



How effective is massage therapy at supporting anxious children to enable them to better access their learning?

Summary

This preliminary study using action research looked at whether massage, provided by a SEN specialist massage therapist from Relax and Refine Therapies, reduced anxiety in primary aged pupils with special educational needs and whether parents and pupils would welcome this intervention. The results showed that in general parents considered their child showed reduced anxiety as did the children themselves. Moreover, overwhelmingly neither parents nor children had unmet safeguarding concerns and would welcome further massage treatment and recommend it to others.

Introduction

The study focuses on the impact of massage therapy provided by a SEN specialist massage therapist from Relax and Refine Therapies trained to address issues of anxiety in primary aged SEN students. Anxiety is more prevalent in school-ages pupils with learning difficulties in comparison with their peers without learning difficulties (Nelson & Harwood, 2010). It may be difficult to identify whether students with learning difficulties become anxious because of their difficulty but there is a body of evidence that anxiety in children is associated with poor academic performance (Ma, 1999) and other undesired behaviours such as high rates of school refusal (Kearney, 2003). A plausible mechanism by which anxiety may interfere with learning is by reducing working memory capacity (Ashcraft & Kirk, 2001). There is also evidence that training students how to manage anxiety increases academic performance compared to no training control groups (Prima, Wahab, Othman, & Awang, 2010) (Aritzeta, et al., 2017).

Massage therapy offers a way of reducing anxiety in students. A review of empirical research by Field (2010) is explicit that massage therapy “is one of the most effective forms of touch. She then goes on to identify a wide variety of benefits recent research has highlighted, with the key relevant areas being a mass of research that shows massage therapy can reduce depression but also that it can enhance attentiveness. An interesting aspect of Field’s research highlights the requirement for moderate pressure for massage therapy to fully stimulate the pressure receptors and increase vagal nerve activity, which she suggests is directly linked to the “diverse benefits noted for massage therapy” (Field, Diego, & Hernandez-Reif, Moderate Pressure is Essential for Massage Therapy Effects, 2010).

This benefit of touch for child’s development highlighted in Feldman *et al* (2010), Brown (2007), Takeuchi (2010) and Field’s (2010) review of empirical research on touch, can be linked to Maslow’s Hierarchy of Need (1954) that children are not going to be able to access the higher tiers of self-actualisation, if their fundamental psychological needs are not first met. Trotter (2016) identified that one mechanism by which this may be achieved is by touch increasing the release of serotonin but goes on to caution that for some SEN students e.g. those on the autism

spectrum the release of serotonin is less than for neuro-typical students though they also acknowledge that serotonin is only one neurotransmitter and others have been identified as relevant in response to touch.

In fact, there is government guidance that appropriate touch with a child can be beneficial in everyday situations, in order to: “*support, encourage, guide or comfort a pupil*” (DfES, 2003, p. 10) and in the DfE guidance on the use of reasonable force (DfE, 2013, p. 8)

There is also evidence (Cameron, 2009) that the denial of touch is likely to have a negative impact on a child, particularly if they have previously had incidences of rejection, neglect or abuse.

Results

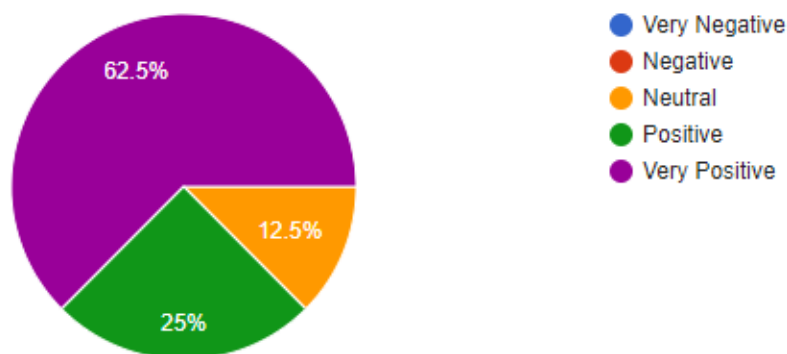
Parental Responses

The results of the questionnaire are displayed in graphical form below, followed by a table of comments made by parents.

Most parents were positively disposed to the idea of massage therapy being beneficial to children with AEN, with an overwhelming proportion feeling it would have a positive impact.

