Tarnow CENTER for Self-Management℠

The Center Piece

VOLUME 5.1 | 2007

People who are successful in life are successful at self-management℠

From the Director..

The decision to put a child on medication is a very difficult decision for most parents. We analyze the problem, make a diagnosis, define a treatment plan, and then analyze the side effect potential. We weigh the risks against the benefits and then discuss the risks of not giving medicine. What are the alternatives? In the past , we had effective choices. I always recommend that children be in some form of therapy to teach the child alternatives and help them develop new skills. Obviously for me, self-management℠ is an essential tenet of my approach. I think patients need to feel their own power for health and change. They need to be taught skills they don't have.

The brain plasticity discovery has given us all hope. Hope that these problems of ADHD, Learning Disorders (Dyslexia), and Autistic Spectrum Disorder can be fixed at the foundation.

In the past 10 years we have seen an explosion of knowledge regarding the brain. This essential organ system has been the big mystery in medicine. One

of the main reasons for this has been the difficulty in measuring the functions of the brain. Being such a delicate organ we have had major limitations in exploring its functions. In 1990, the U.S. Congress and the National Institute of Medicine declared this "The Decade of the Brain." New techniques were developed to study the operation of the brain. Two of these methods are the fMRI-Functional Magnetic Resonance Imaging and PET Scans. They have helped us understand that the brain is plastic. That is, the brain can grow and repair itself given the right conditions. We originally thought that brain cells could not regenerate. But we have now learned that the fibers of the brain cells called axons and dendrites can bifurcate like the roots of a tree. These roots can then grow around damages in the brain, which is why people who had strokes can regain function. We now know that the pathways in the brain that connect different parts of the brain and integrate our cognitive functioning can be manipulated to have more rapid transmission. Many learning problems have been understood as either too slow transmission (slow processor) or a lack of connections. Major research has been occurring in how to direct this process more precisely since the brain is such a precise computer. These pieces of research have amazing implications for rehabilitation.

This newsletter is dedicated to methods developed based on the plasticity of the brain to help children, adolescents and even adults learn to develop new skills. The brain plasticity discovery has given us all hope. Hope that problems of ADHD, Learning Disorders (Dyslexia), and Autistic Spectrum Disorder can be fixed at the foundation, not just put a medication band-aid on it.

At the Tarnow Center for Self-Management℠ we are constantly searching and evaluating new methods and techniques. We are looking for

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TARNOW CENTER MISSION STATEMENT

To offer a Center of Excellence in the Southwest Region, providing innovative, superior quality therapy, while utilizing an interdisciplinary team approach to assessment and intervention for individuals and families affected by psychiatric, psychological, developmental, learning, and language disorders.

ways to help the child with brain problems concentrate, focus, improve memory, and decrease impulsivity without the use of medication. But we need to be careful to evaluate these new programs for their scientific efficacy. It is easy to make claims on the Internet that this or that game or herb can cure a child's problems. I wish it were that easy. American society wants fast, quick and easy fixes, especially for ADHD. If you want that, stick with medication. However, medication doesn't fix the underlying problems.

In this newsletter we will discuss the evidence and our own personal experiences with 3 non-medication brain stimulating methods: Cogmed, Fast ForWord, and Interactive Metronome. In addition, Ron Swatzyna, Ph.D. will discuss new research with Neurofeedback and QEEG in ADHD & Aspergers.

Jay Tarnow M.D.

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Foundations of Learning: Creating the Ability to Learn

By Linda Narun, M.A., CCC-SLP

Learning is change. It is change in ourselves, because it is change in the brain. Thus the art of teaching must be the art of changing the brain. (Zull, 2002)

Dr. Tarnow discussed the concept of brain plasticity in the introduction of this newsletter. The increased understanding we have of the brain and the obvious correlates between behavior and pathways in the brain must assist us in providing interventions for many aspects of learning. It seems so obvious but also so easy not to remember that for every experience or action we do, something happens in the brain. We take it for granted that to be a good athlete your body has to be in good condition. No one would attempt to run a marathon before first undergoing fitness and training programs. The brain is no different from the rest of the body. It needs to be functioning in tiptop condition for it to complete the many marathons of learning that is required of each of us.

