

# ADD-vantage



## Attention Deficit/Hyperactivity Disorder

*Issue 19*

## Newsletter

*Spring 2007*

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Dear Members,

Once again we are half-way through a scholastic year and I am sure many of you have faced good and bad times. Even the Group goes through its good and bad times and being homeless is not one of the good times. We still haven't found a garage or a room we can use as an office, so please, if anyone knows of anywhere.....

With the recent launch of Strattera we now have three options for medication, even if two of them have to be paid for- at least there is a choice. For those whom methylphenidate is not an option, the Strattera is a good option and for those who don't wish to have to dose more than once in a day there is the choice of Concerta too.

The Group is trying to set up regular meetings for adults with ADHD to be run concurrently with the parents' meetings. I have just returned from a conference in London and great emphasis is being placed on the importance of parents, if ADHD, being treated successfully if the children are to be treated successfully.

We are also in the process of facilitating the establishment of a Group in Gozo which will be affiliated with this Group. I am sure you will all agree that this is a very important step since it is very difficult for members from Gozo to attend our monthly meetings, especially in winter.

All this means the Committee are desperate for more members and we hope the AGM next week will prove fruitful.

The Editor

## **\*\*NRP104 Significantly Reduced Symptoms of ADHD in Children\*\***

Study results for NRP104 presented at American Psychiatric Association Meeting

Toronto; V Shire plc (Nasdaq: SHPGY, LSE: SHP, TSX: SHQ) and New River Pharmaceuticals Inc. (Nasdaq: NRPH) announced today that treatment with the investigational drug, lisdexamfetamine dimesylate (NRP104), demonstrated statistically significant reduction in the symptoms of Attention-Deficit/Hyperactivity Disorder (ADHD) in children aged 6 to 12 years according to the results of a phase III trial presented today at the American Psychiatric Association (APA) annual meeting. (2006)

A phase II trial of lisdexamfetamine dimesylate (NRP104), also presented at APA today, demonstrated a statistically significant reduction in ADHD symptoms comparable to mixed amphetamine salts extended-release (MAS XR). Both products were studied versus placebo in children aged 6 to 12 years with ADHD.

These studies showed that NRP104 significantly reduced ADHD symptoms and was well-tolerated," said Joseph Biederman, M.D., professor of psychiatry at Harvard Medical School and director of Pediatric Psychopharmacology at Massachusetts General Hospital. Dr. Biederman led both of the NRP104 studies presented at the APA meeting.

New River Pharmaceuticals Inc. developed NRP104 and on January 31, 2005, signed a collaborative agreement with Shire to develop and commercialize the product. On December 6, 2005 New River filed a New Drug Application with U.S. Food and Drug Administration to evaluate NRP104 for the treatment of ADHD. This application is currently under review.

### **Phase III Study Results of NRP104**

In the phase III study, 30-milligram (mg), 50 mg, and 70 mg QD doses of lisdexamfetamine dimesylate (NRP104)

demonstrated significant improvements in average ADHD symptoms compared with placebo ( $P < 0.0001$ ) after four weeks of once-daily treatment, as measured by 230 children's scores on the ADHD Rating Scale (ADHD-RS). ADHD-RS is a standard test for diagnosing ADHD in children and adolescents and for assessing their response to treatment. The scale, which contains 18 items, is based on the ADHD diagnosis criteria as defined in the APA's Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision, μ.

Average reductions in ADHD-RS scores were 51 percent (21.8 points), 54 percent (23.4 points) and 59 percent (26.7 points) for the 30 mg, 50 mg, and 70 mg dosage strengths, respectively, compared to baseline. All three NRP104 doses produced significant average differences in the scores during the first week of treatment ( $P < 0.0001$  versus placebo for each dose). Of the participants, 36 percent had previously received treatment for ADHD.

Each of the three dosage strengths (30 mg, 50 mg and 70 mg per day) demonstrated efficacy in the morning (~10:00 am); afternoon (~2:00 pm); and into evening (~6:00 pm), compared to placebo, as demonstrated by the Conners's ADHD Rating Scale ; V Parent (CPRS).

Most adverse events were mild to moderate and occurred in the first week. The most common adverse events were decreased appetite, insomnia, headache and upper abdominal pain.

### **Phase II Study Results of NRP104**

In a phase II three-way double-blind cross-over analog classroom study, investigators optimized 50 children aged 6 to 12 years to their MAS XR dose during a three-week period. The researchers then randomized the participants to receive one week each of lisdexamfetamine dimesylate (NRP104) (approximate equivalent dose to the child's optimal MAS XR dose), MAS XR (subject's optimal dose) or a placebo for a total of three weeks.

The results demonstrated consistently improved behavior when receiving either

NRP104 or MAS XR as measured by the Swanson, Kotkin, Agler, M-Flynn and Pelham (SKAMP) department rating scale, which is a standard, validated classroom assessment tool used for testing ADHD treatment. Both NRP104 and MAS XR treatments resulted in significant and equivalent improved department (0.8 for both), versus placebo (1.7) (P<0.0001, for both).

The results also demonstrated that children's academic productivity significantly improved with both NRP104 and MAS XR treatments, compared to placebo, as measured by PERMP, an age-adjusted collection of math problems that provides an accurate measure of a child's ability to pay attention and stay on task correlated by an increase in number of successfully completed problems. Average scores on PERMP-attempted were NRP104, 133.3, and MAS XR, 133.6, compared to placebo, 88.2, (P<0.0001, for both) and on PERMP-correct, NRP104, 129.6, and MAS XR, 129.4, compared to placebo, 84.1 (P<0.0001).

Adverse events were mild to moderate. The most common adverse events for NRP104 were insomnia (8 percent), decreased appetite (6 percent) and anorexia (4 percent); for MAS XR were decreased appetite (4 percent), upper abdominal pain (4 percent), insomnia (2 percent), and vomiting (2 percent).

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New River Pharmaceuticals conducted and sponsored both clinical trials of NRP104.

### **About NRP104**

NRP104 was designed as a pharmacologically inactive prodrug in which d-amphetamine is covalently bonded to l-lysine, a naturally occurring amino acid. It is

not until undergoing hydrolysis that the pharmacologically active d-amphetamine molecule is gradually released, which may make drug tampering difficult and impractical. NRP104 was designed with the expectation to have comparable efficacy and tolerability to currently marketed once daily extended-release stimulants with reduced potential for abuse, diversion and overdose toxicity.

“We believe the design of NRP104 could yield a reduced potential for abuse and diversion, while also providing effectiveness comparable to currently marketed ADHD medications. We are continuing to study NRP104 to further evaluate the compound's potential,” says Suma Krishnan, New River's Vice-President, Product Development.

Subject: 1000 Marbles

I sat down one day and did a little arithmetic. The average person lives about seventy-five years. I know, some live more and some live less, but on average, folks live about seventy-five years.

