

## Parent Assisted Social Skills Training for Children with Attention Deficit Hyperactivity Disorder

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The aim of this research was to study the short-term effects of a time-bound, structured, parent-assisted social skills training program for children with ADHD. The sample consisted of ten children who were diagnosed as ADHD in the age group of 8-12 years. A program of eight sessions based on Spence's 'Social Skill Training' method was applied along with multimedia tools such as social skills animated videos. Parents of the children simultaneously participated in generalization training designed to support their children's transfer of skills. Pre and post-training assessments were performed using the Spence's Social Skills Questionnaire-Parents (SSQ-P) and Spence's Social Competence with Peers Questionnaire (SCPQ-P). It was hypothesized that there will be a difference between the pre and post training scores, thereby indicating an improvement in the social skills and social competence of children with ADHD following the applied social skills training program. Narratives of the parents, too, were taken into consideration to have a better understanding of the process of change experienced by them in their child. Results showed that the post training scores were significantly higher suggesting the positive short-term effect of the social skills training.

**Keywords:** Social skills training, Social competence, ADHD.

ADHD is defined as a developmental disorder characterized by developmentally inappropriate degrees of inattention, hyperactivity and impulsivity. Children with this disorder often have co-morbid conditions such as Oppositional Defiant Disorder and Learning Disabilities, which adversely impacts the family and community. When they reach the age of adolescence, these children are also at greater risk of drug and alcohol abuse and suffer from problems with family and peer relationships that continue into adulthood (Barkley, 2006).

In a meta-analysis research, 303 full-text articles were reviewed and the worldwide prevalence of ADHD was found to be 5.29% (Polanczyk et al., 2007). Studies in India conducted in hospitals or outpatient clinics, with referral bias, suggest prevalence of 5.2% to 29.5% (Mehta et al., 2012).

### **Social skills and Social competence**

During their lives, young children become members of many new groups including family, neighbourhood, friends, school and community organisations. Social skills are the foundations of getting along with others and are required to deal

with the demands and challenges of everyday life. Ever since the 1990s, social skills have been defined as situation-specific behaviours that enhance the overall social functioning of a person, resulting in personal and social satisfaction (Mathur & Rutherford, 1994).

Social competence refers to the consequences or outcomes of a person's interaction with other people. The social competence in terms of short-term social consequences need to be considered from three aspects—firstly, if other people experience negative feelings after interacting with the child, secondly, if the child feels any negative emotions or thirdly, if the outcome of the interaction is negative. Over time, the short-term consequences of behaviour accumulate to produce long term outcomes. These include popularity with others, number of friends, feelings of loneliness and the overall quality of relationships with other people.

### **Social skills & social competence deficits in children with ADHD**

In order to have a comprehensive understanding of the social skills training

process, it is very essential to review the type of social skills deficits present in children with ADHD.

#### ***Deficits in interpersonal behaviour***

Children with ADHD demand a great deal of attention from others, with their behaviors often being more intense or forceful than the situation requires. In various studies, children with ADHD were rated by their peers as individuals who started fights and arguments more than non-ADHD children (Hodgens et al., 2000; Maedgen & Carlson, 2000).

Children with ADHD have difficulty in following the implicit rules of good conversation. Their communication style often differs than their typically developing counterparts. They are likely to interrupt others, talk more during spontaneous conversation, pay minimal attention to what others are saying, and respond in an irrelevant fashion to the queries or statements of peers (Stroes et al, 2003).

Also, they have a need to take control of situations while playing, and become intimidating, and stubborn about having things the way they want. Thus, they are disruptive to the smoothness of the on-going stream of social interactions, reciprocity, and cooperation (Barkley, 2006).

#### ***Deficits in Emotional regulation***

Children with ADHD frequently exhibit increased emotionality, displaying greater degrees of explosive, unpredictable, and oppositional behaviour. Barkley emphasized that children with ADHD display a greater emotional reactivity to "charged" events and possess less capacity to regulate emotional/arousal states in the context of goal-directed behaviour (Barkley, 1997).

In an experimental design, Maedgen and Carlson (2000) examined emotion regulation of children with ADHD. The researchers used an emotion control task that assesses children's expressive responses to receiving a disappointing prize. Findings from the study indicated that children with ADHD were more intense in their emotional displays (positive and negative).Thompson et al. (2004), on

investigating children and adolescents with ADHD, reported that such children suffer from impaired empathy and a high incidence of external locus of control, aggression, anxiety, and depression.