The brain of individuals with Learning or Attention Deficit Disorders can be working in a disorganized manner. The more assistance and condition we can provide this most important "muscle" the better off the student will be when he or she is actually required to achieve formal learning in the classroom. As knowledge increases, so will our ability to assist both children and adults to maintain and improve skills and learn new ones. I think it is helpful to understand the developing brain to better understand the non-medical interventions that depend on brain plasticity and neuroscientific principles.

> With our better understanding of the continuing development of the brain throughout life, we are able to create programs that address the underlying health of the brain.

The brain begins its work as soon as the infant is born. At birth, the infant brain has millions of pathways which all fire in a disorganized, asynchronous manner. These early pathways depend on use to remain operational. If they are not used, the old saying applies, i.e. "use it or lose it." Without environmental stimulation the pathway ceases to exist. With stimulation, Dr. E. Goldberg stated, "use it and get more of it". Before the advent of fMRI, it was assumed that brain development occurred during optimal periods and if these periods were missed, little could be done to alter the structure of the brain. With our better understanding of the continuing development of the brain throughout life, we are able to create programs that address the underlying health of the brain. These programs help to develop pathways that may not have previously existed; therefore, improving the necessary skills required by the individual to be successful.

The brain is indeed "plastic" in that it can be molded by the stimulation it obtains. Think of the children who have been raised in overcrowded orphanages who, because of the lack of stimulation develop visual and auditory processing difficulties and

consequent emotional problems. The deprivation suffered by these children and the consequent learning difficulties they suffer are dramatic examples, but help us to better see the relationship between the environment and the very basic structure of the brain.

For reasons that may not always be clear, many children experience processing difficulties in spite of having been raised in a good early learning environment. These difficulties may relate to genetic predisposition, early illness, birth trauma, etc. Depriving the brain of stimulation results in it developing weaker, slower pathways. There has been much controversy in the literature about the effects of mild, early hearing loss in children secondary to chronic middle ear infections.

For reasons that may not always be clear, many children experience processing difficulties in spite of having been raised in a good early environment.

A study recently completed by Han Xu, Vibhaker Kotak and Dan Sanes at NYU showed that changes occurred in projections to the auditory cortex following a brief period of hearing loss. This study demonstrates the importance of the environment to neural development. Efficient pathways to process incoming information may not become well established and the brain has difficulty "firing" in an organized temporal sequence. As Merzenich has stated, neurons that "fire together, wire together" resulting in a brain that is temporally organized. An inefficient brain while not related to intellectual potential, often prevents a student from realizing his potential. If pathways are not developed or work too slowly, difficulties in specific area of the brain result in poor skill development i.e. poor reading, writing, attention etc. Logically, improvement in the sequential firing of appropriate pathways in the brain must lead to improved performance and successful learning.

A better understanding of the brain has also provided insight into adult learning as well as the aging brain. Brain plasticity can, have negative consequences if we do not maintain the use and health of the brain. Returning to the developmental approach to brain plasticity, aging had previously been thought of as a period of decline and reduced memory, cognition and speed of processing. A number of studies, however, are demonstrating that a substantial improvement in function is possible using appropriately designed behavioral training paradigms. Plasticity can, therefore, be used to improve brain function or it can result in substantial loss of function.

How can this improvement in the brain and in skill learning be achieved? The neuroscientists have demonstrated that interventions which provide intensive stimulation to the brain over a specific amount of time while the student is a) actively involved in the process, b) where a response to the stimulation is required and c) when immediate feedback and reward are provided, new pathways can be established. Using these pathways and practicing the new skills result in permanent changes in the brain. The pathway must then be used in various settings (educational therapy, school, social settings) for the skills to generalize and become new "habits". As with any intervention it is important to ensure that the programs that depend on neuroplasticity and our new understanding of the brain and learning, follow scientific principles that have been well researched. At the Tarnow Center we have been careful to include only those programs that meet these criteria. The programs in use currently are Fast ForWord, Cogmed and Interactive Metronome. These programs, when used in a total therapeutic intervention program that includes education, language and/or psychotherapeutic intervention, are proving to be very effective. They provide the "brain foundation" that promotes success in much the same way as the foundation to a house must be constructed before the rest of the structure can be securely built.

