

1. Appendix

1.1. Literature Review Protocol

i. Aim of the review

It is the aim of this review to explore research in relation to using yoga as a sensory based intervention for children with sensory processing difficulties.

1.1.1. Method

i. Search strategy

Seven electronic databases (Medline, CINAHL Plus, Scopus, AMED, PUBMED, PsycINFO, Cochrane Database of Systematic Reviews, Google scholar) were searched for articles from 2006- 2016. In addition reference lists were hand searched for additional relevant studies.

1.1.2. Inclusion criteria

- i. Participants:** Age 6years plus (school aged children) with one or more of the following conditions or difficulties related to: autism, autistic spectrum disorder (ASD), ADHD, sensory processing difficulty, self-regulation difficulties, motor difficulties, praxis, anxiety, behaviour problems Proxy respondents for these individuals were also included.
- ii. Intervention:** Yoga practises including meditation, asana (poses), pranayama (breathing) techniques and/or relaxation.
- iii. Outcome:** Motor performance, motor skills, attention, focus, self-regulation or behaviour.

1.1.3. Study Design

- i. Quantitative:** Randomised controlled trials, Non-randomised controlled trials, single case reviews, cohort studies, case-control designs, case studies and cross-sectional studies.
- ii. Qualitative:** Grounded theory, Phenomenology, Ethnography and participatory action research
- iii. Other:** English language studies, Published research between January 2006 & January 2017.

1.1.4. Exclusion Criteria

- i. **Participants:** Age preschool age < 6 years and post 16 years. No medical conditions or difficulties related to autism, autistic spectrum disorder (ASD), ADHD, Sensory processing difficulty, self-regulation difficulties, motor difficulties, praxis, anxiety, behaviour problems.
- ii. **Intervention:** Studies that did not focus on yoga (breathing, asana, and/or relaxation techniques) as an intervention.
- iii. **Outcome:** Literature not focusing on motor performance, motor skills, focus, attention, self-regulation or behaviour.
- iv. **Study Design:** Unpublished literature. Thesis/PhD studies.
- v. **Other:** Not written in the English language. Studies published before 2006.

1.2. Keywords Identified

Yoga, Sensory Processing, Children, Self-Regulation, Behaviour, Autism, ADHD, Motor Performance, Dyspraxia, Motor Planning, Motor Skills, Motor Development And Attention.

1.3. Databases Searched

Medline, CINAHL Plus, Scopus, AMED, PUBMED, Psyc INFO, Cochrane Database of Systematic Reviews, Google scholar.

1.4. Primary Objective

Yoga as a sensory based intervention for children with sensory processing difficulties, an exploratory study.

1.5. Description of Studies

Seven databases were searched to retrieve relevant literature as shown in Appendix 2.

Database	Search Strategy	Articles available	Abstracts selected	Articles Selected
CINAHL Plus	Yoga and Children or sensory processing	117	8	1
Medline Ovid	Yoga AND child\$ or * sensory processing	218	10	1
PsycInfo	yoga AND child\$ or * sensory processing	216	19	5
Amed	(yoga and children) OR (yoga AND sensory processing)	21	4	1
Scopus 2003-2016	“yoga” AND children OR sensory processing	21	13	2
PubMed	((yoga AND children)) OR (yoga AND sensory processing)	266	2	8

Subtotal	18
Duplicates removed	9
Total Articles used	9

Appendix 2: Database Search Table

	Abadi et al. [16]	Radhakrishna et al. [17]	Bhavanani et al. [18]	Jensen et al. [19]	Koenig et al. [20]	Re et al. [21]	Daly et al. [22]	Folletto et al. [23]	Chien-chih et al. [24]
Was there a clear statement of the research	✓	✓	✓	✓	✓	✓	✓	✓	✓
Is a qualitative methodology appropriate	✓	✓	✓	✓	✓	✓	✓	✓	✓
Did the research design address the aims of the research	✓	✓	✓	✓	✓	✓	✓	✓	✓
Was the recruitment strategy appropriate	✓	x	^x /✓	✓	✓	✓	^x /✓	✓	✓

