*Effects of Cognitive-Behavioral Therapy on Anxiety*

*in Children with Autism Spectrum Disorders: A Randomized Controlled Trial*

and

*Anxiety and social worries in children with Aperger syndrome*

Research articles summaries and contrast/comparison

By Marta van de Mond

EPSE 449

 Each individual on Autism Spectrum Disorder that I have come across had a certain level of anxiety. This anxiety expressed itself in different ways and was displayed with various strength of reaction. While one child would cover ears to protect themselves from the ambulance sound, the other one would bang his or her head with a lot of intensity when exposed to the same sound. When one child would flap hands (stim) while watching a parade passing by, the other would drop to the ground and have a full temper tantrum. Each one of these children showed different levels of anxiety and, regardless of severity of reaction or level of functioning in an individual with ASD, each one that I met showed me or shared with me some level of anxiety in different situations. Often it would be provoked by just the anticipation of something that might happen – one of the reasons why our principals graciously warn us about coming-up fire drills, to prepare our autistic students. This way these students have a few precious minutes to mentally prepare for the inevitable fire alarm followed by the crowds of peers marching down the hallways. I chose the following articles to learn more about my students’ needs and to support them as well as to help my frequently anxious autistic daughter.

 In *Effect of Cognitive-Behavioral Therapy on Anxiety in Children with Autism Spectrum Disorders: A Randomized Controlled Trial,* Sung et al. (2011) studied two controlled groups of children with ASD in order to find if two different techniques: Cognitive-Behavioral Therapy (CBT) and Social Recreational (SR) program would reduce the children’s anxiety. The research was based on the observation that children on the spectrum display high levels of anxiety and need to learn and/or experience ways to reduce it.

 Seventy children with ASD participated in the study. The children were aged 9-16 years and there were 66 boys and four girls. The children were indiscriminately divided into two groups: 36 individuals were placed in the CBT group and 34 individuals were placed in the SR group following age group stratification: 9-12 years old and 13-16 years old (p. 639). All children were chosen from the Child Guidance Clinic by different means of letter invitations, advertisements, or various referrals. Due to several reasons six children did not complete the study (p. 636). Besides autism diagnosis, subjects were required to have a minimum score of 80 on Verbal Comprehension and 90 on Perceptual Reasoning as measured by WISC-IV scale. Also, if taking medications, they were not supposed to change the dose for a month before the study began or during the actual study (p. 636). Since study was performed in Singapore, all children were of Asian descent: 65 Chinese, three Malay, one Indian, and one other. Eleven children were on medication, while 57 were not and one was unknown (p. 638). The tests and activities were all performed in English since this was an official language in this population group (p. 639).

 The first measure performed was children’s anxiety. The researchers used Spence Child Anxiety Scale – Child (SCAS-C) to measure six different anxiety-causing areas: “generalized anxiety, panic/agoraphobia, social phobia, separation anxiety, obsessive compulsive disorder, and physical injury fears” (Sung et al., 2011, p. 636). There were 44 questions in total. Participants had to use the Likert scale of response: never, sometimes, often, always. In this case, children were taught how to use the Likert scale with visual, familiar items such as fruit, then with results converted to pie charts. The researchers made sure the participants understood the concept of the Likert scale prior to assessment (p. 637). The other measure used was Clinical Global Impression-Severity (CGI-S). This one was based on the clinical observation which measured anxiety with a “7-point scale from normal to extremely ill respectively”(Sung et al., 2011, p. 638).

 Both groups participated in a 16-week-long program with the first follow-up after three months and the second follow-up after six months. In CBT group, a number of programs were put together and the following strategies were used for study: “use of structure, visual strategies, role-plays, and Social Stories”(Sung et al., 2011, p. 639). A number of different scenarios were adapted to meet the cultural bias of the Asian population. Each session was 90 minutes long and there was one session per week. The children were divided into small groups of three to four subjects and were led by two therapists who remained constant during the duration of the study. The first three weeks were spent on understanding and recognizing emotions of self and others with a focus on anxiety; the next six weeks were spent on techniques managing anxiety: physical activity, relaxation, asking for help, and “cognitive reconstruction”(Sung et al., 2011, p. 639) with cue cards being sent home for generalization purposes; the final seven weeks taught problem solving skills based on STAR strategy meaning: STOP, THINK, ACT, REFLECT (pp. 639-640). Children practiced the strategy provided with different, more or less real scenarios. Due to different age groups in the mini divisions, the delivery of explanation of all concepts was age/ability sensitive (p.640).