"Now then, I multiplied 75 times 52 and I came up with 3900, which is the number of Saturdays that the average person has in their entire lifetime. Now, stick with me, I'm getting to the important part.

It took me until I was fifty-five years old to think about all this in any detail", and by that time I had lived through over twenty-eight hundred Saturdays." "I got to thinking that if I lived to be seventy-five, I only had about a thousand of them left to enjoy. So I went to a toy store and bought every single marble they had. I ended up having to visit three toy stores to round up 1000 marbles. I took them home and put them inside a large, clear plastic container right here in the shack next to my gear."

"Every Saturday since then, I have taken one marble out and thrown it away. I found that by watching the marbles diminish, I focused more on the really important things in life. There is nothing like watching your

time here on this earth run out to help get your priorities straight."

"Now let me tell you one last thing. This morning, I took the very last marble out of the container. I figure that if I make it until next Saturday then I have been given a little extra time. And the one thing we can all use is a little more time."

## **\*\*The Risks of Adult ADHD Demand Effective Therapy\*\***

**NEW DATA show that** adults with ADHD face more potentially serious consequences than their non-ADHD peers. Adults with ADHD are:

- 2x more likely to rarely or never use birth control
- 4x more likely to have contracted a sexually transmitted disease
- 3x more likely to be currently unemployed
- 2x more likely to have problems keeping friends
- 47% more likely to have trouble paying bills

*\* Data compiled from a study comparing the young adult adaptive outcomes of nearly 140 patients (ADHD and non-ADHD control) followed concurrently for at least 13 years.*

## **\*\*Improving Adherence & Compliance in Adults & Adolescents with ADHD\*\***

**William W. Dodson, MD**, Medical Director, ADHD Treatment Center, Denver, Colorado

*Disclosure: William W. Dodson, MD, has disclosed that he has served as an advisor or consultant to, and on the speakers' bureaus for, Shire and Novartis*

The diagnosis and medical management of ADHD is only the beginning of a course of treatment that should last a lifetime but rarely does. Several recent large studies show that the rigor with which people take their ADHD medications (compliance) and whether they continue treatment at all (adherence) are shockingly low.

For example, Capone and colleagues<sup>[1]</sup> followed 5659 patients taking extended-release mixed amphetamine salts (MAS-XR), extended-release methylphenidate, long-acting methylphenidate, or atomoxetine for 15 months. Within the first 3 months of treatment, 50% were no longer taking medication and, by the end of the 18-month observation period, an astonishing 80% had dropped out. Even more striking, it did not matter which of the 4 medications the patients were prescribed; the attrition rates were identical for all 4 agents (Figure). Furthermore, no other parameter seemed to matter; the same dramatic lack of adherence was evident regardless of race, age, gender, or payor source. It appeared to be a function almost solely of the ADHD itself (there was a minor increased attrition in low-income patients). These data confirmed 2 previous studies: Perwien and associates found that 85% of children and 88% of adults were adherent for less than 2 months; and Sanchez and colleagues<sup>[3]</sup> demonstrated dropout rates of 50% to 63% in 9549 children with ADHD during a single school year.

To be sure, treatment compliance and adherence are important issues in the management of all chronic medical and psychiatric conditions. ADHD shares many of the impediments to adequate compliance that are common to any lifelong condition, but it also includes features and therapeutic responses that are probably unique to people with ADHD.

Even the most conscientious of individuals may not be able to follow the directions and suggestions of their clinician exactly. The degree of compliance that is "good enough" will change depending on the medical condition and the consequences that go along with nontreatment of the disorder. By any measure, however, medication treatment compliance and adherence in ADHD is abysmal even when compared with other mental health disorders.

## **Major Causes of Noncompliance/ Nonadherence**

### Poor Understanding on the Part of Patients and Physicians Alike

In their study, Capone and colleagues asked focus groups about the array of factors that contributed to their dropout from a course of successful treatment. The most common reason was that patients did not understand why they were taking the medication or that the treatment could prevent severe consequences later in life. This is similar to reasons given by dropouts from treatment of most chronic conditions.

Most people, including healthcare providers, still view ADHD as a strictly academic problem. This perception is reflected in prescription patterns showing the majority of school-age children being treated Monday through Friday, 7 AM to 3 PM, but not evenings, weekends, or during holidays and summer vacations. This is especially disheartening given the extensive research on the consequences of nontreatment. Left untreated, people with ADHD have a significantly greater risk for developing substance use disorders, being involved in serious accidents, contracting a sexually transmitted disease, having an unplanned pregnancy, becoming separated or divorced, and being involved in illegal activity. Of note, these consequences of nontreatment occur primarily outside the school environment, when patients are least likely to have been prescribed medication in the first place. Accumulating evidence indicates that successful treatment reduces the risk of these consequences of untreated ADHD to the rate found in the general, non-ADHD population.

#### Misperceptions About "Curing" ADHD

Simply put, treatment is protective both now and for future adverse consequences; however, most people do not make this connection. Instead, the second most common reason for discontinuing treatment for ADHD was the magical belief that the treatment, like an antibiotic, would quickly "cure" the condition.<sup>[1]</sup> "I'm going to have to take this medication for a month or so and then I'm not going to have ADD anymore and won't have to take medication anymore." The whole notion of a chronic genetic and neurologic condition that never

goes away and produces lifelong impairments is completely missing. Unless treating clinicians are vigilant for this magical and irrational belief, they will miss the opportunities to confront it directly and to dispel it.

### Perceived Ambivalence of Physicians

The third most common reason given for discontinuing treatment was that patients believed that their physician did not support continued medication use. This perception may be erroneous, but it is understandable when one notes the prescribing of medication only for school or work hours and some prescribers' attitudes that taking the medication is optional in the first place, especially for adults.

Many clinicians believe, falsely, that "older patients know when they need to take the medication" despite evidence that ADHD patients of all ages assess their own performance poorly. For example, in a study of simulated driving on and off ADHD stimulant medications, Kay found that study subjects rated their driving performance as being the same whether on or off medication despite the 5 standard deviations difference (!) in their driving safety and responsibility.

This physician attitude is all the more surprising when one considers that the whole diagnostic framework for ADHD emphasizes that people with ADHD are, by diagnostic definition, careless, disorganized, and impulsive, and that they have a neurologically based inability to give sustained attention to tasks in the first place.

## **Actions to Increase Compliance and Adherence**

Considering the low level of treatment adherence, surprisingly little information is available on interventions that improve long-term involvement in treatment. What we know has been transferred from experiences and research of other chronic conditions. The only interventions directly referable to ADHD come from specialty clinics that exchange information when clinicians get together at meetings. Only bits and pieces emerge in published sources.

Consequently, despite widespread use, many of the techniques discussed here have not yet been proven to be effective in long-term follow-up studies.

#### Specific Strategies

*Fine-tune the medication from the beginning based on the patient's target symptoms.*

Medication dosages that are too low fail to deliver benefits that would support the continued use of medication. The naturalistic arm of the Multimodal Treatment Study of Children with ADHD showed that the most common dosing pattern was to increase the dose until the first sign of a positive response and then stop, forfeiting the full benefit that the medication had to offer.