Was data collected – to meet the research issue	✓	✓	✓	✓	x/✓	✓	✓	✓	✓
Has the relationship between researcher and participants been considered (bias)	x	✓	x	x	x	x	x	✓	✓
Have ethics ben considered	x	x	x	✓	✓	✓	✓	✓	✓
Data analysis rigorous	✓	✓	x	✓	x/✓	✓	✓	✓	✓
Clear statement of findings	✓	✓	x/✓	✓	✓	✓	✓	✓	✓
How valuable is the research	✓	x/✓	x/✓	x/✓	✓	x/✓	✓	✓	✓
Total score	8	7	4	8	7	8	8	10	10

Appendix 3

Title, Author, Year Published, Country	Design	Aim	Methodology		(N)	Results	Assessment of Bias	Conclusions and Implications for Practice
			Intervention	Control Group				
“Efficacy of the get ready to learn yoga program among children with autism spectrum disorders:	RCT – convenience sampling Non-blinded Control and intervention groups differed in certain characteristics Intervention grp mean age (9yrs 7	To determine of the Get Ready to Learn program which uses yoga posture, breathing and relaxation techniques reduces	Intervention: 1) GRTL group (n = 24) 15-20 mins daily yoga DVD every school day over 16 weeks. OT modelled the practice on DVD providing visual and verbal cues.	2) Control (n=22) participated in the standard morning routine consisting of getting materials and room ready and having a morning meeting – type group	n=48 recruited from 8 classes with 6 children from a large urban school of 700 students with ASD.	Students who participated in the GRTL program showed significant differences (p<.05) in total ABC – community scores compared to those in the control group, particularly the lethargy/Social withdrawal,	Teacher’s participating in the study were not blinded.	The GRTL program demonstrates that daily yoga can help to reduce certain maladaptive behaviours of children with ASD.

A pretest-posttest control group design”	<p>Control (8yrs 7 mnth) 18 asians Control group did not specifically engage in a form of physical activity – suggesting the 2 groups were not treated similarly</p>	<p>maladaptive behaviours of children with ASD within the classroom.</p>	<p>Poses in developmental sequence repeated twice. Chanting call and response.</p>	<p>which may or may not have included physical activity.</p>	<p>hyperactivity/Non-compliance. Those in the control group did not demonstrate significant changes in maladaptive behaviour. From the parents rating on the ABC-Community the Intervention group had a lower mean average in maladaptive behaviour than the control group.</p>	<p>This study also supports how a morning activity such as Yoga can help improve attention and focus within the classroom, however further studies need to implement to establish the relationship between this and academic performance</p>
<p>Koenig K.P; Buckley-Renn A; Garg S. 2012 NYC USA</p>	<p>To determine if those children with ASD who participated in the GRTL programme showed an increase in time on task and decreased need for teacher direction.</p>	<p>Prior to DVD students assisted in moving desks, putting out yoga mats.</p>	<p>3 classes from each group self-contained autistic support classrooms 1 from each group partial inclusion in regular education classrooms</p>	<p>Video observation- no significant group differences. Off-task behaviours and need for teacher redirection dropped in both group over course of 16 wks.</p>		

Outcome Measures: An Aberrant Behavioural Checklist (ABC-Community) parent and teachers to assess challenging behaviours completed by parents and teachers pre-post test to assess behaviour in multiple contexts. Video observations – see coding behaviour section

Inclusion criteria
 - Diagnosis of ASD
 - Aged 5-12 yrs-
 - No medical conditions that would prevent participation of GRTL Program

Convenience sampling used for selection of participants. Only 77% of parents in the intervention and control group completed post test ABC-community – a response bias may have altered the results.

Appendix 4: Data Extraction Table.