The interventions utilize the computer to provide the carefully controlled stimuli, with the predetermined frequency required to establish new pathways to support skill building. A brief description of the programs will be provided.

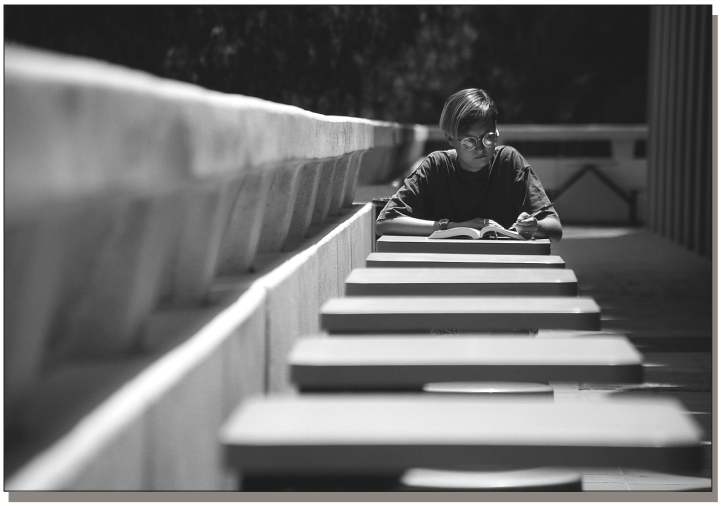
Fast ForWord®

Language impaired children (oral and written) do not progress in the development of hearing fast, successive sounds. Fast ForWord has been shown on fMRI studies to develop pathways to allow this rapid processing to occur, which in turn results in a more organized efficient brain. Dr. Merzenich, Dr. Jenkins and Dr. Tallal designed computer "games" which hold the child's attention and assist him in paying attention to the small details of speech components (phonemes). The games also provide many rewards to motivate continued listening. The child hears thousands of practice sounds daily over a successive series of days. The training is progressive and adaptive, going from easy to more difficult so that success is obtained nearly all the time.

For children who have frequently experienced much failure in their attempts to learn, Fast ForWord affords them the opportunity to be suc-

cessful and develop a more positive attitude to learning and frequently improve reading and understanding without the old dread of reading. As their comprehension and listening improve, we also see the concommitent increase in attention and compliance.

A recent study from Boston's Children's Hospital Laboratory of Cognitive Neuroscience has demonstrated improved reading and changed fMRI's in a group of Dyslexic children following completion of Fast ForWord. (gab, 2007). More importantly, scores on language and reading tests show significant improvement.



Cogmed

Working memory is the ability to keep information "online" for a brief period of time, typically a few seconds. In daily life, we use working memory to remember plans or instructions of what to do next, in problem solving, and for controlling attention, "remembering what to attend to".

When people have deficits in working memory, it is often experienced as "inattention problems", e.g. to have problems focusing on reading a text, or "memory problems".

When people have deficits in working memory, it is often experienced as "inattention problems", e.g. to have problems focusing on reading a text, or "memory problems". In children the problem is often remembering what to do next, which makes them unable to finish an activity according to plan.

Attention Deficit Hyperactivity Disorder (ADHD) is associated with disturbances of both the frontal lobe and the dopaminergic system, and is consequently also associated with working memory deficits. Deficits in working memory are thought to be of central importance in explaining many cognitive and behavioral problems in ADHD.

Multiple clinical studies have supported the efficacy of Cogmed's working memory training. Additionally, fMRI studies have demonstrated change in brain activity. Because working memory is a major factor in ADHD improvements in this skill have also demonstrated improvement in a student's ability to manage the behaviors associated with this disorder. In fact, the changes observed in the brain are permanent because working memory is a skill that is used in many everyday situations.

The training consists of a specific set of working memory tasks that are performed on a computer, where the difficulty level is adjusted according to a specific algorithm. The children complete a fixed number of trials every day, taking about 30 minutes daily. This is done for five days a week over five weeks. The "games" are challenging, but highly motivating.

Interactive Metronome

The Interactive Metronome program is an advanced brain-based assessment & treatment program developed to directly improve the processing abilities that affect motor planning and sequencing. Motor planning and sequencing are central to human activity—from the coordinated movements needed to walk or climb stairs, to the order of words in a sentence to provide meaning.