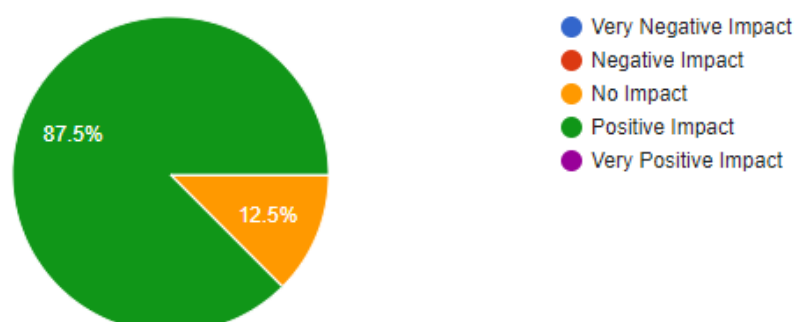
Initially, what WERE your views of massage therapy of children with additional needs:

8 responses



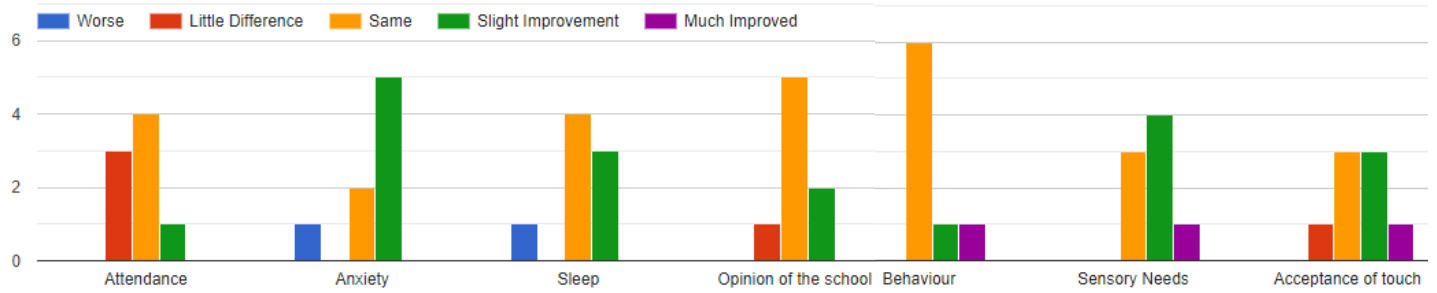
What impact did you feel massage therapy would have when you were first contacted about the research project?

8 responses



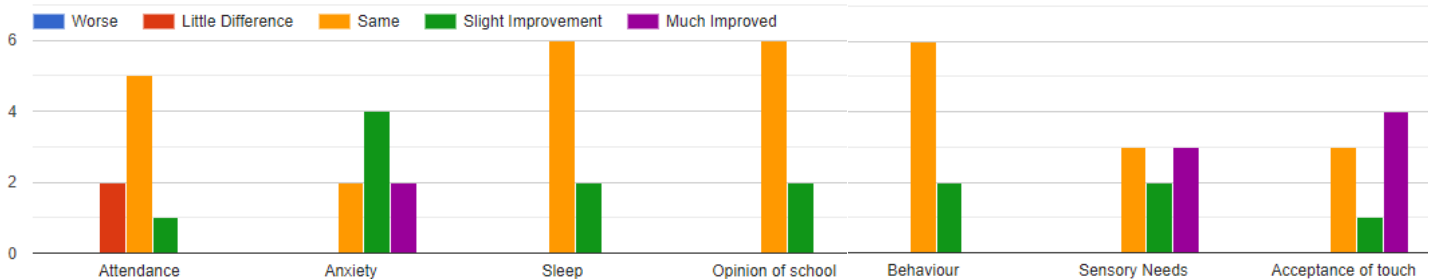
Parents' perceptions were that there was little difference in attendance, perception of school and behaviour during the massage therapy but most parents identified that the child was less anxious during therapy. The graph may underestimate the effect as one parent reported the child's anxiety levels reduced in their general comments but actually reported the child anxiety levels were worse in the specific question. The other area where there appeared to be clear positive changes was an improvement in a child's sensitivity to touch.

Rate your child on the following areas DURING the massage therapy sessions:



After the completion of the 5 sessions of therapy the parents reported a continued improvement of pupils' anxiety levels. Overall parents reported a sustained improvement in pupils' behaviour, attitude to school, management of sensory needs; with 4 parents reporting a significant improvement of their child's acceptance to touch.