Despite the common perception, little research supports the notion that ADHD is overtreated. Conversely, medication doses that are too high cause side effects that make use of the medication unpleasant and intolerable. Fine-tuning first-line ADHD medications is commonly an exercise in brinkmanship because the dose that gives optimal performance and the fewest side effects is typically only 1 dosage strength away from a dose that produces ultimately tolerable side effects that nonetheless cause a patient to discontinue medication before tolerability appears.

Adjusting the medication on the basis of the patient's target symptoms (eg, "What is it about your ADHD that bothers you the most and that you want to be sure we address and fix today?") has a number of advantages. It starts educating the patient from the outset about how ADHD impairs multiple areas of life functioning and how the medication works for him or her. It also tells the patient what to look for. Remember that the patient has always experienced the world as a person with ADHD, and doesn't know what is possible or what to look for unless the clinician overtly draws his or her attention to it. Because the self-appraisal of people with ADHD is commonly so poor, always be sure to involve a significant other in the titration process, as a second set of eyes and ears.

*Expect and plan for noncompliance and nonadherence; don't wait for it to occur.* With 2 studies reporting 50% dropout rates in the first 3 months of treatment, it makes no sense to wait to see if it is going to happen. Set up a system of "ticklers" to track when patients do not reschedule or do not call for

refills. Just as we track what prescriptions we write, we should probably be aware of the prescriptions we should have written but didn't. Relying on ADHD patients to remember "because they're adults" demonstrates a lack of understanding of this patient population.

*Be explicit that skills do not come in pill form and that medication alone is rarely adequate treatment.* Admittedly, the first-line medications are usually dramatically effective, but this just makes the rapid level of treatment dropout all the more puzzling. Medications may get the patient into the game on a level neurologic playing field for the first time in their lives, but that is all. The patient must still learn the rules of the game and acquire a thorough knowledge of how to manage a nervous system that is fundamentally different from the typical non-ADHD nervous system. The person's attention and impulse control may become the same as anyone else's, but if he or she doesn't learn the skills needed to manage an ADHD nervous system, nothing changes.

*Psychoeducation is essential to treatment compliance and long-term adherence.*

Psychoeducation begins with the clear statement by the clinician that ADHD does not go away and that lifelong management (both medication and nonmedication-based) is essential. The prescription of medication should reflect the expectation that the medication be beneficial all day long, every day, and in every area of life functioning. Patients will generally do something less than the recommendation, but the clinician should not give the patient the opportunity to view the authority figure as supportive of inconsistent, haphazard, or "optional" treatment right from the start.

Psychoeducation is best done in groups both because it is financially more accessible and because it creates a buddy system. People who meet someone at the gym to work out are substantially more likely to actually go to the gym. We will fulfill our obligations to others more often than we will to ourselves. The groups can last as few as 6 weeks, during which the emphasis is on how ADHD has affected every area of the person's life and relationships. Including spouses and significant others in the group is often invaluable. The goal of the group is to arrive at a shared and well-understood appreciation of the many ways ADHD has

adversely affected every aspect of each patient's life, and an understanding that it will continue to do so until it is thoroughly treated. Good patients are made, not born. Many clinics require this type of education for both patient and significant other before allowing continued medication.

*Use the vigilance effect.* If a teacher gives a homework assignment but says that you never have to turn it in and that he will never check it, how many people do you suppose will actually complete the assignment? Probably very few. And yet, this is how most clinicians prescribe most medications. The leading cause of medication failure is that the medications are never taken in the first place. Simply having a staff member count pills and divide that number by the number of days since the prescription was filled can provide a good estimate of compliance rates and improve compliance directly.

In our practice, the first time we checked our ADHD patients' medications we found that roughly 6 pills were taken every 7 days. When the patients knew that we were going to check, the rate jumped to 15 pills every 7 days, a number much closer to the prescribed dose. Few other interventions have such immediate and lasting benefits.

#### Medication Formulations That Improve Compliance and Adherence

As noted, by diagnostic definition, people with ADHD are forgetful, disorganized, lose things, etc. The choice of an extended-release instead of immediate-release formulation automatically doubles or triples the length of time these medications are actually in the patient's bloodstream and are treating the symptoms of ADHD.

**Steady blood levels.** The gradual and more consistent blood levels produced by comprehensive release formulations give more consistent and stable symptom control. This is of particular importance for this patient population because, in one way or another, the primary goal of treatment for most patients with ADHD is to attain some sort of stability -- stability of engagement, stability of performance, stability of mood, stability of impulse control. Immediate-release preparations are in and out so

rapidly that consistency is very hard to attain and sustain.

**Rebound phenomena.** Extended-release formulations smooth out the rebound phenomena seen with all the first-line medications and that can produce a real impediment to taking medication. Virtually all of the extended-release mechanisms do a good job of smoothing out the ups and downs seen with immediate-release products.

**Sense of time.** People with ADHD have a very poor sense of time. Indeed, a large majority of the adults and adolescents with ADHD in our clinic do not even own a watch! How can we rationally expect these patients to take multiple doses of medication exactly on time so as to avoid rebound when they have no way to know what time it is?

**Embarrassment.** Many young adult patients return to request medication again after stopping it in high school, where they refused to go to the school nurse to get their medication at noon and be teased all the way there and back. Extended-release formulations help patients maintain their privacy and confidentiality. While this may seem a small thing to some, to people with ADHD who are already extremely sensitive to teasing and criticism, it is an otherwise insurmountable issue that can end an otherwise successful course of treatment.

Any one of these reasons probably justifies the added expense of extended-release formulations. All 5 reasons together are truly compelling and support extended-release formulations as a major factor that can make the difference between treatment success and failure. It is a false economy to prescribe immediate-release formulations, because most patients simply do not take them frequently enough or consistently enough to achieve their full capabilities. The prescription of immediate-release formulations only gives a notoriously forgetful patient population another opportunity to forget.

## **A Few Final Pointers**

### Treat the Whole Family

ADHD is clearly a genetic disorder that runs in families. If one person has ADHD, roughly half of that person's first-degree relatives will

have ADHD as well. Thus, a leading cause of treatment failure in children with ADHD is the failure to treat the parent(s) with ADHD. The clinician and the school can put together a world-class treatment plan, but if that plan is handed off to a parent with untreated ADHD, the chances of it being implemented for any length of time are close to zero.

#### Use Technology to Enhance Compliance and Adherence

Many patients will take only 1 pill a day unless they have some reminder such as a pillbox timer (see [www.apothecaryproducts.com](http://www.apothecaryproducts.com)) or an alarm on their PDA for subsequent doses. People who work at computers can use reminder features built into Outlook, or they can download talking cartoon characters (see [www.talkingbuddy.com](http://www.talkingbuddy.com)) that pop up at the right time for subsequent medication doses and also for any meetings, birthdays, and anniversaries that might be forgotten. Dozens of technology aids, vibrating wristwatches, computer programs, and the like are available to help with compliance. Many can be found in ADHD magazines such as *ADDitude* and *Attention!*, or on the Web, if the clinician suggests and encourages its use.