#### ***Social problem solving deficits and coping deficits***

Children with ADHD are more likely to propose aggressive solutions to a problem situation and are less able to anticipate negative consequences as compared to their non-ADHD peers (Waschbusch et al., 2002).

Dawson & Guare (2000) report that children with ADHD find it difficult to create and hold a mental image of a goal, devise a plan to follow, cope with the negative feelings associated with self-deprivation, motivate themselves to carry out the plan, and experiment with diverse strategies for achieving their goal.

In one study, the authors investigated self-reported coping with interpersonal stressors among boys with and without ADHD. Results suggested that boys with ADHD showed a maladaptive coping pattern with lesser application of problem-focused coping strategies. (Hampel et al, 2008).

#### ***Social competence deficits***

Children with ADHD are frequently rejected by their peers as seen in various researches. A study by Hoza et al. in 2005, which examined the peer status in clinically-diagnosed children of 7–9 years with ADHD, found that 52% fell in the rejected category and less than 1% was in the popular status. As compared to their classmates, ADHD children had fewer dyadic friendships; they also were disliked by children of higher status within the peer group, suggesting a process of exclusion by more popular peers.

Little research exists on peer functioning of girls with ADHD. The limited available evidence based on peers' perspectives suggests that even girls with ADHD are impaired in their peer relationships relative to non-ADHD children. Adult ratings of peer functioning also suggest that both boys and girls with ADHD are significantly impaired in their peer functioning comparatively to non-ADHD peers (Greene et al, 2001).

### **Social skills training and ADHD**

Social skills training used on its own is generally not powerful enough to produce substantial reductions in psychopathology or improvements in more global indicators of social functioning. Nevertheless, it is now a widely accepted component of multi-method approaches to the treatment of many emotional, behavioural and developmental disorders (Spence, 2003).

Gresham, Van, and Cook (2006) investigated the impact of rigorous social skills instruction on the behavioural deficits of students and concluded that students who receive extensive social skills training exhibit a reduction in inappropriate behaviors and an improvement in the acquisition and performance of social skills. Many other studies have reported the effectiveness of social skills training as an integral component of management of children with ADHD (Hantson, Pan Wang et al, 2011), (Webster-Stratton, 2011), (Storebo, Gluud, Winkel et al, 2012).

However, one of the most consistent and long standing criticisms of social skills training programs is that the skills, which the students learn during the training, are often not maintained or generalized. Hence, in this current study, parents were taught the principles of generalization using behavioural methods.

### **Recent trends- Computer facilitated Social Skills Training for ADHD**

Along with traditional strategies for social skills instructions, novel techniques have emerged, which include the use of computer technology and the integration of video instructional content. The potential advantages are that the content of these computer programs can provide fun and interesting individual instruction for the child and is also flexible in terms of suspension at any point and for any length of time to deliver relevant instruction during the practice activity.

Cumming et al., in 2008 reported that incorporating technology into social skills training can be effective and motivating for students and teachers alike. Thus, the use of technology-supported social skills instruction

may be feasible but, it is generally being used as an adjunct to more traditional approaches.

### **Need for Study**

Social skills are a very important skill set in children's life. They are important for the social problems of children with ADHD that are pervasive and put these children at a heightened risk for future social maladjustment. Such children are more likely to develop conduct disorder, or participate in more delinquent or illegal acts as adolescents, and may engage in greater substance experimentation and eventual dependence and abuse (Barkley, 2006).

Also, there is a dearth of Indian studies regarding social skills training for ADHD population. The training program used in the present study will be suitable in Indian context by virtue of being brief, focussed and requiring less time and resources. Hence, a need for this type of study in Indian context is indicated.

### **Objective of this study**

To study the short-term effect of time-bounded, structured, parent-assisted social skills training program on:

1. Social skills for children with ADHD
2. Social competence for children with ADHD

### **Hypothesis**

There will be a difference between the pre and post training assessment scores, indicating an improvement in the social skills and social competence of children with ADHD following a time-bound, structured, parent-assisted social skills training program.