A recently published study by Taub, McGrew and Keith (2007), demonstrated that students who underwent IM training obtained significantly higher reading scores than their peers in a control group who did not receive the treatment.

Other studies have shown improvement in motor planning and processing speed. Processing speed is very important as it is one of the signs of an organized brain and therefore necessary to complete academic tasks efficiently. The human brain's efficiency and performance depend on the seamless transition of neuronetwork signals from one area of the brain to another. Recent findings suggest that IM works by augmenting internal processing speed within the neuroaxis. The key regions affected appear to include the cerebellum, prefrontal cortex, cingulated gyrus and basal ganglia. The IM program provides a structured, goal-oriented process that challenges the patient to synchronize a range of hand and foot exercises to precise computer generated reference tone heard through headphones. The patient attempts to match the rhythmic beat with repetitive motor actions. The training is intense - 1 hour, 3 times per week for 5 weeks.

Over the course of the treatment, patients learn to:

- Focus and attend for longer periods of time
- Increase physical endurance and stamina
- Filter out internal and external distractions
- Improve ability to monitor mental and physical actions as they are occurring
- Progressively improve performance

While these novel, non-academic interventions create the foundations of learning they do not take the place of

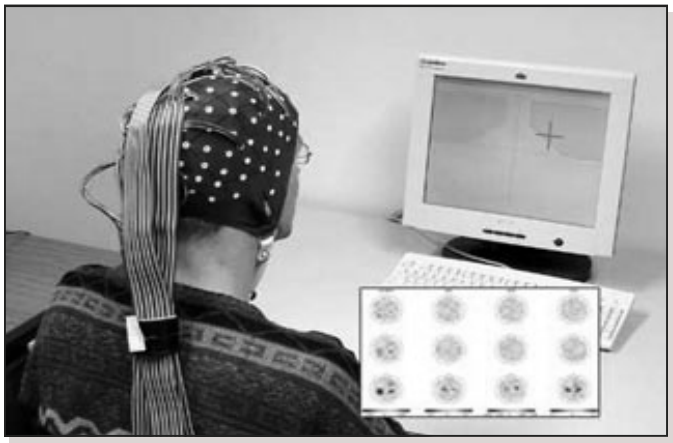
the structure of conventional academic programs. The results of the combined effects of new and conventional treatments are providing encouraging results and hope for the future as our knowledge of the brain increases.

The Tarnow Center has obtained excellent results using these programs because of our ability to integrate their use into a complete therapeutic program of intervention. The integration of computer based programs with medical and therapeutic intervention is proving to be more beneficial than any one aspect of intervention on its own.

Neurofeedback: The Un-Medication

By Ron J. Swatzyna, Ph.D., L.C.S.W.

The brain is a remarkable organ, we know now that new pathways are created and pruning continues well into the senior years commiserate with stimulation. As a data collection and feedback mechanism it can also be employed to correct their dysfunctional brain patterns and fix the problem.



When given immediate feedback and enough practice, people can correct their dysfunctional brain patterns and fix the problem. This therapeutic discipline, known as neurofeedback "meets the American Association of Child and Adolescent Psychiatry's criteria for 'Clinical Guidelines' for treatment of ADHD, seizure disorders, anxiety (e.g., obsessive-compulsive disorder, GAD, posttraumatic stress disorder, phobias), depression, reading disabilities, and addictive disorders. Because of the high level of empirical support, the use of neurofeedback for ADHD will meet the most stringent American Psychological Association criterion of efficacious and specific, which requires two independent randomized controlled studies, among other factors" (Hirshberg et al., 2005, p. 12-13).

Research comparing neurofeedback to stimulant medications is non-existent. However, repeatedly the ADHD neurofeedback studies have demonstrated equivalent effectiveness as those of stimulant medication (Hirshberg et al., 2005, Child Adolescent Psychiatric Clinics of North America). This is all the more intriguing given that the therapy consists almost entirely of merely showing the patient what his or her brain is doing at that moment. And, unlike medication that affects the whole body, neurofeedback targets only the dysfunctional areas.