#### **Funding Information**

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#### **Sadly all too true.**

Scenario: Jack pulls into school parking lot with rifle in gun rack.

1973 - Vice Principal comes over, takes a look at Jack's rifle, goes to his car and gets his to show Jack.

2006 - School goes into lockdown, FBI called, Jack hauled off to jail and never sees his truck or gun again. Counselors called in for traumatized students and teachers.

Scenario: Johnny and Mark get into a fist fight after school.

1973 - Crowd gathers. Mark wins. Johnny and Mark shake hands and end up best friends. Nobody goes to jail, nobody arrested, nobody expelled.

2006 - Police called, SWAT team arrives, arrests Johnny and Mark. Charge them with

assault, both expelled even though Johnny started it.

Scenario: Billy breaks a window in his father's car and his Dad gives him a whipping.

1973 - Billy is more careful next time, grows up normal, goes to college, and becomes a successful businessman.

2006 - Billy's Dad is arrested for child abuse. Billy removed to foster care and joins a gang. Billy's sister is told by state psychologist that she remembers being abused herself and their Dad goes to prison. Billy's mom has affair with psychologist.

Scenario: Mark gets a headache and takes some headache medicine to school.

1973 - Mark shares headache medicine with Principal out on the smoking dock.

2006 - Police called, Mark expelled from school for drug violations. Car searched for drugs and weapons.

Scenario: Mary turns up pregnant.

1973 - 5 High School Boys leave town. Mary does her senior year at a special school for expectant mothers.

2006 - Middle School Counselor calls Planned Parenthood, who notifies the ACLU. Mary is driven to the next state over and gets an abortion without her parent's consent or knowledge. Mary given condoms and told to be more careful next time.

Scenario: Pedro fails high school English.

1973: Pedro goes to summer school, passes English, and goes to college.

2006: Pedro's cause is taken up by state politicians. Newspaper articles appear nationally explaining that teaching English as a requirement for graduation is racist. ACLU files class action lawsuit against state school system and Pedro's English teacher. English banned from core curriculum. Pedro given diploma anyway but ends up mowing lawns for a living because he can't speak English.

Scenario: Johnny takes apart leftover firecrackers from the 4th of July, puts them

in a model airplane paint bottle, and blows up a red ant bed.

1973 - Ants die.

2006 - BATF, Homeland Security, FBI called. Johnny charged with domestic terrorism, FBI investigates parents, siblings removed from home, computers confiscated; Johnny's Dad goes on a terror watch list and is never allowed to fly again.

Scenario: Johnny falls while running during recess and scrapes his knee. He is found crying by his teacher, Mary. Mary hugs him to comfort him.

1973 - In a short time Johnny feels better and goes on playing.

2006 - Mary is accused of being a sexual predator and loses her job. She faces 3 years in State Prison. School pays 6 figure number for having asphalt for playground.

accomplishment they fail to produce; they stall out. And often they face accusations of laziness. In truth, through no fault of their own, they suffer from hidden handicaps that disrupt and interrupt their output. They are not lazy; they have output failure.

The power and the vulnerability of the drive to be productive are frequently neglected. I believe that adults and children alike feel that a large part of who they are comes from what they do, particularly what they have produced or are producing, and what they aspire to achieve in the future. Casualties result when individuals have output failure and come to believe that their work is worthless and perhaps never will be worthy. Our society pays an exorbitant price to restore their mental health, to punish them within our justice system, to deal with their underemployment, and to cope with the many other negative effects of their thwarted drives toward success.

## WHEN WORK IS WORKING

On the positive side, there are countless diverse ways to savor recognition and personal satisfaction from high-quality output. Garnering rave reviews for your leading role in a musical comedy, scoring a hat trick in hockey, getting mostly A's on your term papers in religious studies, raising a well-adjusted child, and successfully replacing the gasket in a car engine are among the varied instances of output success. No one can emerge productive in all fields of endeavor, any more than any single piece of high-tech apparatus can accomplish all of the chores around the house. Each of us is destined to exhibit one or more personal forms of productivity. What matters is whether the necessary mind and body assembly lines are operating the way they should. Are you doing what must get done? Are the resulting products of sufficiently high quality? Are you generating enough output or are you putting forth a feeble trickle of inadequate stuff? In other words, is your work working?

## **\*\*The Myth of Laziness\*\***

Author: Dr. Mel Levine

(Since many of our children are accused of being lazy I thought it worthwhile printing this excerpt from a new book, readily available over the internet)

### Excerpt:

Laziness is not an innate trait. We all are born with a drive to produce, and like saplings growing in an orchard, we have within us the resources to bear fruit, to be and to feel useful and effective. Most of our own success and that of our children is experienced and demonstrated through accomplishments, the attainments of our heads and our hands, the sum total of our school, family, and career contributions. From early in childhood on through our adult years, we want to show what we can do. We gain energy and feel good about ourselves whenever our personal output wins the approval, the acceptance, the respect of our friends, our families, our bosses (or teachers), and, most of all, our own self-critical selves. To feel fulfilled in life, it helps immeasurably if you can take pride in your work.

Some individuals somehow, somewhere lose momentum; in the pursuit of

## **THE EASILY AND OFTEN MISUNDERSTOOD BREAKDOWNS: OUTPUT VIRUSES**

Thanks to progress in the neurosciences and related fields, we have learned a great deal about brain wiring, including how, when, and where it operates. As a developmental-behavioral pediatrician specializing in learning differences, I have spent three decades concentrating on the varied and often subtle breakdowns within a developing brain that trip up basically bright children during their school years. In particular, I have studied the wide spectrum of dysfunctions, the very numerous discrete weaknesses that deprive so many students of success. Kids afflicted with these difficulties are the innocent victims of their own wiring. They have specific shortcomings in areas of the mind that control essential aspects of memory, language, attention, motor function, and other processes required for mastery of school subjects. The gaps in these areas are called neurodevelopmental dysfunctions. Some are inborn, some acquired. Some are mainly genetically caused; some stem principally from environmental conditions. But most dysfunctions are mysterious, of unknown origin. I have described the wide array of these heartbreaking limitations in my book "A Mind at a Time."

Many students wrestle with learning problems that are totally transparent. They manifest obvious trouble becoming good readers, mastering computations in mathematics, succeeding on scholastic aptitude tests, or surviving the social demands of the school day. But there is a substantial group with hidden miswiring, and they have been woefully neglected and misunderstood. These are individuals who struggle with output failure, a phenomenon that can decimate their productivity in school and cause some to fail in the workplace as adults.

At first glance, kids and grown-ups with output failure may seem entirely competent — so much so that they tantalize us with their abundant intellectual promise. But then that promise isn't kept. Often these individuals absorb and process information well; they learn, but they don't produce.