### **Method**

#### **Selection of Sample**

Purposive sampling was used in selection of participants. The sample for this study comprised of 10 children in the age group of 8 to 12 years (Mean age of 9.8 years, SD= 1.76) from the Child Guidance Centre at Institute of Human Behaviour & Allied Sciences, New Delhi who had been diagnosed as having ADHD according to the ICD-10 criteria. One participant dropped out during the training phase and hence, the data

of nine children (eight boys and one girl) were considered for statistical analysis.

The inclusion criteria for the children were:

- 1) Diagnosed cases of ADHD as per ICD-10 criteria
- 2) Age range between 8 - 12 years
- 3) Basic ability to read and write
- 4) Parental consent

### **Sample details**

None of the children had any comorbidity or any internalizing symptom. Only three out of ten children had been on medication for ADHD; out of which one child had poor compliance with the medication. On interviewing the parents of each child individually, it was found that all the children had peer related problems, parents of the eight boys reported that their child had very few friends and were embroiled in physical fights at school. The father of the girl child in the group reported that she was involved in verbal arguments with her classmates and at home she would constantly fight with her younger sister.

### **Design**

The study design is based on pre and post-assessment design (ABA design) performed a single group of nine participants. They were assessed on the measures of social skills and social competence, pre and post the social skills training. The effectiveness of the training was measured immediately after the training (three days post the last training session.)

### **Tools**

Assessment in the present study was carried out with the following tools:

*Conner's Abbreviated Rating Scale* by Conner (1990). It consists of ten items. The items of the scale are to be rated on a four point rating scale. The total score on this scale could thus range from 0 to 30. The cut-off point that gives optimum discrimination between clinically significant cases and normal children is 13 so that respondents with a score of 13 and more are considered clinically significant on ADHD.

*Social Skills Questionnaire-Parents (SSQ-P)* by Spence (1995). The scale was prepared by

Spence (1995). Parents rate their children on 30 items on a three point Likert type rating scale ranging from 0 (Not true) to 1 (Sometimes true) to 2 (Mostly true). The internal consistency of the SSQ-P was found to be good, with Guttman split-half reliability of 0.90 and coefficient alpha of 0.92. Factor analysis using either varimax or oblique rotation indicated three correlated factors assessing: conflict resolution/avoidance; warmth and empathy, social involvement.

*Social Competence with Peers Questionnaire-Parents (SCPQ-P)* by Spence (1995). This scale was also prepared by Spence (in 1995). Parents rate their children on nine items on a three point Likert type rating scale ranging from 0 (Not true) to 1 (Sometimes true) to 2 (Mostly true). The items selected for the assessment of social competence were designed to focus on the consequences of social interaction. The internal reliability of the scale was a Guttman split-half reliability coefficient of 0.87 and coefficient alpha of 0.81.

### **Procedure**

The children who had been diagnosed with ADHD and who met the inclusion criteria were taken for the study. In the pre-training assessment phase, the parents underwent Conner's Abbreviated Rating scale, Social Skills Questionnaire-Parents and Social Competence with Peers Questionnaire-Parents.

The children were randomly divided into two groups of five children each and training was given to each group separately. The rationale for doing so was that it is difficult to manage a group of more than five children if they show disruptive/ inattentive behaviour.

A social skills package of eight sessions based on Spence's Social Skill Training method was designed. Spence's Social Skills Training method uses the methods of modelling, discussion, instruction and feedback. In addition, age appropriate social skills animated videos were also shown to the children to enhance their understanding of social skills. A total of eight sessions were held bi-weekly for the duration of 75-90 minutes. Once the training sessions were over, assessment was carried out with the same tools to measure any change, if occurred during training.

*Parent-assisted intervention - Involvement of parents in the training sessions:* Involvement of people from the child’s life such as parents or teachers has been suggested to make generalisation more possible. After every session with the children, a 20 minutes session was held with the parents in which:

- Parents were sensitized and psycho-educated about social skills deficits in children with ADHD.
- Parents were explained that “As a parent, you have maximum contact with the child and hence, your participation in this programme is very important.” Parents were explained about their role in the generalization of social skills outside the training sessions.
- The parents were explained the activities and rationale of each session. They were requested to observe the sessions whenever essential.
- Parents were explained that micro level skills are required for learning in order to build on more complex skills.
- A hand-out was given at the end of each session to the parents that provided session details and a reminder for the home-tasks as well.
- Parents were explained the role of reinforcements. They were taught to give social and tangible reinforcements. A star chart system was introduced at home too and the parents were occasionally asked to bring the star chart to the session and discuss the progress of the child with the trainer.