Rate your child on the following areas AFTER the massage therapy sessions had ended:

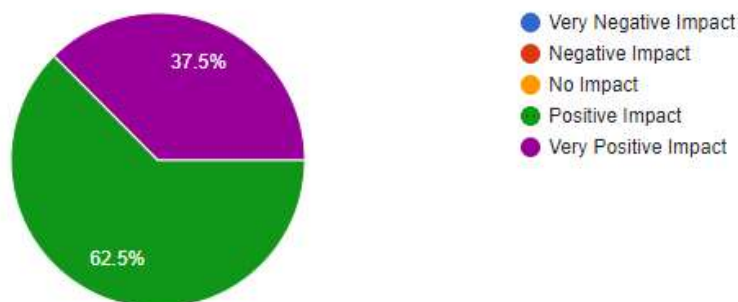


All of the parents now viewed massage therapy as having a positive or very positive impact on their child.

Specifically, 75% of the parents felt the massage therapy has a positive effect on reducing their child's anxiety levels.

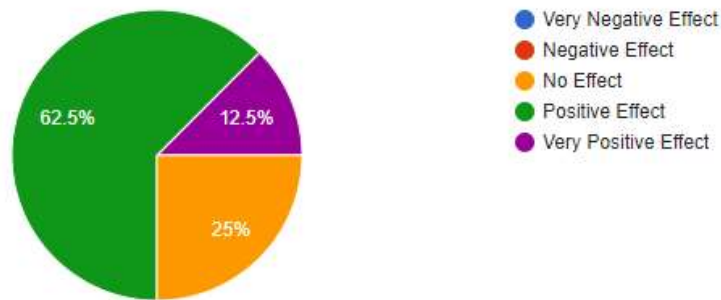
How do you NOW rate the massage therapy?

8 responses



How effective did you feel the massage therapy was at reducing your child's anxiety?

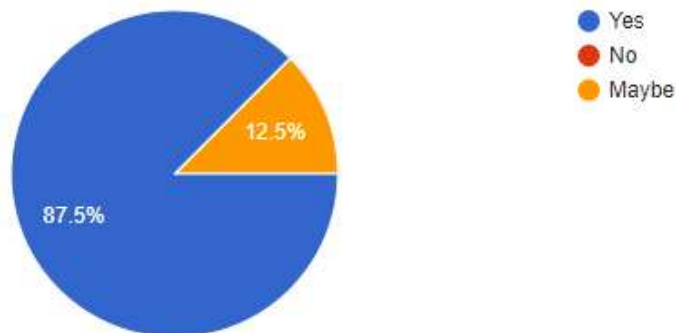
8 responses



All but one of the parents would definitely take up the option of further massage therapy for their child and all of the parents would recommend massage therapy to others in their position.

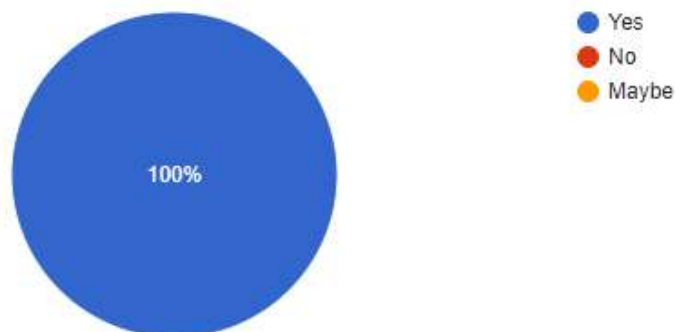
Would you take up the option of further massage therapy for your child (after the Covid-19 pandemic has been resolved)?

8 responses



Would you recommend massage therapy to others (after the Covid-19 pandemic has been resolved)?

8 responses



Parents made a number of additional responses about the massage therapy, those of note were:

Did your child make any other comments about the massage therapy?

- *She loved it and found it very calming and wanted to have it all the time. She said it helped her and loved the diffuser that was also used during the session.*
- *Unsure when 1st touch but then liked it*
- *He enjoyed it and came home and started using it on us*
- *No but became keener to go as time went by.*

Did you have any other comments about the massage therapy?