Of course, that is something of an oversimplification, because while the therapeutic interaction consists almost exclusively of a patient monitoring his or her own brain function, the therapeutic protocol, the correct course of sessions and appropriate diagnosis are complex and require a great deal of expertise in both the clinician who administers the therapy and the neurologist who interprets diagnostic QEEGs and based on this diagnosis develops a treatment protocol.

QEEG in Summary

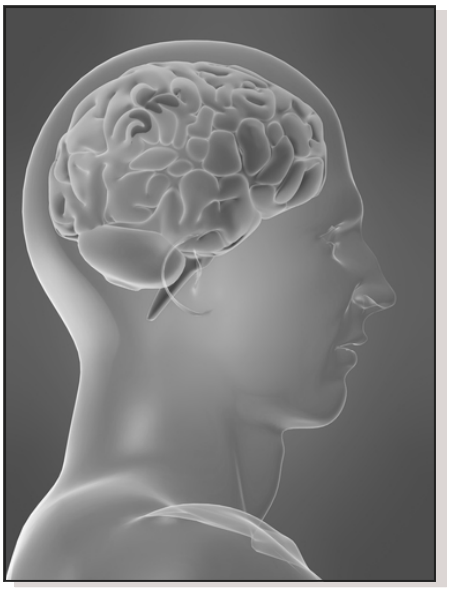
With the precise placement of electrodes along the scalp, the functioning of various brain centers can be sampled by an EEG (electroencephalograph). The wave forms in their amplitude (size) and frequency (speed), provide information about how the brain is functioning and how it is within and between each lobe.

EEG data is collected at various physical sites in the brain with eyes open, eyes closed and while the patient is engaged in various mental challenges such as reading and solving simple math problems. The waveform data is converted to digital data, which is then statistically analyzed and compared to a large database of normative functioning. This allows the interpreter to determine whether a brain is functioning abnormally and if so, at what locations, to what degree and in which frequency band. This digital analysis of EEG data is called QEEG, with the Q standing for quantitative, referring to the digital mapping of brain function.

Valuable Diagnostic Tool

QEEG information can be a valuable diagnostic tool, pointing out potential brain damage, neurochemical imbalances, and sites where the underlying brain structure deviates from normal. QEEG is particularly effective in fine diagnostic discriminations where similar symptoms can emerge from differing dysfunctions.

QEEG diagnostics also provide a window into brain anomalies that stem from dysfunctions in how the brain communicates with itself. In this model, called "thalamocortical dysrhythmias," the brain can be thought of as an interconnected series of sub-routines that must be managed in concert to produce what we think of as normal brain function. If the timing of this coordination is disrupted, healthy functioning is impaired.



Dysfunctions of this nature would be akin to a symphony orchestra with each instrument functioning perfectly, just not at the same speed or at random volumes. There is nothing wrong with the individual instruments or even the notes they are playing, but the sound the orchestra produces will be unpleasant.

This model suggests that many psychological problems stem from dysfunction in the brain as an operating system and as a control system. The failure of the brain to regulate and control function appears to arise from:

- Inappropriate activation/dysfunction at certain sites,
- Inadequacies in communication along the network or
- Inappropriate coupling between different EEG frequencies.

Effective Therapeutic Protocol

Once QEEG data on an individual has been collected and analyzed vs. a normative database, neurofeedback can be used to re-regulate brain function towards more normal patterns based upon these data. In situations where abnormalities don't stem from organic brain damage or chemical toxicity, brain abnormalities can be returned to normal. Even in cases where organic damage has occurred, brain functioning can be improved.

An article in the January 2005 issue of Child and Adolescent Psychiatric Clinics of North America reviews several open case series and controlled studies showing significant benefits from EEG neurofeedback for patients with traumatic brain injury. The studies, conducted primarily with adults, have yielded improvements on measures of attention, executive function, cognitive flexibility, problem solving, information processing, verbal fluency and depression.

What takes place in session?

In a session, the neurotherapist attaches electrodes on the surface of the scalp to display a patient's brain function in real time. Patients use that visual display and feedback from the neurotherapist to induce their brain functioning to move closer to the norm. The placement of the electrodes, are based on protocols developed from the qEEG specific to the individual brain.