Title, Author, Year Published, Country	Design	Aim	Methodology		(N)	Results	Assessment of Bias	Conclusions and Implications for Practice
			Intervention	Control Group				
“Integrated approach to yoga therapy and autism spectrum disorders” Radhakrishna S; Nagarathna	RCT – convenience sampling Non-blinded Control and intervention groups differed in certain	To determine if a specifically designed Integrated Approach to Yoga	Intervention: 1) Received 5 hrs IAYT weekly for 2 10 mnths academic years (with a 2 mnth summer holiday gap)	2) Control not specified	n= 6 children from a selection of 42 students were selected base on inclusion criteria Inclusion	Students who participated in the IAYT showed significant changes in eye gaze, sitting tolerance, body posture, body	Convenience sampling used for selection of participants. Results base on qualitative reports from	The use of the IAYT demonstrates that yoga can help to reduce certain maladaptive behaviours of

R; Nagendra H.R. 2010 Bangalore	characteristics Intervention grp mean age 8- 14years with ASD in addition to ABA Control age not specified although abstract reports that control group only received ABA Element of bias as not information on control group	Therapy Module applied to ASD over a period of 2 academic years has any impact of their skills and behaviour	totally 82 weeks 2) Teaching involved 1-1 instructions with one parent present 3) Regular home practice was encouraged Outcome Measures: 9 core targeted behaviours were assessed by special educators pre- mid-post intervention (eye gaze, sitting tolerance, body posture, body awareness, depth perception and balance, imitation skills, self-stimulatory behaviours, receptive skills.	criteria - Diagnosis of ASD - Aged 8- 14 yrs - 1-1 treatment for at least a year - Middle class - No neurological disorders. - No significant motor or sensory impairments	awareness, depth perception, balance, imitation skills, self-stimulatory behaviours, receptive skills and self-injurious behaviour. Results indicate that IAYT improves imitation skills, social and communicative behaviours.	parents and staff from baseline. Report does not indicate how results were gathered and assessment tool used. Information on the control group was not specified.	children with ASD and improve imitation skills, social and communicative behaviours The study was a very small simple size however, the results indicate significant changes.
---------------------------------------	--	--	--	---	---	--	--

Title, Author, Year Published, Country	Design	Aim	Methodology		(N)	Results
			Intervention	Control Group		
<p>"Effects of an 8-week yoga program n sustained attention and discrimination function in children with ADHD"Chien-Chih Chou and Chung-Ju-Huang 2017 Taiwan</p>	<p>Non-randomised convenience sampling selected for simple or control group according to their school districts.No significant differences between control and intervention groups in terms of gender, age, physical fitness, weight, height, body mass</p>	<p>To investigate whether a yoga exercise intervention influenced the sustained attention and discrimination function in children with ADHD.</p>	<p>Intervention: Yoga group (n = 24) 2 x 40 min yoga activity per week for period of 8 weeks- 10 min stretching, 20 min yoga activity, 10 min cooling down period Outcome Measures: - Visual Pursuit Test - Psychological assessment tool used for the registration of concentrated targeted perception and selective</p>	<p>Control (n=25) participated in the their normal life without participating in regular physical activity</p>	<p>n=50 recruited from via flyers distributed in relevant locations, referrals given to children's parents by their elementary schools and a number of orientations conducted to introduce the Project. Yoga grp n=24 (25 originally assigned 1 participant withdrew from Yoga group due to personal circumstances.) Control grp n=25 Inclusion criteria - Diagnosis of ADHD – including all subtypes of ADHD (inattention, hyperactivity/impulsivity/combined) -Aged 8-12 yrs -Included regardless if receiving medication for ADHD symptoms Exclusive criteria - Comorbid conditions such as conduct/oppositional defiant disorder</p>	<p>For all statistical analyses p<.05 Visual pursuits test -Students who participated in the yoga program showed a higher accuracy rate and reaction time with the visual pursuit test post-test (p=.045) Determination test-Higher response accuracy post-test and</p>

<p>index, endurance, strength, flexibility. Similar socioeconomic populations.</p>	<p>attention in the visual area. Consists of 54 items for visual tracking which requires the ability of selective and sustained attention.</p>	<p>- A personal history of brain injury or neurological disorders- Currently taking sedatives or other mood altering medications other than that prescribed for ADHD</p>	<p>increased response accuracy after yoga intervention (p<.001)</p>
	<p>Determination Test</p>		
	<p>- Assessment used to test the reaction speed, attention deficits and reactive stress tolerance in the presence of continuous and rapidly changing acoustic and optical stimuli. Physical</p>		
	<p>fitness - In addition to weight and height the level of physical fitness was estimated for participants based on flexibility, muscular endurance, power and cardiovascular fitness.</p>		

