SCIENCE IN AUTISM TREATMENT

FALL 2002

THE NEWSLETTER OF THE ASSOCIATION FOR SCIENCE IN AUTISM TREATMENT

Excellence in Special Education

Adapted from an article written by Michael J, Opuda, PhD, Special Education Consultant; originally appearing in the MADSEC Newsletter, the newsletter of the Maine Administrators of Services for Children with Disabilities, Fall, 2002-03. Used with permission.

"MOVE AMERICA'S SPECIAL EDUCATION SYSTEM FROM A CULTURE OF COMPLIANCE [WITH THE LAW], TO A CULTURE OF ACCOUNTABILITY FOR RESULTS." THIS WAS THE CHARGE PRESIDENT GEORGE W. BUSH MADE TO THE PRESIDENT'S COMMISSION ON EXCELLENCE IN SPECIAL EDUCATION ON OCTOBER 2, 2001. ON JULY 1, 2002, THE COMMISSION ISSUED ITS LONG AWAITED REPORT, ONE THAT WILL FRAME THE CONGRESSIONAL DEBATE ON THE RE-AUTHORIZATION OF THE INDIVIDUALS WITH DISABILITIES EDUCATION ACT (IDEA).

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"THE ULTIMATE TEST OF THE VALUE OF SPECIAL EDUCATION IS THAT, ONCE IDENTIFIED, CHILDREN [WITH DISABILITIES] CLOSE THE GAP WITH THEIR PEERS. THAT'S WHAT ACCOUNTABILITY FOR RESULTS IS ALL ABOUT," ACCORDING TO THE REPORT.

THE COMMISSION ISSUED NINE MAJOR FINDINGS:

1. THE CURRENT SPECIAL EDUCATION SYSTEM OFTEN PLACES PROCESS ABOVE RESULTS, AND BUREAUCRATIC COMPLIANCE ABOVE STUDENT ACHIEVEMENT, EXCELLENCE, AND OUTCOMES.

2. THE CURRENT SYSTEM USES AN ANTIQUATED MODEL THAT WAITS FOR A CHILD TO FAIL, INSTEAD OF A MODEL BASED ON PREVENTION AND INTERVENTION.

3. CHILDREN PLACED IN SPECIAL EDUCATION ARE GENERAL EDUCATION CHILDREN FIRST. GENERAL EDUCATION AND SPECIAL EDUCATION SHARE RESPONSIBILITIES FOR CHILDREN WITH DISABILITIES.

4. WHEN A CHILD FAILS TO MAKE PROGRESS IN SPECIAL EDUCATION, PARENTS HAVE INADEQUATE OPTIONS AND LITTLE RECOURSE.

"The ultimate test of the value of special education is that, once identified, children [with disabilities] close the gap with their peers. That's what accountability for results is all about."

Craig, son of ASAT supporters Ron and Kathy Cavallo

5. THE CULTURE OF COMPLIANCE HAS OFTEN DEVELOPED FROM THE PRESSURES OF LITIGATION, DIVERTING MUCH ENERGY OF THE PUBLIC SCHOOLS' FIRST MISSION: EDUCATING EVERY CHILD.

6. MANY OF THE CURRENT METHODS OF IDENTIFYING CHILDREN WITH DISABILITIES LACK VALIDITY. AS A RESULT, THOUSANDS OF CHILDREN ARE MISIDENTIFIED EVERY YEAR, WHILE MANY OTHERS ARE NOT IDENTIFIED EARLY ENOUGH OR AT ALL.

7. CHILDREN WITH DISABILITIES REQUIRE

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EDITORIAL

Kids and Experiments: Do They Mix?

Readers of *Science in Autism Treatment* frequently contact us for our positions on interventions for autism. As the parent of two children with autism myself, I know how devoted we are to never giving up the search for something that will work for our children that we might have overlooked.

One of ASAT's goals is to empower parents and professionals with the discernment skills necessary to make sound choices for our children. If an intervention is not proven to be effective, it is, at best, experimental. There is nothing inherently wrong with experiments—indeed, the scientific method is based upon positing a theory, and then objectively running experiments to test the theory.

The problem with many experiments in autism treatment is that the experimental status of the intervention is not disclosed to the consumer. The consumer is given the impression that the intervention has been validated as effective, when it has not. Worse, in some cases the intervention has been discredited. And remember—when an intervention has not been proven to be effective, it also has not been proven to be harmless. I remember vividly my indignation over a case study in Research class about "tracking" students in education. Tracking was a practice of determining which children were likely to be college-bound or vocation-bound as adults, and programming a young child's multi-year education accordingly. Twenty years of research finally concluded tracking was bad for students. *Twenty years*! An entire generation of children was "tracked" without their consent, and with varying degrees of harm or denied opportunity.

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ASAT MISSION STATEMENT

THE ASSOCIATION FOR SCIENCE IN AUTISM TREATMENT WILL:

- Disseminate accurate, scientifically sound information about autism and treatments for autism; and
- Improve access to effective, science-based treatments for all people with autism, regardless of age, severity of condition, income, or place of residence.

WE WILL FULFILL OUR MISSION BY:

- Educating professionals and the public about state-of-the-art, valid treatments for people with autism;
- Supporting certification, to ensure all individuals with autism receive treatment from practitioners who have met minimum standards of competency;
- Forming interactive, supportive partnerships with universities to develop accredited educational programs for autism practitioners, and
- Improving standards of care for people with autism.