- *Since she had the massage she has asked me to massage her head every evening when in bed.*
- *When he started having the massage therapy he started to sleep longer. He used to wake at 5:30 and always by 6am but he now sleeps through until 6:45 and sometimes 7:00. He likes very hard pressure and will throw himself on the floor or ask for balls to be thrown at him. When he touches people he applies too much pressure but when he showed me the massage he was all soft and gentle. It was lovely.*
- *I think it's a very positive intervention and would be something I think would benefit her from receiving long term.*
- *I think it would work for some children*
- *Wish it continued and is always assessable within school.*
- *Can it continue*

Any other comments?

- *A very positive experience for my daughter. Thank you*
- *Unfortunately, it wasn't for my child but I can see that this could have a positive outcome for some children with anxiety*
- *My child is extremely anxious still is but feel as though this did help.*

Pupil Responses

The data collected from the pupils was imperfect due to a range of factors including, sickness, exclusions, pupils' refusal to give answers and some patterns in the pupil's answers indicate they did not understand the questions, which appeared to be the case with one of the lower abilities pupils despite the use of visuals i.e. blanket answering "Yes" for all emotions in the final session.

The data is variable in part because the pupil's awareness of their own emotional/internal state. This could be effected by the immediate context of the pupil's situation but it could also indicate the massage has a short term effect and not a long term effect on the participant. *The pupils' answers were also affected by the outside influences in their day.* For example, one child reported the massage was not good, despite stopping crying to attend, agreeing to the massage, in other sessions being positive in his feedback, sitting for the massage but this was a child whose inconsistent answers reflect his cognitive and emotional ability to comprehend and separate the questions from other

factors in his life, in this case he had been struggling with his emotions due to a falling out with a sibling that morning. So when asked if something was good, or not good he plausibly appears to have reverted back to his previous emotional state, prior to the massage therapy.

There was also a pupil who was sensitive to touch that decided he didn't want to have massage and so he accessed talking time with the therapist for his sessions and didn't contribute to the data. There were no other instances of pupil's refusing massage therapy during the study. Similarly, another child who was reported to be sensitive to touch after initially being anxious, went on to enjoy the sessions and went home and asked to massage her/his family and that they massage him. This child also displayed increased hyperactive behaviour and so the massage therapist added a sensory calming element at the end using deep pressure which addressed the hyperactive behaviour. A family member of this child reported him sleeping though until 6:30am rather than 5:00-5:30am following massage sessions. Two other pupils who suffered from sensory difficulties around clothing, to the extent they frequently didn't wear school uniform, have crisis or refuse to come into school entirely.

The pupil's responses from before the first massage to after the first massage, show that there was an increase in 50% of pupils stating they were happier after the first massage. A 42% increase of pupils reported feeling calmer and more relaxed. There were 15% improvements in pupils reporting feeling less stressed, angry and anxious. However, there was a 15% increase in pupils reporting feeling worried.

1st Session	Before			After		
	Yes	A Little	No	Yes	A Little	No
Anxious	1	0	7	0	1	7
Happy	4	1	3	8	0	0
Sad	1	0	7	1	0	7
Calm	4	0	4	7	0	1
Stressed	1	0	7	0	0	8
Relaxed	4	1	3	7	0	1
Worried	1	0	7	2	0	6
Angry	1	0	7	0	0	8

Pupil Responses Before and After the 1st Massage

If we compare the pupil's responses from before the first massage to before the last massage, we should see how accepting children are of accessing massage, a sensory, touch intervention by looking at their emotional states before the sessions.

The results show that no pupils' felt anxious by the last session, which is reflected in the data collected about pupil's anxiety prior to each session (see bar graph below). We can also see that there is a noticeable increase in the percentage of pupils reporting to be happy prior to the massage. The levels of pupils feeling sad remains at the same level (1 pupil) and there is a slight improvement in pupils' feeling calmer and less stressed before the massage. This is then reflected in an improvement in how relaxed pupils' feel prior to the massage. The data on how worried and angry pupils' feel remains broadly the same with a single pupil feeling a little angry before the last session.