A formal assessment of parental stress or parental psycho-pathology was not conducted, however, it was found during the sessions with the parents that academics and school work with the child was a major cause of stress for most of the mothers. They would discuss this frequently among each other and also with the therapist the stress that they faced with the child regarding his/her studies.

**Social Skills Training Module**

Target areas of management for the social skills training are given below:

- Social perception
- Understand feelings
- Conversation and listening skills
- Anger and relaxation
- Peer relationship skills
- Social problem solving skills
- Dealing with conflict situations

The details of each session in the social skills training program are presented below.

**Table 1. An overview of all sessions of the training program**

Session no.	Components of the session	Activities & methods used
SESSION 1	<ul style="list-style-type: none"> <li>● Normalizing the rationale, setting up group rules &amp; earning stars</li> <li>● Eye contact Understanding feelings</li> </ul>	Discussion , Modelling and Role-play, Art work, Stories, Social skills video, Eye contact Video
SESSION II	<ul style="list-style-type: none"> <li>● Anger and relaxation</li> <li>● Facial expressions</li> <li>● Body language</li> </ul>	Discussion, Anger volcano, Imagery, Deep Breathing, Spence Photo cards, Spence Posture cards, Facial Expressions Video, Cue cards
SESSION III	<ul style="list-style-type: none"> <li>● Conversation and listening skills</li> <li>● Tone of voice, Listening skills and Asking questions</li> </ul>	Discussion, Modelling and Role-play, Conversation cue cards

SESSION IV	<ul style="list-style-type: none"> <li>● Importance of friends &amp; Identifying friendly behaviors</li> <li>● Sharing Offering help Joining in play and taking turns</li> </ul>	Discussion, Video on friends, Video on sharing, Video on asking friends to play, Modelling and Role-play
SESSION V	<ul style="list-style-type: none"> <li>● Social problem solving</li> </ul>	Discussion, STOP THINK DO method, Modeling & role-play
SESSION VI	<ul style="list-style-type: none"> <li>● Bullying and teasing</li> <li>● Saying NO-without being aggressive</li> </ul>	Discussion on assertiveness, Video on teasing, STOP THINK DO method, Modeling & role-play
SESSION VII	<ul style="list-style-type: none"> <li>● Dealing with conflicts with peers and adults</li> </ul>	Discussion, Compromise technique, STOP THINK DO method, Modeling & role-play
SESSION VIII	<ul style="list-style-type: none"> <li>● Revision of all skills learnt</li> <li>● Self-esteem</li> </ul>	Quiz, Shazam Technique, Super Me Technique

**SESSION I:****Normalizing the rationale**

The rationale for attending the sessions was normalized. A video (Irised online, n.d.) - a peppy song about how easy it is to learn social skills was shown to the children and the positives of attending the program were highlighted.

**Eye contact:**

The concept of eye-contact was introduced through discussion, art activities and an animated video (Wonkido, 2010). The trainer demonstrated the impressions of too little eye contact. Appropriate use of eye contact was then modelled by the trainer and the children practiced it. Constructive feedback was provided.

**Understanding feelings:**

The session then focused on 'Understanding Feelings' through activities such as discussion and making a list of all the different feelings. The concept of feelings being weak, strong or very strong was explained with 'The Feeling Thermometer' (Stellard, 2002).

Story-telling was further used – 'Tom's Birthday Feelings' was read out and paused at certain points where they had to guess how Tom was feeling at that point of time. The home-tasks were explained and a recapitulation of the session was done.

**SESSION II:****Anger and relaxation:**

The concept of anger was explained with illustration of 'Anger Volcano' (Stellard, 2002), which explains how anger builds up inside and if it is not released safely, it can explode and hurt us or others. The benefits of relaxation were emphasized. The relaxation methods of Deep Breathing and Imagery were demonstrated and the children practiced them.

**Social perception-Facial expressions & body language:**

It was discussed that our feelings are also shown by the way our face and body looks. Spence Photo cards were used to identify different body postures and facial expressions. These photo-cards had pictures of Western children with various facial expressions and body language. However, it would have been more appropriate if photo cards of Indian children would have been used keeping the cultural aspect in mind.

Next, an animated video on facial expressions (Khappucino, 2009) was shown. The children were then given a cue card describing a situation and they were asked to demonstrate the likely posture and facial expression.