They keep promising and intending to do things, but they seldom come through. In most instances, they can read far better than they can write, and they can interpret information but somehow can't put what they learn to productive use. It seems as if they have working disabilities; they are unable to get their minds to work! So their intake greatly exceeds their output, and they disappoint themselves even more than they disappoint others. People say glibly that they are not "living up to their potential."

## **THE ORIGIN OF THE TERM 'OUTPUT FAILURE'**

In the early years of my clinical practice, I was struck by the sizable number of children referred to me who learned more effectively than they worked. I saw a particular concentration of such students cropping up during their middle school years — when there often is a dramatic upsurge in the demands for high output of high quality (particularly in the form of writing). These students had in common their inability to meet the intensified production demands. They became less and less successful as students. As I got to know them, I kept having flashbacks to my medical school days when we learned about "cardiac high-output failure." The following quotation from the sixteenth edition of Nelson's Textbook of Pediatrics captures the common phenomenon: "The condition, high-output failure, produces the signs and symptoms of heart failure ... when the demand for cardiac output exceeds the ability of the heart to respond. Chronic severe high-output failure may ultimately result in a decrease in myocardial [i.e., heart muscle] performance."

Perhaps because of hardening of the arteries or high blood pressure, the heart is forced to work too hard. Eventually the organ weakens. The failing heart becomes dilated, its beats increasingly feeble, so it is unable to fulfill adequately its blood-pumping role, its output job. The same cycle can pertain to a mind, one that has become ineffective — when the demands upon it keep on exceeding its output capacities. When a mind is forced to strain excessively to meet production demands, academic output failure may ensue. Incidentally, we

don't call a failing heart lazy.

In 1981 I and two of my colleagues wrote an article entitled "Developmental Output Failure in School-Aged Children" for the medical journal *Pediatrics*. We described a group of students with various forms of output failure. Since then I have continued to study this too often neglected or misunderstood phenomenon.

## **OUTPUT FAILURE AS A WIDESPREAD PHENOMENON**

Output failure is not a distinct syndrome, nor should it be understood as any sort of label or category. It is a result, not a cause. Low output occurs when one or more neurodevelopmental dysfunctions interfere with productivity. This is a very common phenomenon, examples of which include trouble writing a report or difficulty completing a project. Students who manifest output failure are a heterogeneous group. They have a mixed bag of neurodevelopmental dysfunctions and strengths. Some have serious problems getting organized. Others find it too hard to put their thoughts into words. There are those who can't deploy their muscles in a coordinated, efficient manner. Still others lack the mental energy, the stamina needed for output. Some may experience problems remembering. But all of them face one or more high hurdles stubbornly obstructing their pathways to successful output. For the most part, their actual output barriers are seldom identified and dealt with. Instead, too many of these students stand unjustly accused of laziness or charged with some other form of moral turpitude. And they unfairly assume the blame for their reduced output.

Output failure is by no means confined to the first twenty-one years of life. The condition plagues numerous adults as well and very commonly leads to chronic career underachievement and gnawing discontent. We all know of individuals who seem competent and well meaning but whose productivity in the workplace is inadequate, perhaps even unacceptable. It may be the plumber who took forever and did a shoddy job fixing your bathtub drain, or the accountant who had to keep applying for

extensions because he couldn't get to your taxes, or a coworker who triggered bitter resentment because she never accomplished her fair share of the workload. It may be the person who comes up with great ideas but never carries any of them out. A traditional military adage applies here; as the commanding officer says to his platoon, "The people who rise out of the ranks are the ones who can get the job done." Like students with output failure, the countless adults who cannot seem to get the job done deserve our understanding and our compassion. They are not intentionally turning off their spigots of output. Branding them as lazy accomplishes nothing.

"The Myth of Laziness" is intended to shed much-needed light on the phenomenon of output failure. As it explores the dysfunctions that result in output failure, this book will uncover some of the principal ingredients of successful output. Because I am a pediatrician and the bulk of my clinical experience has been confined to the five- to eighteen-year-old age group, most of what I have to say will concern productivity in school. However, I will also devote attention to some adult mechanisms and manifestations of output failure. Often the identical neurodevelopmental dysfunctions that thwart output in children can lethally affect adult productivity, too. A child may fail to do homework because she lacks mental energy. An adult with low mental energy may often be late to or absent from work because she has agonizing difficulty getting out of bed in the morning. An adolescent exhibiting problems with time management in school may be the equivalent of an adult who is always late for appointments and often running behind — perhaps without even realizing it.

Over a lifetime, the course of output failure may vary. Some individuals seem condemned to lifelong frustration with productivity. The problems they endured in school return to haunt them throughout their careers. In other cases, children with output failure become successful and remarkably productive adults in their chosen niches. Still others may develop signs of output failure as adolescents or as adults despite having created their share of praiseworthy products at an earlier time of life. As the demands on

them change, as people themselves change, as their environments change, their output can change — for better or for worse.

## **\*\*THE REALISATION AND UTILISATION OF ORGANISATION \*\***

(March 2006) Dr. Mel Levine

### Idle Thoughts of a Retiree's Wandering Mind

I had amnesia once -- or twice.  
\*\*\*\*\*

Protons have mass? I didn't even know they were Catholic.  
\*\*\*\*\*

All I ask is a chance to prove that money can't make me happy.  
\*\*\*\*\*

If the world were a logical place, men would be the ones who ride horses sidesaddle.  
\*\*\*\*\*

What is a "free" gift? Aren't all gifts free?  
\*\*\*\*\*

They told me I was gullible and I believed them.  
\*\*\*\*\*

Teach a child to be polite and courteous in the home, and when he grows up, he'll never be able to merge his car onto the motorway.  
\*\*\*\*\*

Experience is the thing you have left when everything else is gone.  
\*\*\*\*\*

One nice thing about egotists ... they don't talk about other people.  
\*\*\*\*\*

My weight is perfect for my height ... which varies.  
\*\*\*\*\*

I used to be indecisive. Now, I'm not sure.  
\*\*\*\*\*

The cost of living hasn't affected its popularity.  
\*\*\*\*\*

How can there be self-help groups?  
\*\*\*\*\*

If swimming is so good for your figure, how do you explain whales?  
\*\*\*\*\*

Show me a man with both feet firmly on the ground, and I'll show you a man who can't get his pants off.  
\*\*\*\*\*

Is it me, or do buffalo wings taste like chicken?

Kids need to get organized, but many of them fail to see and meet that need. As a result, they do just about everything the hard way. Their lack of organizational insights and everyday practices stands in the way of efficient school performance. They may not even know what it means to be organized, so they lack goals for becoming organized.

Four principal modes of organization can lubricate a mind's gears to help smooth out any academic challenge. The slightly overlapping organizational modes include: 1) the management of time; 2) the management of material; 3) the use of strategies; and 4) the integration of multiple tasks and task components. Some students make use of these organizational modes independently, spontaneously, and adeptly, while, for others, one or more of these ways of getting one's act together comprises a serious obstacle to quality schoolwork.