Title, Author, Year Published, Country	Design	Aim	Methodology		(N)	Results
			Intervention	Control Group		
<p>"Effect of yoga on children with ADHD" Abadi MS; Madgonkar J; Venkatesan S 2008 Shiraz Iran</p>	<p>Children selected with ADHD based on DSM-IV criteria RCT using cluster sampling. Boys and girls selected within age range of 9-12 years. Study does not specify number of each gender in the different groups. Mean age for control, group - 10.45 Mean age for yoga grp - 9.75</p>	<p>To investigate the role of yoga in the treatment of children with ADHD</p>	<p>Intervention: Yoga group (n = 20) 2 x 45 min yoga sessions per week for period of 8 weeks- 10 min breathing, 25 min yoga activity, 10 min relaxation Outcome Measures: -The Child Symptom Inventory - 4 (CSI-4) was completed by parents/teacher to measure ADHD symptoms in the participants pre-post intervention for both groups</p>	<p>Intervention (n=20) Control (n=20)</p>	<p>n=40 boys and girls in the age range of 9-12 years were selected by an experienced psychologist according to the DSM-IV criteria. Yoga grp n=20 Control grp n=20 Inclusion criteria - Diagnosis of ADHD – according to the DSM-IV criteria - Aged 9-12 yrs Exclusive criteria - Known organic pathology - Neurological disorders - Multiple health problems - Other psychiatric disorders Mental or physical health</p>	<p>CSI-4 results pre-post intervention for Yoga indicates significant differences p<.00 with inattention/hyperactivity and impulsivity sub scores compared to the control group p>0.05.</p>

Title, author, year published, country	Design	Aim	Methodology		(n)	Results	Assessment of Bias	Conclusions and Implications for practice
			Intervention	Control Group				
<p>“Yoga and emotion regulation in high school student: A randomised controlled trial”</p> <p>Daly.A.L;Haden S.C; Marshall H; Papouchis N & Ramirez PM. 2015</p> <p>Brooklyn NYC</p>		<p>To examine the effects of yoga on a group of middle adolescents’ emotion regulation and to determine if mindful awareness, self-compassion and</p>	<p>Intervention: Yoga group (n = 19) 3 x 40 min yoga sessions per week for period of 16 weeks- 6 sessions cancelled due to class Schedule therefore total of 42 sessions</p> <p><u>Outcome Measures:</u> - ERICA – Emotion Regulation Index for Children and Adolescents was completed by the participants PRE-POST intervention ERC – Emotion Regulation Checklist to be completed by parents and teachers</p>	<p>Control Group (n=18) PE Classes involving common games such as football, baseball, running, walking, relays.</p>	<p>62 students age between 15-17yrs both boys and girls from a NYC public high school were approached for the study. n=37 boys and girls in the age range of selected. Yoga grp n=19 Control grp (PE) n=18</p>	<p>ERICA – The results showed a significant interaction between time and group on emotion regulation p=.01 Results indicated a cross-over effect with emotion regulation with Yoga and PE such that emotion regulation increased with</p>	<p>Non-blinded due to intervention delivered. Small study and Attendance low and inconsistent and participants were allowed to interact freely with outside curriculum activities leading to possible contamination across groups</p>	<p>This study indicates that Yoga can help support emotion regulation of middle adolescents. The correlation between emotion regulation and body awareness mirrors similar findings with an adult population providing evidence that a practice such as yoga which support body awareness can have a positive impact on self-regulatory skills. For individuals with sensory modulation difficulties have difficulties with self-regulation and therefore from these findings it could indicate that Yoga can have a role to play within this population.</p>

body awareness contributed to these changes	at various interludes during intervention with a plan to combine ERC and ERICA scores – due to low return rate by both parents and teachers this was not included	Inclusion criteria - Bri ng in good general health - The ability to understand and answer questions in English - Age d between 15-17 years Exclusive criteria unknown	yoga and decreased with PE. MAASA – No significant correlation between mindful attention and self- compassion and improved emotion regulation were noted. MAIA - Body awareness changes correlated with emotion regulation (ERICA) scores p<.01	Poor homogeneity limiting generalizability of the results to other samples. Low rerun rate by Parents/teachers of ERC meant only those scores completed by participants ERICA were included for post intervention period – therefore could be viewed as bias.
---	--	--	---	--