**SESSION III:****Conversational skills:**

The trainer demonstrated how tone of voice could convey information about feelings. The children were then asked to make a list

of what is needed in a good conversation and each component was discussed in detail. The trainer then modelled appropriate ways of asking questions. Children then practiced conversation skills with the trainer, using cue cards and role-plays. Ways of keeping conversations going once they were started were discussed. The main points covered were the need of adequate length of responding, showing you are listening and asking further relevant questions. Conversation cue cards were also used for role-plays.

#### **SESSION IV**

##### ***Importance of friends:***

This session was handled very sensitively- their abilities to make friends were never challenged. An animated video (Notebookbabies, 2008) was shown to the child that highlighted the value of friends.

##### ***Sharing & offering help:***

The benefits of sharing and offering help were discussed. Sharing and helping behaviours were modelled by the trainer. Cue cards were given about such situations and the children performed role-plays with the trainer.

##### ***Joining in play and taking turns:***

A video (Wonkido, 2010) about appropriate ways of asking to join in play was shown to the children and also role-played. The importance of taking turns during play was also emphasized.

#### **SESSION V**

##### ***Social problem solving:***

It was emphasized that rather than rushing in to solving problems, we need to Stop and Think. The 'What Can I Do' game was played where the child was presented with a problem and she had to think of different solutions to each problem. The children were explained the STOP, THINK, DO method. The trainer made it easy for them to understand by connecting it with a traffic signal. Red means STOP and think about what the problem is. Yellow means THINK about the different solutions and their consequences. Green means DO i.e. carry out the chosen response keeping in mind social skills. Examples of social problems were taken and solved through this method.

#### **SESSION VI**

##### ***Saying NO without being aggressive:***

The focus of this session was on Assertiveness. It was emphasized that all people have the right to say 'no' (without being aggressive) when something feels wrong. The children were then explained the concept of assertiveness on a dimension of:

Submissive ----- Assertive ----- Aggressive

The trainer then modelled saying 'No' assertively. By using the STOP, THINK, DO method, social problems of certain types were taken up with role-plays.

##### ***Bullying and teasing:***

The focus of this session was dealing with bullying and teasing. Fighting and screaming were highlighted as ineffective ways of dealing with teasing. STOP, THINK, DO model was used to look at better alternatives of dealing with teasing. Asking an adult to intervene if the situation goes out of hand was also emphasized.

#### **SESSION VII**

##### ***Dealing with conflicts with peers and adults:***

The importance of being able to communicate feelings to other people in a friendly and calm way was stressed upon. Examples of conflict problems with peers and adults were taken and essayed into role-plays by way of STOP, THINK, DO method.

#### **SESSION VIII**

A recapitulation of the sessions was done in a fun, quiz format.

##### ***Self-esteem:***

There were two techniques that were used to help the children internalize strengths that they desired: Super Me technique by Nickerson and Shazam technique by Cangelosi. In the Super Me technique, the children were told to write down ten good qualities that they would give to their super-hero and then create this super-hero artistically. Thereafter, the children made a story of the super-hero and solved a problem together. The children were told that their super-hero remains with them at all times to help them.

To facilitate termination, children were given confidence that they had learned the skills, which they have applied in other settings also (through home-tasks). They were assured that if they face any problem they can always discuss with parents or can contact any trainer. The parents were also suggested to keep revising the social skills with the child and to use social reinforcements.

**Statistical Analysis:**

Paired Sample t-test analysis was used to calculate the significance of difference between mean scores in the pre and post training conditions. The rating of the items, on SSQ-P and SCPQ-P at pre and post training periods, were also computed. Narratives of the parents too, were taken into consideration to have a better understanding of the process of change experienced by them in their child.

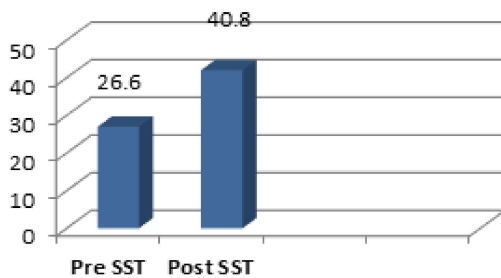
**Results & Discussion**

The normality assumption was checked and subsequently the t-test was used to calculate the significance of difference between mean scores in the pre and post training conditions.