With practice, the brain is trained into new patterns of functioning and thus, new ways of performing desired skills emerge. Positive changes in daily functioning then reinforce the learned behavior. In some cases, monthly/yearly follow up may be needed but for 70-80% of individuals, re-regulation is effective and is permanent. It should be noted that neurotherapy isn't a cure-all and in 20-30% of patients experience no benefit.

Neurofeedback should be considered when medication proves ineffective or poorly tolerated.

Application of Neurofeedback

Based on empirical evidence currently available, we recommend EEG neurofeedback as a good alternative to stimulants for treatment of ADHD when parents or patients prefer not to use medication or when the side effects of medication make its use undesirable. Similarly, with epilepsy, anxiety and depression, addictive disorders and traumatic brain disorder, neurofeedback should be considered when medication proves ineffective or poorly tolerated. This is not an either/or proposition. Neurofeedback can be used in conjunction with psychopharmacology and psychotherapy. There are no risks or contra-indications for neurofeedback.

The Tarnow Center's Neurotherapy

The Tarnow Center offers qEEG diagnostic services and Neurofeedback Therapy at both Galleria and Sugar Land locations. I coordinate these services with Jonathan Walker, M.D. of the Neurotherapy Center of Dallas. Dr. Walker is a board certified neurologist and encephalography with nearly 40 years of experience. Additionally, he is a world-renowned researcher and practitioner, having developed many of the diagnostic and treatment protocols currently being employed by clinicians throughout the world. Dr. Walker and his associate Dr. Koslowski have mentored and worked in many capacities with me

Meeting the Challenge of AD/HD - ADDA-SR 20th Annual Conference

This conference is being offered to educate adults, parents, educators, health care professionals and the general public about Attention Deficit Disorders and coexisting conditions.

Friday, February 15

3:30 Sophia K. Havasy, Ph.D.—Is Your Teen Ready to go to College?

Saturday, February 16

11:00 Ronald Swatzyna, Ph.D.—**Video Gaming and ADHD**

11:00 Jay D. Tarnow, M.D– **ADHD and Substance Abuse**

12:15 Jay D. Tarnow, M.D. & Linda Narun, M.A., CCC-SLP- **Brain Plasticity and Non-Medication Interventions**.

Many other presentations available. Please go to www.tarnowcenter.com to print registration forms

Tarnow Center Welcomes Teresa A. Scott, Psy.D.

Teresa Scott, Psy.D., is a new psychologist at the Tarnow Center for Self-Management℠. She received her Doctorate of Psychology and Master of Arts degrees in Clinical Psychology from the Forest Institute of Professional Psychology and her Bachelor of Science degree in Psychology from Southwest Baptist University. Dr. Scott received certifications in Child and Adolescent Psychology and Integrated Health Care/ Medical Psychology.

Currently, Dr. Scott's interests are related to: trauma and abuse; treating emotional issues of those affected by medical conditions (e.g., cancer, chronic pain, etc.); autism and other pervasive developmental disorders; psychological evaluations of adults and children/adolescents; childhood grief and divorce issues; and multicultural issues. She also has experience in working with individuals that have ADHD, developmental issues, problems arising from adoption of a child, anxiety disorders, Obsessive-Compulsive Disorder, learning disorders, family functioning issues, and Tourette's Disorder. She continues to work with this population and many others at the Tarnow Center.

Parenting Group: An Introduction to Self-Management℠

Saturday, January 26, 2008
1:00—4:00

Program participants will learn to evaluate their child's self-management skills, understand their child's strengths and weaknesses, focus on the most important issues, develop specific plans to change unwanted behaviors, and enhance their child's self-management.

This program is appropriate for parents as well as other caregivers such as grandparents or nannies.

Facilitator: Diane N. Roche, Ph.D.
Clinical Psychologist; Clinical Assistant Professor, Department of Psychiatry & Behavioral Sciences.