VALUES STATEMENT

ASAT is committed to SCIENCE AS THE MOST OBJECTIVE, time-tested and reliable approach to discerning between safe, effective autism treatments, and those that are harmful or ineffective. ASAT supports all scientifically sound research on the prevention, treatment and cure of autism, as well as all treatments for autism that are shown to be effective through solid scientific research, regardless of discipline or domain.

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ASAT GETS NUMEROUS INQUIRIES REGARDING DIET THERAPIES, SUCH AS GLUTEN- AND CASEIN-FREE DIETS. A RECENT INQUIRY REGARDED THE ROLE OF ENZYMES IN OUR CHILDREN. I PERSONALLY KNOW VERY LITTLE ABOUT ENZYMES OR FOOD ALLERGIES, BUT RELY INSTEAD UPON THE QUALIFIED BOARD AND ADVISORY BOARD MEMBERS ASAT HAS ASSEMBLED FOR GUIDANCE IN SUCH MATTERS. I AM NOT AWARE OF ANY BODY OF PEER REVIEWED LITERATURE THAT CONCLUDES THERE IS A LINK BETWEEN ENZYMES OR FOOD ALLERGIES AND CHILDREN WITH AUTISM. HOWEVER, I AM WELL AWARE OF NUMEROUS THEORIES POSITED BY PARENTS AND PROFESSIONALS THAT ONE EXISTS. I AM ALSO AWARE OF NUMEROUS PURPORTEDLY "SCIENTIFIC" STUDIES CONCLUDING THAT THERE IS SUCH A LINK, BUT ON CLOSER EXAMINATION THESE "STUDIES" ARE REALLY PSEUDO-SCIENTIFIC (JUNK SCIENCE) IN NATURE.

AT THE SAME TIME, HOWEVER, WE NEED TO REMEMBER THAT OUR CHILDREN ARE AS PHYSIOLOGICALLY COMPLEX AS ANY OTHER CHILD. CHILDREN WITH AUTISM ARE CERTAINLY VULNERABLE TO THE SAME KINDS OF GASTROINTESTINAL AND ALLERGY PROBLEMS ANY OTHER CHILD MIGHT HAVE, AND BEST PRACTICES IN THE TREATMENT OF SUCH PROBLEMS ARE AS RIGHT FOR CHILDREN WITH AUTISM AS THEY ARE FOR ANY OTHER KIDS. SUCH TREATMENTS JUST DON'T HAVE ANYTHING TO DO WITH AUTISM.

MY PERSONAL RISK TOLERANCE FOR HIGHLY EXPERIMENTAL INTERVENTIONS ON BEHALF OF MY SONS IS VERY LOW. THIS, COMBINED WITH MY LACK OF TIME OR EXPERTISE TO PROPERLY SUPERVISE AN EXPERIMENT, MEANS IT'S UNLIKELY THAT I WILL UNDERTAKE ONE.

THE QUESTION OF SUBJECTING OUR CHILDREN TO EXPERIMENTAL INTERVENTIONS IS AN ETHICAL DILEMMA, ONE THAT IMPOSES ENORMOUS RESPONSIBILITY UPON US. WE NEED TO MAKE DIFFICULT DECISIONS ON BEHALF OF OUR CHILDREN, ALWAYS ATTENTIVE TO THE ETHICAL CONSIDERATIONS CONCERNING THEIR HEALTH, THEIR RIGHTS, AND THEIR INABILITY TO GIVE CONSENT.

—Lora Perry, MS Editor

What Causes Autism?

The National Institutes of Health has been funding several research projects to help identify the causes of autism, in hopes of someday developing better treatment for and prevention of the disorder. The following is reprinted from the website of the National Institutes of Health, at http://www.nimh.nih.gov/publicat/autism.cfm.

IT IS GENERALLY ACCEPTED THAT AUTISM IS CAUSED BY ABNORMALITIES IN BRAIN STRUCTURES OR FUNCTIONS. USING A VARIETY OF NEW RESEARCH TOOLS TO STUDY HUMAN AND ANIMAL BRAIN GROWTH, SCIENTISTS ARE DISCOVERING MORE ABOUT NORMAL DEVELOPMENT AND HOW ABNORMALITIES OCCUR.

THE BRAIN OF A FETUS DEVELOPS THROUGHOUT PREGNANCY. STARTING OUT WITH A FEW CELLS, THE CELLS GROW AND DIVIDE UNTIL THE BRAIN CONTAINS BILLIONS OF SPECIALIZED CELLS, CALLED NEURONS. RESEARCH SPONSORED BY NIMH AND OTHER COMPONENTS AT THE NATIONAL INSTITUTES OF HEALTH IS PLAYING A KEY ROLE IN SHOWING HOW CELLS FIND THEIR WAY TO A SPECIFIC AREA OF THE BRAIN AND TAKE ON SPECIAL FUNCTIONS. ONCE IN PLACE, EACH NEURON SENDS OUT LONG FIBERS THAT CONNECT WITH OTHER NEURONS. IN THIS WAY, LINES OF COMMUNICATION ARE ESTABLISHED BETWEEN VARIOUS AREAS OF THE BRAIN, AND BETWEEN THE BRAIN AND THE REST OF THE BODY. AS EACH NEURON RECEIVES A SIGNAL, IT RELEASES CHEMICALS CALLED NEUROTRANSMITTERS, WHICH PASS THE SIGNAL TO THE NEXT NEURON. BY BIRTH, THE BRAIN HAS EVOLVED INTO A COMPLEX ORGAN WITH SEVERAL DISTINCT REGIONS AND SUBREGIONS, EACH WITH A PRECISE SET OF FUNCTIONS AND RESPONSIBILITIES.