**Table 2. Mean and SD scores on Spence Social Skills Questionnaire (SSQ-P) during pre and post training periods**

	Pre Social skills training	Post Social skills training	t
M	26.6	40.8	8.3*
SD	4.5	6.19	

\*Significant at 0.01 level



**Figure 1. Graph showing comparison of mean scores on SSQ-P (Spence’s Social Skills Questionnaire- Parents), during pre and post training periods**

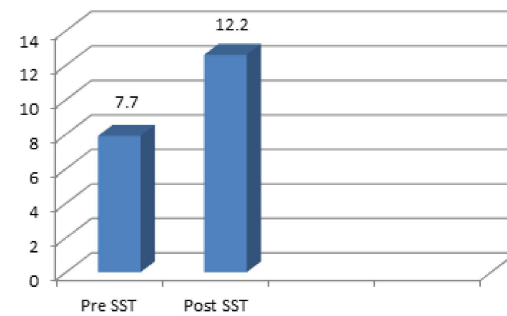
The graph illustrates that there is an increase in the mean scores obtained during post-training on SSQ-P.

At pre-training assessment level, the mean scores that were obtained fall under below average category of Spence Social Skills Questionnaire and at post-training assessment level, the mean scores that were obtained fall under the average category. The t test was applied to these means for further analysis. The t value obtained is significant at both 0.05 and 0.01 level of significance.

**Table 3. Mean and standard deviation scores on Social Competence with Peers Questionnaire, at pre and post training levels**

	Pre Social Skills Training	Post Social Skills Training	T
M	7.7	12.2	3.84*
SD	3.4	2.4	

\*Significant at 0.01 level



**Figure 2. Graph showing comparison of mean scores on SCPQ-P (Spence’s Social Competence with Peers Questionnaire-Parents), at pre and post training levels**

The graph illustrates that there is an increase in the mean scores obtained during post-training on SCPQ-P.

At the pre-training assessment level, the mean scores obtained fall under the below average category on SCPQ-P and at the post-training assessment level, the mean scores obtained fall under the average category. The t value obtained is significant at both 0.05 and 0.01 level of significance.



The rating of the items, on SSQ-P and SCPQ-P during pre and post training periods, were also computed. On SSQ-P, the post-training item ratings are higher than the pre-training item ratings. The increase in the item ratings is observed in the domains of: Controlling temper with peers, Dealing with teasing, Sharing, Asking to join in with peers, Eye contact and Listening skills.

Even on SCPQ-P, the post-training item ratings are generally higher than the pre-training item ratings. The increase in the item ratings is observed in the domain of stability of friendship.

*Parents' narratives:* The parents were asked about their views and perceptions of any improvement in the child post the social skills training. Their verbal responses were recorded in order to prepare narratives. These narratives of the parents were taken into account for a better understanding of the process of change experienced by them in their child.

**Table 4. Indicators of post-training improvement in social skills based on narratives of parents for their respective children**

Child	Reported indicators of improvement by the parents
1	Confidence in making conversation, Overcoming shyness and making friends, Controlling emotions, Compromising and not insisting on having own way
2	Interrupts less in conversations, Fights less with friends, Deals in a better way with teasing, Controls anger at times, Attempts problem solving strategies
3	General confidence levels, Eye contact, Sharing, Helping behaviour, Body language and posture
4	Compromises, less insistence on having his own way, Reduction in fighting with peers, Reduction in hitting sister, Maintains Eye contact, Sharing behaviour
5	Reduction in hitting, Improvement in eye contact, Improvement in sharing, Feels more comfortable with friends & has more interaction with them, Compromises

6	Improvement in eye contact, Attempts to control anger, Improvement in body language
7	Eye contact, Anger control, Sharing
8	Pays attention to feelings of others, Accepting own mistakes, Less insistence on always having his own way
9	Controlling temper, Listening to others point of view, Thinks of alternative solutions to problems instead of just reacting, Eye contact, Concerned about others feelings

*Interventionist observations:* The interventionist noted that the social skills training done for ADHD children should not exceed a group size of five to seven children. Also, the group should be homogenous as far as possible in terms of clinical diagnosis of ADHD. Frequent breaks should be given in between sessions. The use of behaviour management techniques such as star charts and reinforcements is very useful. Sessions with parents are essential for generalization of the skills. Regular monitoring of the program is useful in terms of feedback from the children and interactions with the parents.