The Management of Time  
Students vary widely in their appreciation of time and how it works, especially when it comes to meeting demands related to school. Some individuals seem afloat in a misty time warp! They have trouble allocating time, estimating time, meeting deadlines, knowing when they are running behind or ahead of time, and contending with schedules. In short, they lack time management skills. They are apt to do too many things in a shoddy manner in a panicked frenzy at the last minute. They run out of time. They run away from time.

Students who are well organized in time are able to plan their week in advance. They can stage their work output appropriately. For example, a student with good timing knows when he needs to start reading a book in order to finish it and write a report to be submitted on a specific date. She seems to have a clear sense of what to do when. Such a child or adolescent can work with schedules and calendars and can pace

herself when she takes an exam, studies for a test, or writes a report. She is unlikely to procrastinate.

The Management of Materials School has an abundance of tools and wares that kids need to track and coordinate. Pencils, assignment pads, calculators, textbooks, worksheets, and folders are among the plethora of scholastic props that need to be reckoned with. Some students agonize over these threatening objects; they are overwhelmed and stymied by these material entities that seem to engulf and sometimes maliciously play hide and seek with them. These are kids who keep losing things, who have trouble organizing a desk surface, a locker, a bookbag, or a loose-leaf notebook. They seldom seem to have what they need when they need it. Their rooms at home may seem to have been impacted by a powerful tornado.

Children who are managing to manage materials seem to know where they have left things. They have set sites for the temporary storage of various objects and they are able to foresee and plan for instrumental needs. Thus, prior to leaving school such a student is aware of what papers, books, and other tools are necessities for tonight's homework assignments. His materially-at-loose-ends friend, on the other hand, is taken by surprise when he sets about doing the work.

The Use of Strategies Strategies enable students to think about the best way to do something prior to undertaking a complicated or demanding task. The right strategies in the right hands make school much less of a challenging ordeal. There are some students who appear to be born strategists, while others appear to have no methods at their disposal. They just do things, deploying the first thing that comes to mind.

A student's study habits represent an important repertoire of strategies. Knowing how to go about preparing for a test makes the process more effective and efficient. This entails knowing how to organize the material you are studying and also knowing how to organize your mind so you are most

likely to retain what you have to learn. Making lists, drawing diagrams, using mnemonic tricks, and finding clever ways to test yourself would be tactics used by a good student strategist. Non-strategic kids would simply go over the material in a random disorganized manner. Strategies also help to complete projects, learn new concepts, and master rules. They have endless applications, they save time, and they get results. They also get students to focus on how they are doing things instead of just trying to get them over with.

#### The Integration of Multiple Tasks and Task Components

There are many tasks and activities in school that require students to integrate smoothly multiple different components. Some kids find this challenge easy, even pleasurable. For others task integration results in utter disintegration! They are able to meet expectations when assignments are straightforward but not when they entail organizing a crowd of parts. A science project might consist of downloading relevant articles from the Internet, drawing several diagrams, making a plastic replica, writing an accompanying report, listing references, and preparing an oral presentation of your work. Such a multiply demanding expectation overwhelms some students. They may be able to read well, copy from the board accurately, and complete math assignments as expected, but tasks such as report writing may seem to them to have too many loose ends that defy organization.

Many students experience frustration with the multi-tasking, an ever-growing demand as kids progress through their school years. They need to satisfy requirements imposed by multiple teachers, their parents, their recreational activities, and other commitments. This requires judicious resource allocation, prioritization, and planning. Kids who are easily overwhelmed in the face of multiple demands may come apart at the academic seams, especially in secondary school.

Students who are effective with task integration are adept at tying together the loose strands to compile a report, project, or

challenging problem solution. Characteristically they employ a systematic stepwise approach, one that eludes those who lack integrative techniques and so feel defeated and depleted when asked to tackle a complex academic task.

Getting Students to Get Organized  
There are many children and adolescents who require support and instruction to become better organized in school. Many lessons in organization can be woven into the everyday life of a classroom. These activities should be made explicit, so that kids learn about organization at the same time they are getting organized. For some these lessons are particularly hard to learn and apply. They require concerted attention before they become disheartened in school.

## **\*RECOGNISING STRENGTHS AND AFFINITIES\*\***

Dr. Mel Levine

Sometimes in our haste to help children and adolescents overcome their weaknesses, we neglect the careful detection and cultivation of their strengths. Yet, in the adult world what counts most is the strength of an individual's strengths. Therefore, any student's educational planning needs to include measures to mobilize and enhance individual assets of the mind. And every kid has these! They await discovery.

Different forms of strength can be found. A child may reveal certain highly developed neurodevelopmental functions. For example, she or he may be particularly effective with language, motor coordination, or certain aspects of memory. Other children show very advanced higher thinking, as revealed in their creativity, the way they form concepts, or the astute quality of their critical thinking. There are students who exhibit remarkable strengths in their social cognition; they are true "people persons," which will carry them far in any career they select as an adult.

It is up to teachers and parents to make sure that students with good language skills get plenty of opportunities to develop verbally

through public speaking and writing. Kids with great spatial capacities need opportunities to advance their artistic or mechanical aptitudes. Highly creative children must never have their original thinking stifled in any way - to the contrary, they deserve many opportunities to pursue their uniqueness and dream up novel ideas. Finally students with great social skills need opportunities to become leaders.

Some children display strengths in specific skill areas, such as sports, music, writing, or mathematics. These individuals must be able to pursue advanced courses whenever possible. When a child has learning difficulties, the pursuit of a strength can go far to alleviate anxiety and prevent the onset of low self-esteem due to academic underachievement. In other words, your strengths can keep you afloat when you are struggling to overcome the effects of your weaknesses. Strengths also have implications for choosing careers, avocations, and even courses in secondary school.

Because of their critical importance and enormous potential for redeeming a child, strength delineation and management should be part of every educational plan for every student. Nothing is more tragic and wasteful than a strength that goes unrecognized and unutilized throughout childhood, especially if that child is having trouble succeeding in school.

A child's affinities are also vital. An affinity is an area of knowledge toward which a student feels a strong attachment. An affinity should be distinguished from a recreational interest (such as football or horseback riding). Examples might include prehistoric animals, politics, medieval history, space, or computers. It is important for every child to develop at least one area of intellectual passion and nearly obsessive interest. Ideally, such intense commitments should last for years (at least they shouldn't change weekly).

Affinities should evolve into domains of expertise. Every kid should be an expert at something. Depth in an area of knowledge can yield remarkable benefits. For example,

it has been shown that the best way to learn how to read well is to read about something you know a lot about. Similarly, writing skills can grow if a student keeps writing within his domain of affinity and expertise.