BUT BRAIN DEVELOPMENT DOES NOT STOP AT BIRTH. THE BRAIN CONTINUES TO CHANGE DURING THE FIRST FEW YEARS OF LIFE, AS NEW NEUROTRANSMITTERS BECOME ACTIVATED AND ADDITIONAL LINES OF COMMUNICATION ARE ESTABLISHED. NEURAL NETWORKS ARE FORMING AND CREATING A FOUNDATION FOR PROCESSING LANGUAGE, EMOTIONS, AND THOUGHT.

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What's New in Research?

Treating and Addressing Stereotypy

Bridget Taylor, PsyD, BCBA
ASAT Board Member

MANY CHILDREN WITH AUTISM ENGAGE IN REPETITIVE BEHAVIOR THAT DOES NOT APPEAR TO BE A FUNCTION OF SOCIAL CONSEQUENCE (E.G., SOCIAL ATTENTION, OR ESCAPE FROM TASK DEMANDS). THIS BEHAVIOR IS TYPICALLY REFERRED TO AS *stereotypy* OR *automatically reinforced behavior*. STEREOTYPY IS USUALLY MAINTAINED BY THE REINFORCING PROPERTIES OF THE BEHAVIOR ITSELF; FOR EXAMPLE, A CHILD MAY SPIN THE WHEELS OF A TRUCK BECAUSE IT IS VISUALLY APPEALING. COMMON EXAMPLES OF STEREOTYPY ARE HAND FLAPPING, TURNING IN CIRCLES, VOCALIZING PORTIONS OF VIDEO OR TELEVISION SCRIPTS, EATING NON-EDIBLES, RIPPING OR SHREDDING ITEMS, OR MAKING VOCAL NOISES. STEREOTYPY CAN BE CHALLENGING TO TREAT DUE TO BOTH ITS PERSISTENCE, AND ITS TENDENCY TO OCCUR IN THE ABSENCE OF ADULT SUPERVISION. THE GOOD NEWS, HOWEVER, IS THAT INTERVENTIONS BASED UPON BEHAVIOR ANALYSIS OFFER VIABLE TREATMENT OPTIONS TO ADDRESS THIS BEHAVIOR. OUTLINED BELOW ARE SEVERAL RECENT EVALUATIONS OF VARIOUS BEHAVIORAL INTERVENTIONS AIMED AT THE REDUCTION OF STEREOTYPY.

STUDY: RINGDAHL, JE, ANDELMAN, AS, KITSUKAWA, K, WINBORN, LC, BARRETTO, A, WACHER, DP (2002). *Evaluation and treatment of covert stereotypy.* BEHAVIORAL INTERVENTIONS, 17: 43-49.

SUMMARY: IN THIS STUDY, THE EXPERI-MENTERS DETERMINED THAT THE HAND FLAPPING OF A CHILD WITH AUTISM OCCURRED IN THE ABSENCE OF SOCIAL CONSEQUENCES, AND WHEN THE CHILD WAS ALONE. TWO TREATMENT PROCEDURES WERE INVESTIGATED TO REDUCE THE BEHAVIOR. ONE PROCEDURE PROVIDED REGULARLY SCHEDULED VERBAL REMINDERS TO REFRAIN FROM HAND FLAPPING, WHILE THE SECOND PROCEDURE EMPLOYED A DIFFERENTIAL REINFORCEMENT OF OTHER BEHAVIOR (DRO) INTERVENTION. IN THE TREATMENT CONDITION UTILIZING VERBAL REMINDERS, A STOP SIGN PAIRED WITH AN ADULT REFERENCE TO THE SIGN PROVIDED A VERBAL REMINDER TO STOP FLAPPING. THE EXPERIMENTERS FOUND THAT ALTHOUGH HAND FLAPPING WAS REDUCED IN THE PRESENCE OF THE ADULT'S VERBAL REMINDER, HAND FLAPPING INCREASED WHEN THE ADULT LEFT THE ROOM, EVEN WHEN THE ADULT RETURNED INTERMITTENTLY TO PROVIDE REMINDERS TO STOP.

This behavior is typically referred to as *stereotypy* or *automatically reinforced behavior*.

THE DRO PROCEDURE INVOLVED PRESENTING A PREFERRED ACTIVITY CONTINGENT UPON NOT ENGAGING IN HAND FLAPPING FOR SET INTERVALS OF TIME. DURING THESE SESSIONS, THE ADULT STATED THE CONTINGENCY (E.G., "DON'T FLAP YOUR HANDS AND YOU CAN EARN [THE PREFERRED TOY]"), AND THEN LEFT THE ROOM. ONCE THE TIME INTERVAL WAS OVER, THE CHILD WAS PROVIDED WITH THE PREFERRED TOY. INITIALLY, THE CHILD WAS ONLY REQUIRED TO REFRAIN FROM HAND FLAPPING FOR TEN SECONDS; THE INTERVAL WAS INCREASED PROGRESSIVELY TO TEN MINUTES. THE DRO PROCEDURE PROVED MORE EFFECTIVE IN MAINTAINING LOW RATES OF HAND FLAPPING WHEN THE CHILD WAS ALONE.