Title, author, year published, country	Design	Aim	Methodology		(n)	Results	Assessment of Bias	Conclusions and Implications for practice
			Intervention	Control Group				
<p>“Immediate effects of Mukha Bhastrika (A bellow type pranayama) on reaction time in mentally challenged adolescents”</p> <p>Bhavananii A.B,Ramanathan M, Harichandrakumar KT2012 Pondicherry, India</p>	<p>A convenience sampling design of 34 mentally challenged adolescents. Participants had been doing yoga for 2-3 years. Out of the 63 students at the school only 34 fitted the criteria and were able to perform Mukha Bhastrika breath</p>	<p>To determine whether practising Mukh Bhastrika pranayama has on reaction time with mentally challenged adolescents</p>	<p>Intervention: Yoga group (n = 34) 9 rounds of mukha bhastrika Reaction time was recorded pre and post intervention <u>Outcome Measures:</u> - Reaction time apparatus featuring 4 stimuli, 2 response keys and a ready signal. Auditory reaction time was recorded for auditory</p>	<p>No control group -although the study did include a non-intervention period to test for reliability and reproducibility of the readings. Reaction times were recorded before and after non-intervention period of 10 mins where subjects continued regular</p>	<p>34 students selected from 63 due to fitting criteria. 21 males and 13 females – all had been doing yoga for 2-3 years. Mean age 15.1yrs. Mean IQ 54.88</p> <p>Intervention grp n=34</p> <p>Inclusion criteria</p> <p>1. Being able to perform mukha bhastrika breath</p> <p>2.The ability to</p>	<p>Visual reaction Time – there was a significant decrease - 10.99% p<0.0001</p> <p>Auditory Reaction Time – showed a significant decrease - 12.31% p<0.0001</p>	<p>No control group Convenience sampling – based on those which could perform the breathing activity Participants had been practising yoga for 2-3 years The study didn’t indicate whether the practice of yoga was continuing within the study</p>	<p>This study indicates that yoga breathing techniques such as Mukha Bhastrika may be used as an effective means of training to improve neuromuscular abilities in special needs children.</p>

beep sound
stimulus and
visual reaction
time for a red
light stimulus

activities
between
readings.
To avoid any
extraneous
influences due
the
recording on
different days,
on half of the
subjects
performed non-
intervention
recordings
on day 1, while
the other
half did the
breath work.
This was then
reverse don
day 2. More
than
8-10 trials were
recorded.

understand
the procedure
to perform the
reaction time
tests
Exclusive
criteria
3.Those unable
to perform
mukha
bhastrika
breath
4. Those
unable to
understand
the procedure
for testing the
reaction time

Study was
based on one
period of
intervention
therefore
doesn't
indicate any
long-term
effects