Thus, on the basis of qualitative and quantitative findings it is indicated that there was a significant improvement in the social skills of the children post the social skills training. The current intervention program was designed in mind keeping the cognitive development of 8-12 years old children. Social skills training programs would be effective even for younger or older age groups with the customization of the training sessions based on the age and development of the participants.

The findings in the present study have been supported by previous researches that have shown positive impact of social skills training. Pfiffner, Linda J. & McBurnett (1997) compared the effectiveness of social skills training with and without parent-mediated generalization training on the social knowledge, skills, and behavior of the children with ADHD. As compared to children in a control group(not receiving any treatment), the children in both social skills groups showed improvement across measures taken for appropriate outcomes. Parent generalization component enhanced the transfer of social skill training to school setting.

Other researches that have shown the positive effects of social skills training on children with ADHD are Sheridan 1995; Grizenko et al., 2000; Hoza, Mrug, Pelham, Greiner, and Gnagy 2003; Hantson, Pan Pan Wang et al., 2011; Webster-Stratton et al., 2011.

Social skills training is now gaining momentum as an integral component of multi-method approaches for the treatment of ADHD but, one of the most consistent and long standing criticisms of social skills training programs is that the skills, which the students learn during the training are often not maintained or generalized. Another long standing criticism is that social skills training used on its own is generally not powerful enough to produce substantial reductions in psychopathology or improvements in more global indicators of social functioning.

Nevertheless, it is now a widely accepted component of multi-method approaches to the treatment of many emotional, behavioural and developmental disorders (Spence, 2003).

The study had limitations in terms of lack of a control group and the effectiveness of the training was only measured immediately post training.

### Conclusions

Social skills training for children with ADHD is needed as social skills deficits are a common problem associated with ADHD. A time-limited, structured, parent-assisted social skills training focussing on specific skills is suggested to be effective in the short-term in enhancing social skills and the social competence of children with ADHD. Parents can be included meaningfully in the social skills training process. Technology and multi-media are useful assets in aiding social skills training.

### Suggestions and Future Directions:

A study with a large sample would help us to understand the sub-group and gender differences with regards to the outcome variables.

Follow-up reviews at different points of time can be done to see if the effects of training are sustained.

Teachers and peer ratings as an outcome measure of social skills and social competence could also be included to make the data rich.

Adolescents would be a potential area of research as all age-groups of ADHD usually face social skills deficits.

### References

- Barkley, R. A. (1997). *ADHD and the nature of self-control*. New York: The Guilford Press.
- Barkley, R. A. (2006). *Attention Deficit Hyperactivity: A Handbook for Diagnosis and Treatment*. New York: Guilford Press.
- Barkley, R. A., Fisher, M., Edelbrock, C. S., & Smallish, L. (1990). The adolescent outcome of hyperactive children diagnosed by research criteria: An 8-year prospective follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 29, 546–557.
- Cumming, T., Higgins, K., Pierce, T., Miller, S., Tandy, R., & Boone, R. (2008). Social skills instruction for adolescents with emotional disabilities: A technology-based intervention. *Journal of Special Education Technology*, 23(1), 19–33.
- Dawson, P., & Guare, R. (2000). *Coaching the ADHD student*. New York: Multi-Health Systems.
- Greene, R. W., Biederman, J., Faraone, S. V., (2001). Social impairment in girls with ADHD: patterns, gender comparisons, and correlates. *Journal of American Academy of Child Adolescent Psychiatry*, 40, 704–710.
- Gresham, F. M., Van, M. B., & Cook, C. R. (2006). Social skills training for teaching replacement behaviors: Remediating acquisition deficits in at-risk students. *Behavioral Disorders*, 31, 363-377.
- Grizenko, N., Zappitelli, M., Langevin, J., Hrychko, S., El-Messidi, A., Kaminester, D., TerStepanian, M. (2000). Effectiveness of a social skills training program using self/other perspective-taking: A nine-month follow-up. *American Journal of Orthopsychiatry*, 70, 501-508.
- Hampel, P., Manhal, S., Roos, T. & Desman, C. (2008). Interpersonal Coping among Boys with ADHD. *Journal of Attention Disorders*, 11(4), 427-436.
- Hanston, J., Wang, P. P., Grizenko-Vida, M., Ter-Stepanian, M., Joober, R., & Grizenko, N. (2011). Effectiveness of a Therapeutic Summer Camp for Children With ADHD: Phase I Clinical Intervention Trial. *Journal of Attention Disorders*, 20, 1–8.
- Hodgens, J.B., Cole, J., & Boldizar, J. (2000). Peer-based differences among boys with ADHD. *Journal of Clinical Child Psychology*, 29, 443–452.