CONCLUSION: FOR SOME CHILDREN, VERBAL REMINDERS MAY NOT BE SUFFICIENT TO KEEP STEREOTYPIC BEHAVIOR AT LOW RATES WHEN ADULTS ARE NOT PRESENT. A MORE COMPREHENSIVE TREATMENT MAY BE WARRANTED, SUCH AS REINFORCING THE ABSENCE OF THE RESPONSE WITH A HIGHLY PREFERRED STIMULUS ITEM.

STUDY: BRITTON, LN, CARR, JE, LANDABURU, HJ, ROMICK, KS (2002). *The efficacy of noncontingent reinforcement as treatment for automatically reinforced stereotypy.* BEHAVIORAL INTERVENTIONS. 17: 93-103.

SUMMARY: IN THIS STUDY, THE REPETITIVE RESPONSES OF HEAD ROCKING, FACE RUBBING, AND OTHER HAND MOVEMENTS WERE FOUND TO BE MAINTAINED BY SENSORY CONSEQUENCES, AND TO CONTINUE INDEPENDENT OF SOCIAL CONSEQUENCES. THE EXPERIMENTERS IDENTIFIED ACTIVITIES THAT THEY BELIEVED COMPETED WITH THE SENSORY CONSEQUENCES OF THE RESPONSES, SUCH AS NECK MASSAGES AS A COMPETING ACTIVITY TO HEAD ROCKING. PREFERENCE ASSESSMENTS WERE CONDUCTED TO IDENTIFY ACTIVITIES AND ITEMS THAT THE INDIVIDUAL MIGHT ENGAGE WITH AS AN ALTERNATIVE TO THE STEREOTYPIC BEHAVIOR. THESE PREFERRED STIMULUS ITEMS OR ACTIVITIES WERE THEN MADE FREELY AVAILABLE TO DETERMINE IF THE PARTICIPANTS WOULD CHOOSE THESE ACTIVITIES VOLUNTARILY, RATHER THAN ENGAGE IN THE REPETITIVE BEHAVIOR. FOR ALL THREE INDIVIDUALS, THE EXPERIMENTERS FOUND THAT REPETITIVE BEHAVIOR REMAINED AT HIGH LEVELS DESPITE THE AVAILABILITY OF PREFERRED ITEMS OR ACTIVITIES. HOWEVER, ONCE THE INDIVIDUALS WERE PROMPTED TO ENGAGE WITH THE STIMULUS ITEMS (E.G., MANUALLY GUIDED TO PLAY WITH TOYS), STEREOTYPY DECREASED.

CONCLUSION: SIMPLE ACCESS TO PREFERRED LEISURE ITEMS MAY NOT BE A SUFFICIENT DETERRENT TO STEREO-

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What's New in Research?, continued from page 4

TYPIC BEHAVIOR. INDIVIDUALS MAY NEED TO BE PROMPTED TO ENGAGE WITH THESE MATERIALS IN ORDER FOR THE MATERIALS TO COMPETE WITH THE SENSORY CONSEQUENCES OF STEREOTYPY.

STUDY: MANCINA, C., TANKERSLEY, KAMPS, D, KRAVITS, T, PARRETT, J (2000). BRIEF REPORT: *Reduction of inappropriate vocalizations for a child with autism using a self-management treatment program*. JOURNAL OF AUTISM AND DEVELOPMENTAL DISORDERS, 30, 599-606.

SUMMARY: IN THIS STUDY, THE REPETITIVE VOCALIZATIONS OF A TWELVE-YEAR-OLD GIRL WITH AUTISM WERE REDUCED BY TEACHING HER TO MONITOR HER OWN BEHAVIOR. THE CHILD WAS FIRST TAUGHT TO DISCRIMINATE QUIET FROM NOISY BEHAVIOR WHEN IT WAS MODELED BY AN ADULT, AND WAS THEN TAUGHT TO IDENTIFY WHEN SHE DISPLAYED NOISY BEHAVIOR. A WATCH WITH AN AUDIBLE TIMER WAS USED TO SIGNAL INTERVALS FOR THE YOUNGSTER TO RECORD IF SHE WAS NOISY OR QUIET DURING THE DESIGNATED INTERVAL. SHE WAS THEN TAUGHT TO REINFORCE HERSELF FOR A DESIGNATED NUMBER OF QUIET INTERVALS. THE PROCEDURE WAS SUBSEQUENTLY IMPLEMENTED IN HER PUBLIC SCHOOL CLASSROOM BY HER TEACHER. THE SELF-MANAGEMENT PROCEDURE RESULTED IN A DECREASE IN INAPPROPRIATE VOCALIZATIONS, BUT NOT IN OTHER STEREOTYPIC RESPONSES THAT THE CHILD DISPLAYED. IN ADDITION, EVEN THOUGH THE BEHAVIOR DECREASED, THE CHILD CONTINUED TO REQUIRE ADULT PROMPTS TO ATTEND TO THE SYSTEM OF SELF-MONITORING.