Title, author, year published, country	Design	Aim	Methodology		(n)	Results	Assessment of Bias	Conclusion and Implications for practice
			Intervention	Control Group				
<p>“Effects of Yoga on patients in an adolescent Mental Health Hospital and the relationship between those effects and the patients’ sensory processing patterns.” Re P, McConnell J.W, Reidinger G, Schweit R, Hendron A. 2014 IL. USA.</p>	<p>A descriptive pre-intervention/post-intervention design conducted over 5 months. Convenience sample of 75 adolescent mental health from a 12 bed adolescent inpatients and partially hospitalised patients, aged between 12-18 years.</p>	<p>To investigate the effects of Yoga as a sensory regulatory tool in reducing adolescent distress in an acute care psychiatric hospital</p>	<p>Intervention: Yoga group (n = 75) 2 x 50 min yoga sessions 12 participants only had the opportunity to attend one yoga session mainly due to their discharges Outcome Measures: - Measures included pre & post intervention: -Measurement of pulse rate -Subjective Units of Disturbance Scale (SUDS) -Adult/Adolescent Sensory Profile (AASP)</p>	<p>No control group</p>	<p>75 patients aged from a mental health unit for individuals suicidal, homicidal or unable to care for themselves (psychosis, mania etc.) aged between 12-18 yrs both boys and girls conveniently selected participants inpatients or partially hospitalised Yoga grp n=75 (12 participants only had the opportunity to attend one yoga session mainly due to their discharges) Inclusion criteria: - Those agreed to participate in the</p>	<p>Pulse Rates - results indicated a significant drop in pulse rate at the first session p<.001 and the drop at the second session approaches significance p<.016 SUDS - Overall difference in means SUDS means at the four measurement occasions p<.001 AASP - The improvements in pulse rates and SUDS were regardless of the AASP levels</p>	<p>Non-blinded due to intervention delivered. Study intervention was limited to two yoga sessions Reliability is questionable – as the sessions were delivered by the same yoga instructor therefore it is questionable if a different yoga teacher would provide the same results. Scores based on 75 although 12 only has one</p>	<p>This study supports the notion that yoga can support changes within the nervous system and support adolescence at every sensory-processing preferences. therefore it can be eluded that yoga can support those individuals with sensory modulation difficulties due to this evidence</p>

study and whose
parents/guardians
consented to their
participation

in the four
quadrants

yoga session

Exclusive criteria

- Those who
did not speak
English and/or
parents did not
speak English
 - Patients who
read below 5th
grade level
 - Those who
had active
symptoms of
psychosis
-

Title, author, year published, country	Design	Aim	Methodology		(n)	Results	Assessment of Bias	Conclusions and Implications for practice
			Intervention	Control Group				
<p>“The effects of yoga practice in school physical education on children’s motor abilities and social behaviour” Follecto J, Pereria K.R.G, Valentini N.C. 2016 Brazil</p>	<p>A quasi-experimental study of mixed methods. Comprised of a purposive sampling design of 16 children aged between 6-8 years with no previous experience of yoga. One of the participants had a diagnosis of autism the other 15 had no diagnosed disabilities.</p>	<p>To investigate the effects of yoga programs in physical education classes on motor abilities and social behaviour parameters of 6-8 years old children.</p>	<p>Intervention: Yoga group (n = 16)45 mins of yoga delivered in the PE classes 2x week over 12 weeks. Outcome Measures: -Balance, running speed and agility and strength subtests of the Bruininks -Oseretsky Test of Motor (BOT) proficiency - 2nd Edition was used to assess children’s motor skills. -A version of the sit and reach Eurofit test was used to assess children flexibility. -The Pictorial</p>	<p>No control group</p>	<p>Intervention grp n=16 16 children selected from 1st grade of an elementary public school aged between 6-8 years old. 1 child with a diagnosis of autism 15 no diagnosis of disability. Inclusion criteria - 6-8 years old - No previous yoga experience - Children’s and parents acceptance to participate in study Exclusive</p>	<p>BOT-2 – positive changes in pre-post intervention in balance, running speed and agility and strength subtests Flexibility – positive changes noted Pre and post intervention raw score and P values Balance pre16-34, post 22-35 p=0.028 Agility pre 12-28, post 13-29 p= 0.608 Strength pre 21-32, post 18-35, p = 0.045 Perceived competence – no significant differences Pre 49-96, post 52-96 p = 0.0379</p>	<p>No control group Male/female ratio not indicated</p>	<p>This study indicates that yoga has a positive effect on the development of motor and physical abilities of children especially balance, agility and strength. It also in the short term has a positive impact on their well-being. For individuals with sensory motor difficulties in terms of motor planning, and execution of movement yoga may support the development of motor skills and the development</p>

