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Neurofeedback: One Instrument in the Orchestra

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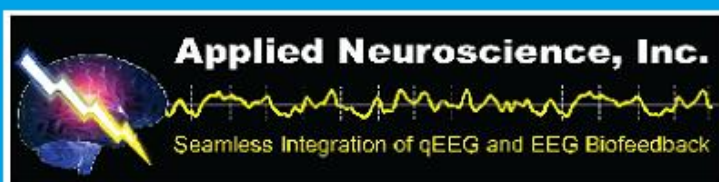
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Neurofeedback: One Instrument in the Orchestra

S. Louise Norris, Ph.D.

Neurofeedback is a valuable tool for the treatment of ADHD. However, ADHD children often lack the attending and motivation skills necessary to change their behavior and academic performance. Using neurofeedback in conjunction with other techniques provides a comprehensive treatment for the whole child.

At times parents and clinicians equate neurofeedback for ADHD with improved academic performance. This simplistic formula does injustice to both the technique and the child. Likewise, judging the efficacy of neurofeedback by experiments that employ neurofeedback in isolation with academic performance as the criterion of efficacy is a method that lacks face validity.

If the objective of neurofeedback is either to suppress theta activity or increase beta activity, then the effectiveness of this technique must be assessed first by those criteria. Antagonists will protest that we employ neurofeedback with the broader goal of effecting behavioral changes. Yet, it is fallacious to assume a direct positive correlation between brain pathology and behavior. Not only does one need the capacity to attend, but also effective cognitive strategies, achievement motivation, a sense of mastery of basic academic skills, and a sense of personal competence. It is true that parents don't care about theta or beta, and are investing both time and money with the ultimate goal of improving their child's capacity to learn and live successfully. Thus, the responsibility lies with the clinician to help parents recognize that while neurotherapy translates into an improved capacity to attend and learn, their child will still need to strengthen academic and social skills which are deficient.

Often children with ADHD lack effective cognitive strategies as many have not attended well during their academic

careers. Thus, they do not know how to organize and encode information in ways that facilitate recall, application, and generalization. These cognitive strategies are a prerequisite if ADHD children are to obtain optimal benefit from remedial instruction. Thus, they may benefit from cognitive rehabilitation techniques to assist them in learning how to learn.

Capacity, effective cognitive strategies, and academic skills form the foundation for improved performance. But, they are not sufficient. A simple analogy may help the reader understand why capacity for attending, effective cognitive strategies, and mastery of basic academic skills are not sufficient for improved performance. Most of us have the capacity to ride a bike in the sense that we have two well-formed functional legs. Most also have the necessary cognitive skills and strategies for planning movement, and mastery of skills such as peddling and balancing. Yet, many of us do not bicycle routinely. We, like ADHD children who have benefited from neurofeedback and other interventions possess capacity, strategies, and skills, yet we have not established the target habit. This is because we lack an essential ingredient: achievement motivation.

Achievement motivation requires a belief in one's ability to achieve, as well as the skills of coping with obstacles. Unfortunately, by the time many ADHD children are diagnosed and treated, their sense of competency has been undermined

by years of criticism from adults and/or ostracization and teasing from peers. They do not believe in their ability to effect a positive change in their lives. In short, they need to be empowered. They need to cultivate a sense of self as competent.

According to William Glasser, most people do not understand that we can effectively take control of our own lives. This is most particularly true in the case of ADHD children. Albert Ellis asserts that we can control what we think, and in turn change how we feel and behave (Kendall, 1985). Neurofeedback helps ADHD children begin to realize that they can control their behavior and are able to affect change in their lives, but many ADHD children have learned to be "helpless" in addressing society's expectations of them. They cling to the idea that their lack of success is the result of what others or life has done to them. They have not developed an internal locus of control (Lefcourt, 1976). They seem to follow Skinner's dictum that "man must accept the fact that he is controlled by forces outside of himself" (Skinner, 1971). As clinicians, we need to do more than train children to alter brain wave patterns, we need to help them develop an awareness that they choose what they think and what they do. We need to help them recognize that these choices affect their success and their happiness. It is true that neurotherapy works primarily at the CNS level, but provided by loving and encouraging therapists who focus on the child's accomplishments, it may effectively enhance achievement motivation.

Not only do we need to help our patients assume responsibility for their choices and actions, we also need to help them come to an acceptance that there are times when no matter what they think or feel or do, they cannot satisfy ourselves as they would like in the moment. We need to help our patients discover ways to calm themselves so that they can persevere through a range of obstacles and frustrations while they work toward a goal. Often ADHD children failed to develop these skills of self-calming

because they were unable to attend to challenging situations for a sufficient amount of time to develop alternative coping mechanisms. Instead, they shifted their attention to some new attraction which provided instant stimulation and excitement. This means that in addition to neurofeedback, many ADHD children need an opportunity to learn techniques for anger control, self-calming, problem solving, and self-empowerment. Equally important, many parents of ADHD children need to learn parenting techniques which will foster the development of these skills.

Armed with all these new abilities and skills, some ADHD children still may not perceive any benefit in devoting these skills to improved academic performance. After all, they have existed for most of their lives in the moment and often lack a sense of long-range purpose. If we do not want them to always be dependent upon behavior modification programs, token economies, or other external reinforcers, we need to help them discover their own sense of purpose.

There are many techniques which clinicians may pull from their repertoire to help teach children the skills of negotiation and compromise, personal responsibility for self-control, and goal setting. Peer mediation, Ellis' ABC model of RET, and direct training in systematic problem-solving strategies can all help a child cope more effectively with frustration and display greater self-control once the child has developed an improved capacity to attend through neurofeedback. Likewise, cognitive rehabilitation, homework training, parent training, and group therapy may all be critical tools for treating the patient with ADHD. They are all valuable instruments in the hands of the clinician orchestrating the tune of "Improved Performance." While neurofeedback does shine in its brief solo, it cannot play the melody by itself. If it tries to carry the concert without the other instruments, it is doomed to be berated by the critics. We need to remember that we are clinicians, not neurofeedback technicians, and that neuro-

feedback is only one instrument in the orchestra.

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