CONCLUSIONS: SOME CHILDREN MAY BE ABLE TO LEARN TO MAKE ACCURATE DISCRIMINATIONS OF THEIR OWN BEHAVIOR IN ORDER TO MONITOR AND SELF-MANAGE THEIR RATES OF STEREOTYPIC RESPONSES. EVEN IF CHILDREN ARE ABLE TO MAKE ACCURATE DISCRIMINATIONS, HOWEVER, THEY MAY REQUIRE ADDITIONAL PROMPTS FROM ADULTS TO USE THE SELF-MANAGEMENT SYSTEM. SELF-MANAGEMENT MAY BE A VIABLE ALTER-NATIVE FOR YOUNGSTERS WHO POSSESS CERTAIN PREREQUISITE SKILLS (E.G., MAKING ACCURATE DISCRIMINATIONS), AND WHO ATTEND PUBLIC SCHOOL CLASSROOMS WHERE TEACHERS ARE READILY AVAILABLE TO PROVIDE THE NECESSARY PROMPTS TO ATTEND TO AND USE THE SELF-MANAGEMENT SYSTEM.

Excellence, continued from page 1

HIGHLY QUALIFIED TEACHERS.

8. THE CURRENT SYSTEM DOES NOT ALWAYS EMBRACE OR IMPLEMENT EVIDENCE-BASED PRACTICES.

Jason, son of ASAT board member Lora Perry, and her husband Steve

9. THE FOCUS ON COMPLIANCE AND BUREAUCRATIC IMPERATIVES IN THE CURRENT SYSTEM, INSTEAD OF ACA-DEMIC ACHIEVEMENT AND SOCIAL OUTCOMES, FAILS TOO MANY CHILDREN WITH DISABILITIES.

IN RESPONSE TO THESE FINDINGS, THE COMMISSION CONCLUDED "WE MUST INSIST ON HIGH ACADEMIC STANDARDS AND EXCELLENCE, PRESS FOR ACCOUNTABILITY FOR RESULTS AT ALL LEVELS, ENSURE YEARLY PROGRESS, EMPOWER AND TRUST PARENTS, SUPPORT AND ENHANCE TEACHER QUALITY, AND ENCOURAGE EDUCATIONAL REFORMS BASED UPON SCIENTIFICALLY RIGOROUS RESEARCH. IN ADDITION, WE MUST… IMPLEMENT SCIENTIFICALLY BASED INSTRUCTIONAL PRACTICES."

THE COMMISSION ALSO MADE THREE BROAD RECOMMENDATIONS, WHICH FORM THE FOUNDATION OF THEIR REPORT:

1. FOCUS ON RESULTS—NOT ON PROCESS.
2. EMBRACE A MODEL OF PREVENTION, NOT A MODEL OF FAILURE.
3. CONSIDER CHILDREN WITH DISABILITIES AS GENERAL EDUCATION CHILDREN FIRST.

WHILE SIMPLY STATED, THESE RECOMMENDATIONS ARE, UPON ANALYSIS, POTENTIALLY COMPLEX. FOR EXAMPLE, WILL SCHOOLS BE "HELD HARMLESS" FOR PROCEDURAL VIOLATIONS WHEN THE SCHOOL CAN DEMONSTRATE POSITIVE RESULTS FOR A CHILD? HOW WILL SCHOOLS DISTINGUISH BETWEEN THE STUDENT WHO IS "TRULY DISABLED," AND THE STUDENT WHO JUST NEEDS A LITTLE MORE TIME TO LEARN? WHAT SAFEGUARDS ARE NEEDED TO ENSURE SCIENTIFICALLY BASED METHODS ARE UTILIZED, RATHER THAN INTERVENTIONS FOUNDED UPON PSEUDO-SCIENCE, TESTIMONIALS, HOPES, BELIEFS AND WISHES? HOW AND AT WHAT RATE WILL GENERAL AND SPECIAL EDUCATORS BE PROVIDED WITH THE TRAINING AND SUPPORT THEY NEED TO WORK WITH STUDENTS WITH DISABILITIES? HOW WILL SPECIAL EDUCATION INTEGRATE WITH THE BROADER ISSUES OF THE CHILD'S HOME, COMMUNITY AND LIFE-LONG NEEDS?

THESE AND MANY OTHER QUESTIONS WILL SURFACE IN THE COMING MONTHS AS CONGRESS, THE BUSH ADMINISTRATION, ADVOCATES AND EDUCATIONAL PROFESSIONALS WORK TO AMEND THE INDIVIDUALS WITH DISABILITIES EDUCATION ACT.

THE FULL 82 PAGE REPORT IS AVAILABLE AT HTTP://WWW.ED.GOV/INITS/COMMISSIONSBOARDS/WHSPECIALEDUCATION/REPORTS.HTML .

Large portions of the text in this article are reproduced verbatim from the report A New Era: Revitalizing Special Education for Children and Their Families. Other portions have been abridged or re-worded for length.

HELP DESK

Bobby Newman, PhD, BCBA

QUESTION: I HAVE A 13 YEAR OLD SON, AND I AM LATE-COMER TO THE FIELD OF ABA. ALMOST EVERYTHING I READ IS ABOUT PRESCHOOLERS AND RECOVERY. CAN ABA HELP MY SON?