Parents can help uncover and nurture a child's affinities. They can arrange for trips, magazine subscriptions, and home-based projects that focus on a child's affinity. They can share a child's interest and allow her to discuss it in the car and at the breakfast table. Most of all, they can display open pride in their child's expertise in the chosen area.

Schools should also encourage the acquisition and growth of affinities. All children should have delineated topics they can pursue in depth over time. Such pursuits can lead to term papers and projects. A child should experience the satisfaction of knowing that he quite possibly knows more about his topic than any member of the school's faculty! Such mastery does wonders for academic self-esteem while allowing children to experience the feeling and the intense satisfaction that comes with being a true scholar, a person who possesses knowledge in depth.

So it is that both strengths and affinities are crucial characteristics of an individual child. However, in so many cases they do not come forth and grow automatically. Instead, the adult world needs to conspire with children to help them find and exploit their assets. Then teachers, parents, peers, and the students themselves can celebrate and enjoy the remarkable diversity of all kinds of minds

A careful driver was being tailgated by a stressed-out woman on a busy boulevard.

Suddenly, the light turned yellow, just in front of him.

He did the right thing, stopping at the crosswalk, even though he could have beaten the red light by accelerating through the intersection.

The tailgating woman hit the roof, and the horn, screaming in frustration as

she missed her chance to get through the intersection with him.

As she was still in mid-rant, she heard a tap on her window and looked up into the face of a very serious police officer. The officer ordered her to exit her car with her hands up. He took her to the police station where she was searched, fingerprinted, photographed, and placed in a cell.

After a couple of hours, a policeman approached the cell and opened the door.

She was escorted back to the booking desk where the arresting officer was waiting with her personal effects. He said, "I'm very sorry for this mistake. You see, I pulled up behind your car while you were blowing your horn, flipping the guy off in front of you, and cussing a blue streak at him.

I noticed the 'Choose Life' license plate holder, the 'What Would Jesus Do' bumper sticker, the 'Follow Me to Sunday School' bumper sticker, and the chrome-plated Christian fish emblem on the trunk. Naturally, I assumed you had stolen the car

## **\*\* Parenting in Moms with ADHD \*\***

David Rabiner, Ph.D. Duke University

In this issue of Attention Research Update I review a recently published study on how ADHD may impact the parenting behavior of mothers. Surprisingly, the relationship between ADHD and parenting behavior has been infrequently studied, and the investigation summarized below represents the most extensive examination to date of this important issue.

As you will read, mothers with ADHD were found to struggle in several very important aspects of parenting. As I note at the end of my review, however, it is essential not to interpret these results as indicating that parents with ADHD cannot be effective and supportive parents - that would be a highly erroneous and unfortunate conclusion to

draw. Instead, the value of this work is that identifying areas where parents with ADHD may have difficulty can contribute to the development of interventions to address these difficulties, and also highlight the importance of considering parental ADHD when treating children and adolescents with the disorder.

As awareness that ADHD frequently persists into adulthood has grown - as recently as the late 1980s, ADHD was still regarded as almost exclusively a disorder of childhood - increasing attention has been given to how ADHD impacts the lives of adults. Surprisingly, however, research on how ADHD may impact parenting behavior has been extremely limited.

In the extensive literature on how parenting behavior influences children's development, 3 aspects of parenting - parental monitoring, inconsistent discipline, and parental problem solving - have emerged as particularly important.

Parental monitoring involves tracking where a child is, what he or she is doing, and whom he or she is with. Poor parental monitoring has consistently been found to be strongly associated with poor child outcomes, particularly antisocial outcomes. It is also clear that monitoring becomes increasingly important as children make the transition to adolescence.

Inconsistent discipline refers to variability in parents' responses to child noncompliance - with parents sometimes punishing and sometimes reinforcing noncompliance by "giving in" to the child's demands. This inconsistent responding to negative child behavior has been shown to predict increases in oppositional and defiant behavior in children.

Finally, parental problem solving reflects the ability to generate multiple solutions for addressing child behavior problems, to accurately evaluate the likely effectiveness of different solutions, and to skillfully implement the chosen strategy. Less effective parental problem solving has been linked to negative child outcomes in a number of studies.

Although there are many other dimensions of parenting that are important influences on children's development - a parent's warmth and affection towards the child is certainly one - the parenting dimensions described above have been widely studied and are frequent targets for change in parenting interventions. In fact, when parents improve their skills in these areas children's behavior problems decrease.

There is good reason to expect that parents with ADHD would have difficulty in these 3 aspects of parenting. Parents who have difficulty listening and attending may miss out on information that is important for carefully monitoring their child's activities and whereabouts.

Enforcing household rules consistently may be a struggle for a parent who acts impulsively or who becomes so absorbed in an activity that he or she does not notice a child's failure to comply.

Finally, effective problem solving requires the ability to refrain from acting impulsively with the first idea that pops into one's mind, and to instead systematically generate and evaluate different possibilities.

A recently published study in the *Journal of Abnormal Psychology* provides the first data on how parents with ADHD perform on these key parenting tasks (Murray & Johnston, 2006. Parenting in mothers with and without Attention-Deficit/Hyperactivity Disorder. *JAP*, 115, 52-61).

Participants were 60 mothers between the ages of 31 and 50. These mothers were recruited via notices in community centers, schools, libraries, newspapers, and local support groups for ADHD. Thirty of these mothers were diagnosed with ADHD based on a comprehensive and rigorous evaluation. The remaining mothers did not have ADHD and served as the comparison group. All of the mothers had at least one child between the ages of 8 and 14 who had been diagnosed with ADHD. This is important because it helps guard against the possibility that any group differences in parenting that were found could be attributed to the fact that moms with ADHD

were more likely to be dealing with the challenges of parenting a child with ADHD.

- **Measures** -

Participants completed a variety of measures to assess their own functioning as well as their parenting. First, a structured clinical interview was administered to assess for psychiatric difficulties. Next, children's level of oppositional and antisocial behavior was assessed by having the moms complete a standardized behavior rating scale.

Well-established measures were administered to assess the key aspects of parenting - monitoring, consistency, and problem solving - noted above.

Monitoring - The Poor Monitoring Scale is a 10-item measure designed to assess a parents' knowledge of their child's friends, knowing where the child is after school, and the variety of activities that a child engages in. Sample items include:

"You ask your child about his or her day in school."

"You ask your child what his/her plans are for the coming day."

"Your child is out with friends you don't know."

Moms rated how often they engaged in these kinds of behaviors on a 1 "never" to 5 "always" scales so that high scores on this scale are indicative of a parent who is well informed about their child's whereabouts, activities and companions.

In addition to this measure of monitoring, each mother and child were asked a series of identical and specific questions about the child's social, academic, and leisure activities during the prior 24 hours. Moms and children were interviewed separately to insure that their answers were independent, and the number of nonmatching responses were used to compute an index of poor monitoring.

**Inconsistency** - Several validated parenting scales were used to assess moms'

consistency in disciplining their child. Examples of items include:

"You threaten to punish your child and then do not actually punish him/her."