	Before 1st Session			Before Last Session		
	Yes	A Little	No	Yes	A Little	No
Anxious	12.5	0	87.5	0	0	100
Happy	50	12.5	37.5	85.7	0	14.3
Sad	12.5	0	87.5	14.3	0	85.7
Calm	50	0	50	57.1	14.3	28.6
Stressed	12.5	0	87.5	14.3	14.3	71.4
Relaxed	50	12.5	37.5	71.4	0	28.6
Worried	12.5	0	87.5	14.3	0	85.7
Angry	12.5	0	87.5	14.3	14.3	71.4

Pupil Responses Before the 1st Session and Last Session in Percentage of Total

As previously stated the pupil's reporting on their emotional states, specifically anxiety, is more clearly evidenced by the results in the graphs below. These graphs appear to indicate the pupil's not only are in the main happy to receive a "touch" therapy from the start of the study, despite 4 pupils being touch sensitive or have sensory difficulties around clothing, but that any anxiety around being touched is gone the 5th session and that all the pupil's found the massage a positive experience.



When comparing the pupil responses to the questions about their emotions, explicitly their levels of anxiety there appears to be short term benefits each session on their emotions before compared to after the massage. All the pupils ultimately find massage a positive experience and any anxiety about the massage appears to be negligible by the last session. However, there is some evidence that the effects of the massage although positive are short term and so there is a need for the massage to be a regular occurrence for the benefits to be sustained.

Discussion

The questions being addressed by this study were whether massage therapy was an effective strategy for reducing anxiety in pupils and whether it would be viewed positively by parents and pupils given the current concerns around safeguarding in schools.

The results of the survey of pupils and parents was that pupils' anxiety levels were reduced following a 5 week course of massage therapy by a qualified SEN specialist massage therapist. The results may have been as positive as they were because the massage therapist, from Relax and Refine Therapies, had a significant amount of SEN experience. This result replicates research carried out by Steve Solomons into using aromatherapy massage to increase shared attention behaviours in children with autistic spectrum disorders and severe learning difficulties (Solomons, 2005). The research involved four children with ASD and SLD difficulties having daily aromatherapy massage and children were monitored and parental feedback gained to identify if this resulted in increased shared attention. Solomon's results indicate children's shared attention behaviours increased during aromatherapy massage.

It is also consistent with a wider body of research in regard to massage therapy's use in supporting children with additional needs. One such piece of research was carried out by Angelica Escalona *et al.* (Escalona, Field, Singer-Strunck, Cullen, & Hartshorn, 2001), which suggested children aged 3-6 years displayed "less stereotypic behavior and showed more on-task and social relatedness behavior during play observations at school, and they experienced fewer sleep problems at home."

Similar results were achieved in Louisa Silva *et al.* (Silva, 2009), in which both teachers and parents, who provided the massage daily (in addition to 20 sessions by trainers), found significant improvements in social and language skills and reduction in autistic behaviour compared to control participants and parental findings of improvements across the measurements taken. Similarly in Lesley Powell's research (Lesley Powell, 2008), in an intervention combining massage, yoga and relaxation techniques, children with social emotional behavioural difficulties and at risk of exclusion showed improvements in self-confidence, social confidence, communication and contribution in class.

These findings were echoed in a similar study by Shuji Tsuji *et al.* (Shuji Tsuji, 2015) that involved older children with ASD, aged 8-12 years old, being massaged by their mothers for 20 minutes a day for 3 months and then no massage for 4 months. Saliva was collected, from the children and mothers, before and 20 minutes after sessions, every 3 weeks, during the massage period and every 4 weeks in the non-massage period. These samples were measured for oxytocin levels and showed that although the levels of oxytocin were not significantly different before and after a single session the levels of oxytocin for both children and their mothers was higher in the 3-month massage period

compared to the 4-month non-massage period. Following the study three of the mothers reported that their children were more relaxed and four that their children improved their communication with other people. Six mothers reported that they felt closer to their children. Five mothers said that they were satisfied with the therapy and that their children were happy with the massage.

This study is unable to separate the effect that the SEN experience may have had on the effectiveness of the massage therapy. It is also of note that with one exception the pupils were very positive about the therapy. There is an element of self-selection in that pupils opt in to receive the therapy but there is no compulsion to participate, however, the overwhelming majority (89 %) of pupils chose to participate and judged that they received a benefit from this. By having this element of voluntary involvement, which was confirmed prior to the beginning of any session the risk that a child might feel uncomfortable would be minimised.

Parents were overwhelmingly positive about the provision of massage therapy. Furthermore, they were unanimous in recommending massage therapy for the consideration of other parents. Parents also perceived massage therapy as reducing their children's anxiety levels, a benefit that continued beyond the duration of the therapy.