 The SR group was also divided into smaller groups of three to four children based on age level, had 90 minutes sessions and two therapists per group. The design of the activities was based on the children’s age and representative of the neuro-typical children. Among some of the choices were: simple meal preparation, crafts, puzzles, magic tricks, board games, treasure hunts – different activities targeting individual and social skills and fine and gross motor coordination (p. 640). Some of the activities were assigned for homework. The SR group was supervised and strictly observed during playtime and the therapists assisted the children only if a situation required assistance e.g. social prompting. Also, the children in the SR group were allowed to join the CBT group when they completed their activities.

 The results of the study revealed significant decrease in “generalized and total anxiety symptoms at 6-month follow-up (p<0.01). In addition, the SR group also showed significant reductions in panic attack symptoms at 6-month follow-up (p<0.01)”(Sung et al., 2011, p. 644). Both children and clinicians reported the anxiety level reduction. With well structured CBT which taught the relaxation techniques with assistance of visual aids, and with playful but functional SR that taught social interactions and functional life skills automatically reducing anxiety in some simple tasks such as basic cooking this research has proven that there are ways of reducing anxiety levels in high-functioning autistic individuals.

 The researchers found limitations of sample size, lack of parental involvement by research design, CBT was more effective due its superiority over the wait-list controls assumptions, and short-term follow-up. All these limitations should be expanded in further research in the field. The “regular sessions in a structured setting, consistent therapists, social exposure and the use of autism-related strategies serve as an effective framework in the management of anxiety in children and adolescents with ASD”(Sung et al., 2011, p. 646).

 In *Anxiety and social worries in children with Asperger syndrome* Emily Russell and Kate Sofronoff (2005) were comparing the levels of anxiety and social worries of children with Asperger syndrome to clinically anxious children and neuro-typical children. They found that although children with Asperger syndrome are not diagnosed with clinical anxiety per se, they definitely display symptoms of anxiety in multiple ways and in various situations; just how bad are these symptoms in comparison to the other two groups? They predicted that AS children have higher levels of anxiety than their neuro-typical peers (p. 634). They pioneered in this type of research that compares AS children to clinically anxious children (p. 634).

 There were 65 participants in the study – 55 boys and 10 girls, 10-13 years old. Children who were recruited to participate in the study had to be diagnosed with AS and meet the criteria of Childhood Asperger Syndrome Test (CAST). The children’s parents were concerned about their sons’ and daughters’ anxiety levels. The recruitments happened via hospitals, clinics, and media in the Brisbane area of Australia (p. 634).

 Both children and their parents answered the Social Worries Questionnaire made of 13 and 10 items respectively. The answer scale varies from 0-2 – not true to mostly true. Then both the children and parents answered the Spence Children’s Anxiety Scale consisting of 38 items for both groups with a scale from never to always – 0-3. Finally, the parents had to answer CAST questions (yes or no answers). There were 37 items in total, but only 31 counted for the score. A score of 15 or higher would qualify children for AS diagnostic while a score below 15 would categorize them as normally developing children. Each test was given orally in a one-on-one setting to each child in a quiet, distractions-free environment in the School of Psychology at the University of Queensland, while parents filled in their questionnaires in the group setting (p. 635).

 The results revealed that AS children have significantly higher anxiety than the neuro-typical children – p<0.01 with t(83)=2.75. According to their parents that difference is bigger still – p<0.0001 with t(324)=17.61. However, there were no differences in children’s ratings if children were whether AS children or clinically anxious children. But according to their parents, their AS children scored much higher on obsessive compulsive symptoms and physical injury fears (both p<0.05). Then again, while parents of AS children scored much higher on the Social Worries Questionnaire – p<0.001 in comparison to normally developing children; the AS children’s scores did not vary much from their normally developing peers’ ones. When parental and children scores were compared in the AS group sample, the results were tremendously different:

 separation anxiety, (p<0.0001), obsessive-compulsive disorder,

 (p<0.0001), social phobia, (p<0.0001) and generalized anxiety,

 (p<0.001) with parent ratings significantly higher on each

 occasion except for obsessive-compulsive symptoms.