ANSWER: YES! ABA CAN CERTAINLY HELP YOUR SON TO LEARN NEW SKILLS, AND TO MANAGE BEHAVIOR THAT IS INTERFERING WITH HIS ABILITY TO PARTAKE IN WHATEVER LIFE HAS TO OFFER. NOW, LET'S EXPAND A BIT. ABA IS NOT LIMITED IN ITS EFFECTIVENESS TO ONLY AUTISM SPECTRUM DISORDERS (ASDS), NOR TO ANY SPECIFIC AGE GROUP. MANY ABA PROFESSIONALS DO NOT WORK WITH INDIVIDUALS DIAGNOSED WITH AUTISM SPECTRUM DISORDERS AT ALL, OR ANY OTHER FORM OF DEVELOPMENTAL DISABILITY. ABA PROFESSIONALS WORK IN BUSINESS AND INDUSTRY, SPORTS, EDUCATION (TYPICAL OR SPECIAL), AND OTHER FIELDS. THE FACT THAT ABA WORKS SO WELL WITH PEOPLE DIAGNOSED WITH ASDS AND CAN ACHIEVE SUCH AMAZING GAINS IS, IN PART, AN HISTORICAL ACCIDENT. [1]

AS I PREPARED TO ANSWER YOUR QUESTION, I FOUND MYSELF THINKING BACK TO A SYMPOSIUM IN WHICH I TOOK PART AT THE 2001 ABA CONVENTION IN NEW ORLEANS. ASAT PAST-PRESIDENT CATHERINE MAURICE WAS THE DISCUSSANT, AND SHE REMINDED US (I'M PARAPHRASING HERE) THAT WHILE WE MUST CELEBRATE, POPULARIZE, AND TESTIFY TO THE REALITY OF RECOVERY FROM AUTISM, WE MUST BE NO LESS ENTHUSIASTIC DESCRIBING HOW ABA CAN HELP INDIVIDUALS, REGARDLESS OF AGE, TO MAKE AMAZING ACHIEVEMENTS. A STUDENT WHO LEARNS TO TIE HIS SHOES, OR TO ACHIEVE ANOTHER STEP TOWARDS INDEPENDENCE, MUST BE HELD IN NO LESS REGARD AND CELEBRATED NO LESS ENTHUSIASTICALLY THAN THE CHILD WHO RECOVERS. BOTH INDIVIDUALS ARE TESTAMENTS TO THE POWER OF THIS SCIENCE, AND TO THE HUMANISTIC ENDS TO WHICH IT IS DIRECTED. IN MY OWN BOOKS OF CASE STUDIES [2], MANY OF THE PROCEDURES DESCRIBED WERE USED TO HELP TEENAGE AND ADULT CLIENTS TO LEARN GREATER INDEPENDENCE, OR TO OVERCOME CRIPPLING OR PHYSICALLY DANGEROUS RITUALS AND BEHAVIOR. MANY OF THE PEOPLE WHO TAUGHT ME ABOUT ABA HAD NEVER WORKED WITH ANYONE UNDER 15 IN THEIR LIVES. AS SKINNER ALWAYS REMINDED US, THE LAWS OF BEHAVIOR ARE UNIVERSAL (SO FAR). WE CAN APPLY OUR SCIENCE EQUALLY, REGARDLESS OF THE AGE OR THE BEHAVIOR OF THE INDIVIDUAL.

GOALS AND TEACHING TECHNIQUES WILL DIFFER, DEPENDING UPON THE SKILLS THAT NEED TO BE TAUGHT, AND UPON THE BEHAVIORS INTERFERING WITH INDEPENDENT FUNCTIONING.

—WHICH BRINGS US TO MORE ABOUT ABA MOST PEOPLE DON'T REALIZE:

1. ABA IS NOT DISCRETE TRIAL TEACHING (DTT).
2. ABA IS NOT A "RELATED SERVICE."

"HOW MANY HOURS OF ABA IS HE GETTING?" IS A NONSENSICAL QUESTION. ABA IS THE APPLIED SCIENCE OF HUMAN BEHAVIOR, AND MORE GENERALLY, A WAY OF LOOKING AT BEHAVIOR, AND A LITERATURE OF PROVEN TECHNIQUES THAT ARE IN EFFECT 24 HOURS A DAY. THAT'S NOT TO SAY THAT YOU ARE PROVIDING INTENSIVE PROGRAMMING 24 HOURS A DAY, BUT RATHER THAT YOU ARE CARRYING OUT GENERAL BEHAVIOR MANAGEMENT STRATEGIES, SETTING UP AND TAKING ADVANTAGE OF TEACHING AND GENERALIZATION OPPORTUNITIES, PERFORMING FUNCTIONAL ANALYSES OF BEHAVIOR, AND SHAPING AND CHAINING NEW SKILLS WHENEVER POSSIBLE.

FIND A WELL-TRAINED BOARD CERTIFIED BEHAVIOR ANALYST (BCBA) [3] AND FORGE AHEAD WITH NO LESS ENTHUSIASM THAN YOU WOULD IF YOUR CHILD WERE IN EARLY INTERVENTION.

Buckaroo Banzai!