Course Fee: **$120, One participant**
$90, Each additional family/ household member

GROUP LISTINGS

Elementary & Middle School

Self-management relationship skills—promoting social competence, behavior management and self-management skills

5th-6th Grade Girls	**Mondays-*Galleria***
3rd-5th Grade Boys	**Mondays-*Galleria***
3rd-4th Grade Girls	**Mondays-*Galleria***
1st-2nd Grade Girls/Boys	**Mondays-*Galleria***
3rd-5th Grade Boys	**Tuesdays-*Sugar Land***
Boys age 9-12	**Wednesdays-Galleria**
Boys age 9-12	**Thursdays-Sugar Land**
7th-8th Grade Girls	**Tuesdays-Galleria**

High School

Improve self-esteem, develop peer and relationship skills and set personal goals

9th Grade Girls	**Thursdays-*Galleria***
10th—12th Grade Girls	**Wednesdays-*Sugar Land***
10th—12th Grade Girls	**Wednesdays-*Galleria***

Adult

Examine and improve intimate relationships and competence.

Men's Group	**Tuesdays– Galleria**
ADHD & Self-Management	**Mondays– Galleria**
Women's Anxiety	***2nd & 4th Wednesdays-Galleria***
Women's Anxiety	***2nd & 4th Thursdays– Sugar Land***

Young Adult

To continue to develop self-management℠ skills as they relate to daily life, school, employment, & relationships

18– 30 year olds	**Tuesdays-*Galleria***

Going to College: No Guarantees

By Sophia K. Havasy, Ph.D

Going to college is no guarantee of completing college with a degree in hand. In a recent article, "Why We Quit" in *Scientific American Mind,* Yvonne Raley presents the latest findings on graduation rates. Public colleges and universities graduate about 40% of those who enter as freshman. Private school rates increase to 57%. Junior college and community college rates of graduation drop to about 30%. These numbers do not account for transfers and the possibilities of degree completion elsewhere, but do present the dangers of assuming that entrance equals completion.

Most dropouts from college leave by the end of their freshman year. Researchers speculate that the difficulties arise out of the transition between high school and college. It is vital that issues of *student readiness* and *goodness of fit* with the institution be carefully addressed prior to that first semester as a college student.

Student readiness is multifaceted. It is much more than SAT and ACT scores. These scores predict grades in college, not graduation. Raley (2007) cites the 2004 ACT review of retention studies that found the best predictors of college graduation are: "commitment to getting a degree, academic self-confidence, and good study and time management skills" (p.78). Many at-risk college students want to be *in* college which is different than a clear commitment to graduate *from* college.

To graduate from college requires that the young adult be able to project into the future and try various career paths. A career path is more than selecting a major. The student needs exposure and experience in a variety of adult work environments.

Research assistantships, mentoring opportunities, and internships are some of the ways that students can explore careers beyond going to class. Young people benefit from learning how someone selected the career they are currently in. It is rarely a straight trajectory from college to career 15 to 20 years later. Teenagers should be encouraged to ask parents, teachers, family friends, etc., how they got to where they are. Most adults are happy to talk about their jobs, the pros and cons of the work they do, and the opportunities that unexpectedly came along the way that shaped their career paths.

The second best predictor of college graduation is academic self-confidence. Academic self-confidence is not related to general self-confidence but specifically to academic goals and knowledge. The individual knows that she can do what it takes to complete a specific degree. An example might be the student who wants to be a physicist and is not daunted by the upper level math courses. The student with academic self-confidence feels both confident and competent that they can learn what they need to be able to do to complete a major area of study. That does not mean that the confidence is across the board. The business major can struggle with accounting, but will find a way to get at least a C even if it means taking it in summer school. Research methods may be tedious or difficult for the social science major. The study of old English can overwhelm the English major. The student will plan to get those courses out of the way early in a career, just in case reserve measures need to be taken, and not put off until the last semester senior year. The student with academic self-confidence knows that they will do what it takes to complete the necessary components of the chosen area of study.

Getting skills in place before the young person leaves for college is the best approach to optimize the likelihood of success in college.

It is no surprise to those of us at the Tarnow Center that the third best predictor of degree completion is that the student has "good study and time management skills." College is often the first time that the student has to create and sustain his own schedule. Mom and Dad are not there to oversee that the young adult gets up on time, goes to class, and keeps current on the work to be completed. Some students are surprised when, for example, math problems are assigned but never checked or graded. The assignments were given for the students to learn the material and to validate their understanding prior to exams rather than for the sake of a grade. Students who quit college often have a history of procrastination as the only way to get papers written or materials read. Procrastination is a risky approach as so many things can go wrong when left to the last minute, e.g., the computer crashes, the roommate throws up, the student is overwhelmed with anxiety and can't think!