<p>Scale of Perceived Competence and Social Acceptance for Young Children (PSPCSA) was used to assess the children's perception of competence and social acceptance.</p> <ul style="list-style-type: none"> -Semi-structured interviews with participants and teachers -Parent questionnaires 	<p>criteria - Not indicated</p>	<p>Semistructured interviews and parental questionnaires Prevalence of 'nice activity' (9) brings calmness (3) relaxing (2)</p>	<p>of their body awareness, confidence and overall well-being and perception of themselves.</p>
---	-------------------------------------	---	---

Title, author, year published, country	Design	Aim	Methodology		(n)	Results	Assessment of Bias	Conclusions and Implications for practice
			Intervention	Control Group				
<p>“Respiratory patterns in students enrolled in schools for disruptive behaviour before, during, and after Yoga Nidra relaxation.” Jensen P.S; Stevens P.J; Kenny D.T 2011 Sydney, NSW Australia</p>	<p>A convenience sampling design of seven boys aged between 10-15 years attending a Department of Education and Training Special Schools for Disruptive behaviour. Participants had previously participated in a school based 13 week yoga program that included asana (postures),</p>	<p>To investigate the effects of one session of yoga nidra (relaxation technique) on the breathing patterns/respiratory effect in the thoracic and abdominal chest regions of boys with disruptive behaviour.</p>	<p>Intervention: Yoga group (n = 7) males mean age 12.6 years. 20 mins of yoga nidra session – a guided relaxation in which participants were given instructions involving awareness of sensory input, the breath and various body parts. Outcome Measures: - Data collected in a still supine position for 5 minutes before, 10 minutes during and 5 minutes after the yoga nidra practice. Respiratory Inductive Plethysmograph</p>	<p>Control (n=3) mean age 15.2years without disruptive behaviour attending mainstream schools.</p>	<p>7 boys aged between 10-15 years, selected from a larger study involving 71 students. Numbers were limited due to the delay in the Department of Education giving approval for the study and therefore only a small section from participating school could be included. All had been taught yoga nidra over a 13 week period during 2-3 sessions a week as part of a</p>	<p>RIP results showed that the participants consistently displayed unstable breathing patterns through-out the pre-yoga nidra period and showed more stable breathing during the yoga nidra and greater stability post compared with the pre-recording. STAI (State Trait Anxiety Inventory) p0.749 STAIC (State Trait Anxiety Inventory for Children)</p>	<p>Control group insufficient numbers, a slightly older mean age, mixed gender (1 x female, 2 x male) and the inclusion of twins. No pre-yoga program data on breathing patterns. Analysis of breathing patterns limited to visual graphs Calculations of breathing rates and amplitude proved to be difficult. More information on recording patterns of breathing would be useful.</p>	<p>Although the preliminary nature of this study and the numbers were small, the modest outcomes are suggestive of a relaxation response. Further study is warranted to more fully substantiate the use of therapeutic value of yoga nidra. Responsiveness to this relaxation technique could also have implications for the use of other yoga techniques involving the modification of</p>

<p>breathing practices and yoga nidra.</p>	<p>y (RIP) bands were secured around the chest and abdominal regions to measure the movement in these regions resulting from the breathing process. Baseline data and post data collected on behaviour, anxiety, self-esteem using various inventories.</p>	<p>comprehensive yoga program. Mean age 12.6 years Intervention grp n=7 Inclusion criteria – Disruptive behaviour including externalising and internalising problems and behaviours as determined by the school counsellors to provide paediatrician diagnosis and counsellor assessment in addition to any other diagnostic assessment.</p>	<p>p0.716 indicated a reduction in anxiety however, these were not significant. SDQ I & II (Self-Description Questionnaire) p0.249 indicated an improvement in self-esteem, however this improvement was not significant. CTRS (Conners Teacher Rating Scale) showed improvements in anxiety (p=0.355), hyperactivity (p=0.675), inattention (p=0.691) and emotional lability (p=0.717) none of these results were significant.</p>	<p>breathing on behaviour and emotional regulation. Individuals with sensory modulation difficulties often display disruptive behaviours likened to the participants in this study suggesting that a relaxation technique such as yoga nidra may be beneficial to this client group.</p>
--	---	--	--	--