"Your child talks you out of being punished after he/she has done something wrong."

Moms rated how often they engaged in these kinds of behaviors on the same 1 to 5 scale noted above. High scores thus reflect more inconsistent discipline.

**Problem solving** - Parental problem solving was assessed by presenting mothers with 3 common child management problems, e.g., getting the child to comply with a request that he/she did not want to follow such as cleaning their room. Mothers were asked to discuss how they would solve the problem and their response was coded for the number of solutions they offered, the likely effectiveness of these solutions, and the level of planning indicated by the solutions. Response coding was done by research assistants who were blind to the study hypotheses as well as to mothers' diagnostic status.

**Positive parenting** - The final parenting measure administered was included to evaluate whether moms with and without ADHD differed in their positive parenting behaviors, e.g., affection, praise, etc. Sample items from this scale include:

"You compliment your child when he/she is doing something well."

"You hug or kiss your child when he/she has done something well."

Parents rated how often they engaged in each positive behavior on a 1 to 5 scale with high scores reflecting more positive parenting.

- **Results** -

**Demographics, Psychiatric Problems, and Child Problems**

Mothers with ADHD were more likely to be single parents and had lower levels of formal

education. In addition, 70% of moms with ADHD had a mood or anxiety disorder compared to only 23% of the comparison moms. Interestingly, of the 16 moms with ADHD taking psychiatric medication, 15 were on antidepressant or anti-anxiety medication and only 1 was taking stimulant medication for ADHD. This is important in that it suggests that adults with ADHD may often fail to receive medication that specifically targets ADHD symptoms.

Mothers with ADHD also reported greater impairment in multiple domains of functioning and that their children had higher rates of oppositional and antisocial behavior.

- **Parenting Behavior** -

**Monitoring** - As predicted, moms with ADHD reported monitoring their children less carefully than moms without ADHD and the magnitude of the difference on the Poor Monitoring Scale would be considered to reflect a large effect. In addition, on the interview of children's activities during the prior 24 hours, moms with ADHD provided substantially more answers that did not match their child, indicating less awareness of their child's activities.

**Inconsistency** - As predicted, moms with ADHD reported that they were significantly less consistent in their discipline behavior and the group difference was again large. Interestingly, the children of moms with and without ADHD did not report any differences in their mother's consistency.

**Problem Solving** - Although mothers with ADHD did not provide fewer solutions to the problem solving scenarios than other mothers, their solutions were judged to be lower in quality and to reflect lower levels of planning. Group differences were again large.

**Positive Parenting** - Based on both mother report and child report, there were no statistically significant differences between groups for the number of positive parenting techniques used.

- **Secondary Analyses** -

As noted above, moms with ADHD were

more likely to have a mood or anxiety disorder, and also reported that their children displayed higher rates of antisocial behavior. Thus, it is possible that the differences found in parenting behavior reflect these differences rather than the presence or absence of ADHD. In other words, perhaps the poorer monitoring in moms with ADHD was not related to ADHD per se, but to anxiety and depression that interfered with their ability to monitor their child.

To rule out this explanation, supplementary analyses were conducted controlling for group differences in other psychiatric problems, in single parent status, and in child behavior problems. Even with these controls in place, parenting differences between mothers with and without ADHD remained evident.

The authors also examined whether parenting behavior in moms with ADHD varied as a function of ADHD subtype, i.e., inattentive ADHD vs. combined ADHD. Interestingly, mothers with the inattentive subtype of ADHD monitored their children less well than mothers with the combined type, and also reported that they were less consistent in their discipline practices.

- **SUMMARY AND IMPLICATIONS** -

Results from this study document the parenting difficulties experienced by mothers with ADHD. Compared to other mothers, moms with ADHD were less knowledgeable about their child's whereabouts, friends, and activities, were less consistent in their discipline strategies, and generated less effective solutions to child management problems. In most cases, the parenting differences between mothers with and without ADHD were large in addition to being statistically significant, with most effect sizes greater than 1. Despite these difficulties, however, they were no less positive than other moms in how they related to their child, and provided their child with similar levels of positive feedback and support.

The parenting differences found cannot be explained by the fact that moms with ADHD

were more likely to be have mood and/or anxiety disorders, to be single parents, to have less formal education, and to have children with higher rates of disruptive behavior. This is because even when these factors were controlled for, parenting differences between the groups remained evident. Thus, while this study does not prove that ADHD "causes" the parenting difficulties reported, the results suggest that ADHD plays a central role in these difficulties.

It is interesting to note that mothers with the inattentive type of ADHD, i.e., those with inattentive symptoms but not hyperactive-impulsive symptoms, appeared to have greater difficulty with monitoring and consistency than moms with ADHD, Combined Type. Although these results are preliminary, the authors suggest that in mothers with inattentive and hyperactive symptoms, high levels of activity and energy may partially compensate for their attention difficulties and allow them to be more involved in their child's life, and thus better at monitoring their child.

The authors note several limitations to their study that are important to recognize. First, as already discussed, the design of this study does not allow clear conclusions to be made about whether ADHD is the specific cause of the parenting difficulties that were reported.

Second, parenting was assessed primarily by mothers' self-report and future studies should incorporate other ways to assess parenting behavior. For example, observations of mother-child interactions could allow a more objective assessment of maternal consistency. In cases of two-parent families, having spouses report on their partner's monitoring behavior would also be an enhancement.

Finally, it would be very helpful to conduct a similar study in fathers with ADHD. One cannot assume that the results obtained with mothers would also be found with fathers, and an understanding of how paternal ADHD may impact parenting and children's development is thus an important topic for future research.

Despite these limitations, this study extends our knowledge of ADHD in adults by clearly indicating that it is associated with difficulties in key parenting tasks for mothers. Because it has been estimated that between 40-60% of children with ADHD have at least one parent with ADHD, these results highlight the importance of taking this into consideration when implementing treatment for children with ADHD. Moms with ADHD, because they are less likely to supervise their child's activities or to have regular routines, may have difficulty administering medication consistently. They may also face particular challenges in traditional parent training programs, that emphasize the importance of consistency, monitoring, and effective problem solving. Thus, effectively treating children for ADHD may frequently necessitate treatment of ADHD symptoms in parents as well.

While the results of this study represent an initial step in understanding how ADHD can impact parenting behavior, it is important to recognize that not all parents with ADHD struggle in the ways suggested here. It is also important to recognize that even in this sample, moms with ADHD were as positive and supportive as other moms. Thus, it is very important that one does not conclude from this study that moms with ADHD cannot be warm, supportive, and effective parents to their child.

Instead, an important contribution of this study is that by increasing awareness of the parenting difficulties that ADHD contributes to, it may facilitate more parents with ADHD obtaining effective treatment for the disorder. Such treatment would be expected to help address the parenting difficulties reported here, and thus contribute to more positive outcomes for children as well as parents. That would certainly be a wonderful outcome for this type of research.