 (Russell, E. & Sofronoff, K, 2005, p. 636)

 According to this research, children with Asperger syndrome have higher anxiety levels than their neuro-typical peers according to both their and their parents’ results. They also have higher anxiety levels than their clinically anxious peers, but these results are more based on the parental opinions only (p. 636). The researchers suspect that children with AS lack the insight to recognize their own anxiety and therefore the researchers believe that parental results are more accurate. At the same time, AS children perceived the physical injury fears as more severe than the clinically anxious children – that could be due to their tactile and auditory sensitivities and sometimes even a slight touch or noise may feel like an attack. Also, due to their atypical behaviours, AS children may be bullied more. Children with AS may be socially immature or unable to recognize the social cues that would cause anxiety in their typical or anxious peers. The children scored higher than their parents when evaluating their obsessive-compulsive symptoms. Researchers found that anxiety about OCD exists whether or not parents are able to observe it; therefore, perhaps there is a higher score from the youngsters in this domain (p. 637).

 The importance of this research is that children with AS were found to be more anxious than children with diagnosed anxiety, not to mention their typically developing peers and yet not too many people seem to connect AS and anxiety. The researchers call for further study to develop techniques, whether behavioural or pharmaceutical, to decrease AS children’s anxiety (p. 637). They find that their study’s limitation is that none of the AS children participating in the study had a diagnosis of anxiety (p. 637). The other limitation was no external validity for this study and the sample should be bigger in a future, similar study.

 Both studies are similar in a sense that they are concerned about anxiety in children with Autism Spectrum Disorder. They both rely on subjects who have high functioning autism to Asperger syndrome. Both of them use the SCAS-C scale for measuring anxiety in their participants. They both mention that some symptoms of anxiety in their subjects are “echolalia, rocking, hand flapping” (Russell, E. & Sofronoff, K., 2005, p. 634). They both whether use or hope to develop programs that support anxiety reduction in ASD children. They both pioneer: one being the first research of its kind in Asia, the second comparing children with autism to clinically anxious children in anxiety levels.

 The focus of the two studies is different. While Sung et al.’s research compares different strategies of anxiety-reducing programs within the autistic population, Russell’s and Sofronoff’s research wonders about how anxious the AS children really are especially when compared to a population of children actually diagnosed with anxiety disorders. Sung et al.’s research is well designed, takes two years and four months from recruitment to final completion (Sung et al., p. 641), that includes staff training and activities designs for both programs; Russell’s and Sofronoff’s research is more anecdotal, since it is based on three questionnaires and surely takes a lot less time. The first research excludes parent participation with some later regret; the second research is partially based on parent participation.

 I find both studies optimistic in terms of support for my students, my daughter, and autistic people everywhere. The first research describes the ways of how to support autistic people and decrease their anxiety levels; the second research proves that there is a problem of anxiety in the autistic population that has to be addressed. As a teacher, I know that when my students have predictability and structure in their classroom routines, their anxiety will be lower. I eagerly announce any fire drills, lock-down procedures, or earthquake drills to my unsuspecting autistic students to decrease their anxiety level. I make sure that I do it a few minutes prior to the event instead of a day or more in advance. I use a calm voice to minimize any anxiety that my autistic crew may experience. Being a parent and a teacher of this population, I surely could relate to the first research and found it very well designed and yet not that complicated in its application. The second research is more of an eye opener for the ones that may not know about autism being often a symptom of some more, but often less visible anxieties, hence frequent stimming. I am glad that the Australian researchers pointed it out.

 Both studies call for more research in autism anxiety. Both call for more awareness that such anxiety exist and is only too real and that it is time to develop more well-researched, authentic strategies to support autistic people in reducing their anxiety, and therefore making their life easier and their symptoms less severe.

References

Russell, E., & Sofronoff, K. (2005). Anxiety and social worries in children with asperger syndrome.  *The Australian and New Zealand Journal of Psychiatry, 39*(7), 633-633. doi: 10.1111/j.1440- 1614.2005.01637.x

Sung, M., Ooi, Y. P., Goh, T. J., Pathy, P., Fung, D. S. S., Ang, R. P., . . . Lam, C. M. (2011). Effects of cognitive-behavioral therapy on anxiety in children with autism spectrum disorders: A randomized controlled trial. *Child Psychiatry & Human Development, 42*(6), 634-649. doi: 10.1007/s10578-011-0238-1