ONE OF THE CHARGES THAT I HAVE FREQUENTLY HEARD LEVELED AGAINST ABA IS THAT IT TAKES AWAY AN INDIVIDUAL'S FREEDOM. SOMEHOW, SO THE STORY GOES, ABA HAS THE ABILITY TO REMOVE AN INDIVIDUAL'S AUTONOMY AND INDIVIDUALITY. CONSISTENT WITH A LINE OF ARGUMENT BF SKINNER AND KENNETH MACCORQUODALE MADE DECADES AGO, I TAKE THE OPPOSITE VIEW: ABA *increases* AUTONOMY. HOW CAN AN INDIVIDUAL TRULY BE FREE IF HE IS UNABLE TO ENGAGE IN A PARTICULAR BEHAVIOR? WHEN I HAVE THE ABILITY TO ENGAGE IN A SPECIFIED BEHAVIOR, THEN I HAVE A CHOICE. IF I DO NOT HAVE THE ABILITY, I DO NOT HAVE THE CHOICE.

A MINI CASE STUDY: I WAS WORKING WEEKENDS WITH AN ADULT DIAGNOSED WITH AUTISM. HE ENJOYED MOVIES, BUT DID NOT HAVE THE ABILITY TO OPERATE THE TELEVISION OR VCR, NOR DID HE KNOW HOW TO SELECT THE VIDEOS HE WISHED TO WATCH. IN OTHER WORDS, HE DID NOT HAVE THE FREEDOM TO MAKE THESE CHOICES AS OTHERS DO. WE USED A VERY BASIC SHAPING AND FORWARD CHAINING MODEL, FOLLOWING A TASK ANALYSIS I CREATED TO HELP THE INDIVIDUAL LEARN TO SELECT A TAPE, AND TO OPERATE THE TELEVISION AND VCR. AS IS ALMOST ALWAYS THE CASE, THE TASK ANALYSIS HAD TO BE REWRITTEN A FEW TIMES, SINCE PARTICULAR STEPS PROVED TO BE TOO DIFFICULT, AND NEEDED TO BE BROKEN DOWN FURTHER. (REMEMBER, THE STUDENT IS ALWAYS RIGHT.)

AFTER LEARNING, JOE WAS ABLE TO INDEPENDENTLY ENGAGE IN THIS VERY COMMON AND VERY APPROPRIATE LEISURE SKILL. LUCKILY, HE ALSO HAD EXCELLENT TASTE IN MOVIES. ONE OF HIS FAVORITES WAS ALSO ONE OF MY ALL-TIME FAVORITES, *The Adventures of Buckaroo Banzai Across the Eighth Dimension*. A FEW TIMES WHEN I CAME TO THE HOUSE, HE GREETED ME WITH AN ENTHUSIASTIC "BUCKAROO BANZAI!" HIS PARENTS FOUND THIS ENDLESSLY AMUSING, AND BEGAN TO REFER TO ME AS THE FICTIONAL SCIENTIST/ROCK STAR/SOCIAL REFORMER/ADVENTURER. THAT'S OK, I'VE BEEN CALLED A LOT WORSE, AND WE COULD ALL CHOOSE MUCH WORSE ROLE MODELS THAN BUCKAROO.
—BN

1 See studies in:
Cooper, Heron and Heward. (1990). Applied behavior analysis. New Jersey: Prentice Hall College Division.
Malott, R., Malott, M. and Trojan, E. (1999). Elementary principles of behavior. New Jersey: Prentice Hall College Division.
2 Newman, B. (2000). Words from those who care: Further case studies of ABA with people with autism (editor and contributor). New York: Dove and Orca.
Newman, B. (1999). When everybody cares: Case studies of ABA with people with autism. New York: Dove and Orca.
3 Go to *www.BACB.com* and search by state

HELP DESK

Television/VCR Operation Task Analysis

STUDENT: JOE SMITH

TASK: TELEVISION /VCR OPERATION

SPECIAL NOTES : THE UNIT IN JOE'S ROOM IS A TV/VCR COMBINATION UNIT. IT HAS ONE POWER SUPPLY, TURNS ON AUTOMATICALLY WHEN A TAPE IS INSERTED, PLAYS AUTOMATICALLY WHEN A TAPE IS INSERTED, AND AUTOMATICALLY REWINDS AT THE END OF A TAPE. IF USING THIS TASK ANALYSIS WITH OTHER EQUIPMENT, ALTERATIONS ARE REQUIRED.

USE A FORWARD CHAIN.

1. SELECT A TAPE FROM THE CABINET. [1]
2. REMOVE DESIRED TAPE FROM SLEEVE.
3. ORIENT TAPE SO THAT PLASTIC FLAP FACES VCR TAPE SLOT. [2]
4. INSERT TAPE (THIS WILL AUTOMATICALLY TURN THE MACHINE ON AND IT WILL START PLAYING THE MOVIE AUTOMATICALLY).
5. SIT DOWN AND WATCH MOVIE.
6. AT THE END OF THE MOVIE, THE TAPE WILL AUTOMATICALLY REWIND. WAIT UNTIL "STOP" IS SEEN ON THE SCREEN (THIS WILL INDICATE THAT TAPE HAS REWOUND COMPLETELY).
7. PRESS THE "STOP/EJECT" BUTTON.
8. PLACE THE TAPE BACK IN SLEEVE.
9. REPLACE THE TAPE ON SHELF.
10. PRESS THE "POWER" BUTTON ON THE TV TO SHUT THE TV/VCR OFF.

