - impulsive symptoms, such that inattentive symptoms were predictive of an earlier age at smoking onset only when hyperactive - impulsive symptoms were low; moreover, the magnitude of this association was stronger for Black relative to White women.

Discussion: These findings demonstrate the importance of considering differential effects of ADHD symptoms and smoking outcomes as a function of sex and race. They also represent a potentially indirect means through which women who have even a moderate childhood history of ADHD symptomatology may create a set of circumstances that compromise the health and well-being of their own children. (copyright) The Author 2009.

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J Neural Transm. 2009;116:105-08.

Reduced serotonergic functioning changes heart rate in ADHD.

Zepf FD, Holtmann M, Stadler C, et al.

Reduced mean heart rate (HR) was shown to be a biophysiological marker for aggression, which in turn was proven to be related to changed serotonergic neurotransmission. A total of 16 ADHD-diagnosed boys were subjected to rapid tryptophan depletion (RTD) and a placebo in a double-blind within-subject crossover-design. Mean HR was assessed under RTD/placebo. Low impulsive patients behaving aggressively under RTD showed a lowered HR under RTD versus placebo. Diminished 5-HT functioning was associated with lowered HR and aggressive behaviour.

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Iniziativa nell'ambito del Progetto di ricerca indipendente AIFA

“Sicurezza a lungo termine dei farmaci utilizzati nel trattamento di bambini in età scolare con sindrome da deficit di attenzione e iperattività ed epidemiologia della malattia nella popolazione italiana”.

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