Chapter 20
Yoga as an Intervention for Students With Attention Deficit Hyperactivity Disorder

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ABSTRACT

Research conducted in both the field of yoga and the field of behavioural disorders in children and adolescents leads to the speculation that the benefits of yoga practice demonstrated with respect to physiological, psychological, emotional, and psychosocial functioning may be applicable to the impairments evidenced in these areas in behavioural disorders. The intervention—20 weekly one-hour sessions of yoga—required a large commitment for the participants, their families, and the yoga instructor. The results suggested that yoga appears to exert its impact on stabilising the emotions (a secondary symptom) and reducing oppositional behaviour, frequently co-morbid (40%) with attention deficit hyperactivity disorder (ADHD). Given the limitations of this study, the results do indicate some significant changes in the behaviour of some of the boys with ADHD. In conclusion, yoga shows promise as a non-invasive, inexpensive, adjuvant treatment for boys with ADHD.

BACKGROUND

Following working with children diagnosed or presenting symptoms of Attention Deficit Hyper Activity Disorder (ADHD) in the NSW Public School system for a couple of years; the present results are derived from what became a 12 year research project, investigating the effects of yoga on children and adolescents with attention deficit hyperactivity disorder (called ADHD) and other behaviour disorders.

Children with ADHD have either predominant hyperactivity (externalising behaviour) or predominant inattentive behaviour (internalising behaviour) or the combined type. These behaviours are particularly disturbing or dysfunctional in the average classroom environment where expectations are to listen to the teacher and peers; sit still, quiet and attentive for extended periods of time; answer questions in the

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appropriate way; be organised with pencils, etc. and correct books; and apply oneself after a lesson has been taught. For most children these behaviours are readily acquired.

So what makes it so hard for a child with ADHD? When working memory (necessary for accessing and manipulating information to solve problems), (Pliszka et al., 1996; Swanson et al., 2007) and when remembering instructions is difficult; when finding correct books, pencils etc. takes longer than expected; when remembering and understanding what the lesson was about; restlessness can manifest resulting in delays or refusal to get started on a set tasks, let alone completing any set tasks. Hyperactivity and impulsivity is correlated with high baseline levels of noradrenalin (Pliszka et al., 1996), resulting in difficulty with application to a singular task which requires focus and concentration. A lack of self-regulation (Greene & Ablon, 2001; Jarman, 1996; Porter, 1996; Barkley, 1996) is displayed as an inability to internalise speech which manifests as needing to verbalise all thoughts which has many implications in terms of classroom expectations and social mores. Where anxiousness and diagnosed anxiety co-exists, perhaps as a consequence of knowing that they are failing at school, continually 'getting into trouble' and negative interactions with peers, self-esteem can plummet.

These challenging behaviours are not only present at school but at home, creating many difficulties for parents, siblings and the extended family where one parent may have had ADHD as a child or still be experiencing it (Cantwell, 1996).

ADHD is often co-morbid with other disruptive behaviours including Oppositional Defiant Disorder (called ODD here) and the more severe Conduct Disorder (called CD here) (Biederman, et al., 1996; Bird, et al., 1988; Anderson et al., 1987; Jensen et al., 1997). These additional diagnoses can manifest in extreme argumentativeness and risk-taking behaviours such as fighting, stealing, lying, fire-lighting and animal cruelty. In NSW, students with these co-morbid disorders are removed from mainstream schools (with parental permission) and placed in behaviour schools or similar facilities where student/teacher ratios are around 7:1, with a teacher's aide and a full time counsellor in the school but these facilities are in high demand and student's tenure there is limited (Planning and Innnovation DET, 2006). Many of these students may eventually commit crimes and become part of the Juvenile Justice System (Kenny et al., 2008). The lifetime trajectory for these young people is obviously not good.

While making many informal and formal observations of students with ADHD, ODD and CD and endeavouring to assist both students and teachers with managing these behaviours in the mainstream school setting, I began to wonder how practicing yoga may assist these students in self-management of behaviour; reduce impulsivity, hyperactivity, anxiety and anger; and build confidence and self- acceptance.

Thus my research journey began. I was not an academic in the university system. I was a school teacher with a recently gained graduate diploma in Aboriginal studies and a Yoga Teacher Training certificate. During a Yoga Symposium organised by *Satyananda* Yoga in Sydney, NSW, I gleamed from the many presenting professionals that yoga was being applied in the various fields of medicine, psychology, education and philosophy.

I made a commitment to pursue researching the effects of yoga on young people with ADHD and other behavioural disorders. I began by composing a research proposal which I sent to the Education Department and the Department of Behavioural Sciences at my closest University- University of Sydney. I was contacted by Dianna Kenny Ph.D. who showed interest in my proposal. She became my supervisor over the next 12 years in completing a Masters of Applied Science and a Ph.D.