Students who later are on academic probation or suspension in college often fail to realize that they do not know *how* to study. Many pride themselves on *getting by* in high school with very little effort. They sometimes think that if you're smart it means you shouldn't have to work hard. Thomas Friedman's report on the Indiana High School Survey of Student Engagement (90,000 students surveyed) found that 55% of the students reported they studied no more than 3 hours per week, and 65% of those reported getting mostly A's and B's (Houston Chronicle, 5.13.05). This kind of erroneous thinking is more pervasive than people realize: If you are smart, it should come easy. It is very hard to be successful with this as a mindset. A high school student that knows her learning style, i.e., the best way to learn information, write papers, and study efficiently, has the advantage that first year of college over the student who just knows how to *get by*.

Social and emotional factors are thought to be very important to integrating into a college environment. A new student has to tolerate being an *unknown*, possibly for the first time in years. He needs the social skills and self-confidence to venture out and make new friends without resorting to alcohol and drugs for courage. More and more students are beginning college with a history of anxiety, depression, ADHD and learning difficulties. More students than ever are on medications for these conditions. Colleges are responding by providing an increase in campus mental health services to try and meet the demands.

Colleges, however, are not adept at managing psychological and emotional collapse. It is too easy for the student to get lost in the woodwork, or even to get lost in the legal issues involved with informing parents of problems and concerns without the student's consent. The best approach is that the at-risk student knows her vulnerabilities prior to going away, and has learned to manage on a daily basis, takes medicine regularly, and has learned early warning signals of her psychological state *beginning* to get out of control when measures can more likely be taken to alter the course effectively. Parents should also have the student's permission to get a call or email from the Resident Advisor or even the roommate if the student's well-being is in question. Everyone feels the failure when the student has already collapsed under the stress.

Getting skills in place before the young person leaves for college is the best approach to optimize the likelihood of success in college. In my practice with young adults and adolescents, I have developed Competencies Checklists to provide information to begin the Pre-Launch Assessment. These checklists identify skills that young people need to have in place to manage their lives effectively, such as, getting up on your own in the morning to be on time for school or work. If they can perform the skill 90% of the time without Mom, Dad, or anyone else reminding them, then they can consider it a skill that they have down. It is important that parents and teenagers address these issues together and collect real data. Do not settle for "good intentions." Do not wait for the summer prior to college enrollment. The stakes are too high to allow much room for failure.

The Pre-Launch Assessment needs to look at all aspects of functioning: daily self-care, managing time and money, emotional and interpersonal stability and skills, educational self-management, awareness of academic strengths and weaknesses, executive functioning, moral grounding. These are the larger categories. What each category entails is the work that we encourage families to do together throughout the high school years.

To Do List for Parents

- Collect real data.
- Share with student.
- Plan for improvement.
- Assess over time.
- Develop a fall-back plan.

Let the student know what is expected in order for the parent to feel comfortable investing in college. A recent Houston Chronicle article by Matthew Tresaugue (October 26, 2007) reported that 48% of Texas college students are now enrolled in community colleges, while only 41% are in public universities. Cost is thought to be the primary factor contributing to this trend. Can you and your family afford to lose a year or more of college funding? High school students and young college students do not always understand how much is at stake. Each year of high school, the parents and teenager should assess what skills need to be put into place this next year. Parents often say, "I need you to demonstrate responsibility before …..you drive, you date, you can go to the mall on your own." Have written contracts that define the expectations and responsibilities, as well as, the real-life consequences of not meeting the goals.

Help the teenager to generate plans to develop needed skills, and reassess over time whether the plans are effective. Decide what skills are required and what are optional or in the *to be developed* category. The job of reassessing over time falls to the parents. The 10th grader is busy being a 10th grader. Your responsibility as a parent is to make sure, as best you can, that your young person is developing the skills needed for when you are not there. That your young person can problem-solve and get support when needed will increase everyone's confidence in sending him or her off for a successful college adventure.

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