NOTE: I HAVE WRITTEN THIS FOR A "PERFECT WORLD" SCENARIO. FOR THE TIME BEING, MAKE SURE EACH STEP IS COMPLETED SO THAT THE SYSTEM WILL WORK EACH TIME. AS JOE'S SKILLS WITH THE TV/VCR BECOME RELIABLE, WE WILL EXPAND THE CHAIN TO HELP JOE SOLVE PROBLEMS SUCH AS:

1. DELIBERATELY DO NOT REWIND A TAPE SO WE CAN TEACH JOE HOW TO USE THE "REWIND" BUTTON.
2. BE SURE A TAPE IS ALREADY IN THE MACHINE, SO WE CAN TEACH JOE IT MUST BE EJECTED BEFORE THE NEW TAPE CAN BE INSERTED.
3. LEAVE THE POWER PLUG UNPLUGGED SO THAT IT MUST BE PLUGGED IN BEFORE THE SYSTEM WILL WORK.
4. GIVE JOE THE OPPORTUNITY TO USE TVS AND VCRS THAT ARE NOT ONE UNIT, SO HE CAN MASTER A MORE COMPLEX TASK ANALYSIS.
5. TEACH JOE TO USE PAUSE, FAST FORWARD AND REWIND.

–BN

1 Joe cannot at present read the video boxes. I have therefore marked each tape box with a unique colored sticker. This sticker corresponds to a colored sticker on a "menu" of available movies that I have hung from the cabinet. This menu features a colored sticker and photo from the movie that will allow Joe to know which movie is on which tape; for example, the Shark for "Jaws" or Raul Julia as Gomez Addams for "The Addam's Family". All Joe must do is match the colored sticker on the tape box to the colored sticker on the photo on the menu.

2 This has not proven to be difficult for Joe. Should it for some reason prove difficult in the future, use a marker to draw arrows onto the tape itself that show how to insert the tape. We have used such "arrow" systems for other skill areas.

DIFFERENT PARTS OF THE BRAIN HAVE DIFFERENT FUNCTIONS

- **The hippocampus** MAKES IT POSSIBLE TO RECALL RECENT EXPERIENCE AND NEW INFORMATION
- **The amygdala** DIRECTS OUR EMOTIONAL RESPONSES
- **The frontal lobes of the cerebrum** ALLOW US TO SOLVE PROBLEMS, PLAN AHEAD, UNDERSTAND THE BEHAVIOR OF OTHERS, AND RESTRAIN OUR IMPULSES
- **The parietal areas** CONTROL HEARING, SPEECH, AND LANGUAGE
- **The cerebellum** REGULATES BALANCE, BODY MOVEMENTS, COORDINATION, AND THE MUSCLES USED IN SPEAKING
- **The corpus callossum** PASSES INFORMATION FROM ONE SIDE OF THE BRAIN TO THE OTHER

http://www.nimh.nih.gov/publicat/autism.cfm.

What Causes Autism? continued from page 3

However, scientists now know that a number of problems may interfere with normal brain development. Cells may migrate to the wrong place in the brain. Or, due to problems with the neural pathways or the neurotransmitters, some parts of the communication network may fail to perform. A problem with the communication network may interfere with the overall task of coordinating sensory information, thoughts, feelings, and actions.

Researchers supported by NIMH and other NIH Institutes are scrutinizing the structures and functions of the brain for clues as to how a brain with autism differs from the normal brain. In one line of study, researchers are investigating potential defects that occur during initial brain development. Other researchers are looking for defects in the brains of people already known to have autism.

Scientists are also looking for abnormalities in the brain structures that make up the limbic system. Inside the limbic system, an area called the amygdala is known to help regulate aspects of social and emotional behavior. One study of high-functioning children with autism found that the amygdala was indeed impaired but that another area of the brain, the hippocampus, was not. In another study, scientists followed the development of monkeys whose amygdala was disrupted at birth. Like children with autism, as the monkeys grew, they became increasingly withdrawn and avoided social contact.

Differences in neurotransmitters, the chemical messengers of the nervous system, are also being explored. For example, high levels of the neuro-transmitter serotonin have been found in a number of people with autism. Since neurotransmitters are responsible for passing nerve impulses in the brain and nervous system, it is possible that they are involved in the distortion of sensations that accompanies autism.

NIMH grantees are also exploring differences in overall brain function, using a technology called magnetic resonance imaging (MRI) to identify which parts of the brain are energized during specific mental tasks. In a study of adolescent boys, NIMH researchers observed that during problem-solving and language tasks, teenagers with autism were not only less successful than peers without autism, but the MRI images of their brains showed less activity. In a study of younger children, researchers observed low levels of activity in the parietal areas and the corpus callosum. Such research may help scientists determine whether autism reflects a problem with specific areas of the brain, or with the transmission of signals from one part of the brain to another.

Each of these differences has been seen in some but not all the people with autism who were tested. What could this mean? Perhaps the term autism actually covers several different disorders, each caused by a different problem in the brain. Or perhaps the various brain differences are themselves caused by a single underlying disorder that scientists have not yet identified. Discovering the physical basis of autism should someday allow us to better identify, treat, and possibly prevent it.

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