- Houshmandi, M. (2007, February 7). *Friendship skills*. [Video file]. (Retrieved 2012, January 2). Retrieved from <http://www.youtube.com/watch?v=KxDtJRPmVN>
- Hoza, B., Mrug, S., Pelham, W. E., Greiner, A. R., & Gnagy, M. (2003). A friendship intervention for children with attention deficit/ hyperactivity disorder: Preliminary findings. *Journal of Attention Disorders*, 6, 87-98.
- Irised online, (2012, January 26). We have Skills! Song [Video file]. Retrieved from <http://www.youtube.com/watch?v=VPRgyCiKFFs>
- Khappucino, (2009, September 9) Facial Expression Tutorial [Video file]. Retrieved from <http://www.youtube.com/watch?v=TrgNKGjSyxA>
- Maedgen, J. W. & Carlson, C.L., (2000). Social Functioning and emotional regulation in the attention deficit hyperactivity disorder subtypes. *Journal of Clinical Child Psychology*, 29, 30-42.
- Mathur, S. R. & Rutherford, R. B. (1994). Teaching conversational social skills to delinquent youth. *Behavioral Disorders*, 19, 294-305.
- Mehta, S. & Shah, D. (2012). Peer-Mediated Multimodal Intervention Program for the Treatment of Children with ADHD in India: One-Year Follow-up. *International Scholarly Research Network Pediatrics*. Vol. 12.
- Notebook babies, (2008, January 1). What is a friend? [Video file]. Retrieved from <http://www.youtube.com/watch?v=wZHmsVRshwU>
- Pfiffner, L.J. & McBurnett, K. (1997). Social skills training with parent generalization: Treatment effects for children with attention deficit disorder. *Journal of Consulting and Clinical Psychology*, 65, 749-757.
- Polanczyk, G., de Lima, M. S., Horta, B. L., Biederman, J. & Rohde, L. N. (2007). The Worldwide Prevalence of ADHD: A Systematic Review and Metaregression Analysis. *American Journal of Psychiatry*; 164, 942-948.
- Mehta, S., Shah, D., & Shah, K., Mehta, S., Mehta, N. Mehta, D. (2012). Peer-Mediated Multimodal Intervention Program for the Treatment of Children with ADHD in India: One-Year Follow up. *ISRN Pediatrics*, Vol. 2012, doi:10.5402/2012/419168
- Sheridan, S. M. (1995). *The tough kid social skills book*. Longmont, CO: Sopris West.
- Spence, S. H. (1995). *Social skills training: Enhancing social competence and children and adolescents*. Windsor, UK: The NFER-NELSON Publishing Company Ltd.
- Spence, S. H. (2003). Social skills training with children and young people: Theory, evidence and practice. *Child and Adolescent Mental Health*, 8, 84-96
- Stallard P. (2002) *Think good feel good, A Cognitive Behaviour Therapy Workbook for Children and Young People*. John Wiley & Sons Ltd.
- Stroes, A., Alberts, E., & van der Meere, J. J. (2003). Boys with ADHD in social interaction with a non-familiar adult: An observational study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42, 295-302.
- Thompson, M. J. J., Brooke, X. M., West, C. A., Johnson, H. R., Bumby, E. J., ..... Scott, N. (2004). Profiles, co-morbidity and their relationship to treatment of 191 children with AD/HD and their families. *European Child and Adolescent Psychiatry*, 13, 234-242.
- Waschbusch, D. A., Pelham, W. E., Jennings, J. R., Greiner, A. R., Tarter, R. E., & Moss, H. B. (2002). Reactive aggression in boys with disruptive behavior disorders: Behavior physiology, and affect. *Journal of Abnormal Child Psychology*, 30, 641-656.
- Webster-Stratton & Reid, (2011). Combining parent and child training for youngsters with ADHD. *Journal of Clinical Child and Adolescent Psychology*, 40 (2), 191-203.
- Wonkido, (2010, January 10). Playing with friends preview. [Video file]. Retrieved from <https://www.wonkidovideos.com/videos/search>

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