Chapter-VII
Discussion
DISCUSSION

Body is an instrument which helps to express languages, seen, unseen or unheard. Saha & Mukhopadhay (1993) said that body expression is a media to communicate as good as more than 70% of total communication system. Social recognition mostly depends on the accuracy of non-verbal communication and receiving ability of the decoder.

For autistic children the pervasiveness of the problem includes not only in verbal communication but also in body expressions, in both encoding and decoding system, that is, they cannot interpret the body language of others but at the same time they cannot express their own feelings through verbal or non-verbal ways of communication.

Though the etiology of this pervasive disorder is still in an indecisive state, but the researchers are still in the quest for unleashing the hidden mechanism lying behind, through various methods of interventions which indirectly can throw light on its etiology.

The main purpose of the study is to reach its objectives. The objectives of this research are to develop a scientific scale to measure body attitude of the person with autism, to find the effect of DMT on body attitude of the children with autism, effect of DMT on communication of autistic children, effect of DMT on socialization of autistic children and effect of DMT on reducing problem behavior.

The first objective aims at constructing a valid scale which will only measure the development in body attitude of an individual in a quantitative way. The whole scale was designed so that it helps in reducing the problems in autism in Indian context. The scale was constructed following the rules and criterion of the construction procedure and thus ultimately the body attitude scale with high reliability and validity (refer to page) and norm in Indian culture for persons with autism was established.
Body attitude checklist is a very new implementation in the world of psychology. Especially in India there are fewer tools for measuring the body attitude of an individual. In the world whatever tools are there for measuring the flexibility of an individual there are very fewer tools which directly deals with body attitude development of an individual. So this particular tool played a great role in measuring the body attitude of an individual with autism and helped us to evaluate how development in body attitude improves body language, gesture, posture which in the long run improves communication and socialization in an individual with autism.

The second purpose is to find that whether there is any effect of DMT on body attitude of autistic children or not.

The information that the kinesthetic sense gives us seldom reaches our conscious awareness and thus we are usually unaware of what is taking place in our bodies. We are unconscious or conscious about our position in space and tension support necessary to reach an objective. For example, we prepare to lift something heavy by creating tension before we know how much tension support is necessary. Moreover sensory inputs sends the streams of electrical impulses flowing from the sensory receptors in the body to the spinal cord and brain, which is lacking in children with autism so there is a marked impairment in encoding and decoding in communication system. Sensory integration is the organization of sensory input for use. Uses may be: perceptions of the body or environment, adaptive responses, learning process, or the development of particular neural functions. With efficient sensory integration, all aspects of the nervous system cooperate so people can interact with their environment effectively and experience appropriate satisfaction (Ayers, 1979) which is deficit in children with autism.

Every movement we make is based on an unconscious sensory judgment of how much muscle contraction is necessary to carry it out. Our conscious judgment tells us that without a certain habitual amount of over support on activity cannot be performed. These habits are learned in infancy and continued throughout life. We are often unaware of excess tension because
we have not felt the absence of tension. Children with autism lack awareness which with more and more correct experiences through various interventions can make their sensory awareness become more and more reliable.

Dance movement therapy is one such therapy which deals with the body flexibility of autistic children (ADTA, 1966). Dance movement therapy has been widely used in both clinical and non clinical population in order to develop body flexibility and thus help to heal the problems the subjects were undergoing both clinical and non clinical.

Children with autism are not quite aware of their own self, their body parts, their body part relationship, and how to deal with a situation bodily. They have difficulty in body attitude, body awareness, understanding of space, body part relationship, usage of various parts of the body for a task, problem in coordination etc. These various difficulties make their movement and ability to cope with situations more clumsy and inappropriate and thus they find a lot difficulty in communication, socialization and other important aspects of life. Thus in order to reduce the problem the need to develop body attitude is the most essential element in this study.

While developing body attitude the researcher mainly concentrates on developing alignment of the body, which is highly connected with the spinal cord, the pelvis, along with the total grounding and support system of the floor and surrounding space.

Development of body attitude mainly depends on the most important factors such as Centering, Gravity, Balance, Posture, Gesture, Rhythm, Moving in space and breathing. If these factors are really improved by proper exercises which develops the physiological structure, such as muscle use, use of stimuli- encoding and decoding the information etc. In this context we can say that development in body attitude leads to stimulation of neurons in the motor cortex resulted in body movements in a predictable way.
The proportion of excited neurons in the motor cortex was far greater than the proportion of motor neurons in the spinal cord directly involved with the movement.

It is postulated that if high-speed motor acts can be routinely carried out that extends “motor programmes” it increases the movement pattern in the body rather than strings of single motor acts. Dance is a combination of lots of motor acts and lots of body, movement, expression coordination which is seen that if continued extensively may help the children with autism, where autism is assumed to be caused by Incompletion of the full processing circuit by the sensory impulses and thus act as a hincrance to perception. (Leventhal et al., 1969). Development of body attitude occurs when the person develops in use of proper posture, gesture, with appropriate encoding and decoding of the stimuli.

In the present study, a double check procedure was taken in the pre and post sessions of the intervention through DMT of the children. The result can be attributed fully by dance therapy if it was possible to create that expected situation where the children would have been intervened by no other therapy but dance. But it is unethical to deprive the children from the already accepted scientific therapies of autism like speech therapy, cognitive stimulation therapy, sensory integration therapy, music therapy and play therapy etc for the research purpose for as long as nine months to establish the effect of DMT. So to overcome the situation another group of children were taken as matched group who received all other therapies but dance therapy.

In the present study the experimental group who were exposed to DMT was measured in the context of pre and post sessions. And it has been observed that development in body attitude does help in reducing the problem faced by children with autism, by using the principles of Laban Movement Analysis, Barteiniff which has been illustrated by Judy Gantz (1983).

Referring to the result table-1 shows that the mean of the experimental group for body attitude was significantly higher than control group, and SD
was significantly lesser than the control group irrespective of sessions. It may be said that the increase in body attitude for the experimental group does show that the increase may be due to DMT as DMT is one such therapy which deals with the body directly. Moreover when we refer to table-3 the t-ratio (paired) of all the three sessions irrespective of group shows significance in all the paired sessions (pre-post I, pre-post II and post I and post II) for body attitude.

When we separately find the mean and SD of the experimental group for three sessions that is pre-session, post I and post II we find the that mean of the sessions are much higher than the pre session. Analyzing the Increase in post I it was found that when the intervention was given before post I the development was found through increase in score of mean. But reduction in post II does show that when the Intervention stops it reduces the effect but the effect is not reduced so much that it will bring back the problems which are eradicated through the therapy. Thus from the scores it can be attributed that DMT does play a great role in developing body attitude. Reference to table-6 which shows the mean difference (paired t) between two sessions for all the variables for all pairs of sessions of the experimental group the t-value of body attitude was found to be significant all three pairs of sessions.

But reference to table-8 which deals with the development in experimental group it has been found that there is a lot of development from pre to post I session in body attitude, but reduces in post II and further reduces in post III sessions. But if we compare the pre sessions with all the sessions then the development is inevitable. Even in post three sessions which was taken after six months of the Intervention the effect did not reduce much and the difference from pre to post III is seen from the score.

Present research in Dance Movement Therapy has always highlighted that the present therapy acts as a resource through which the body attitude develops and helps the children with autism to come out of their shells. The various techniques in dance movement therapy from Laban movement
analysis and barteiniff principles play the most important role in developing body attitude. The exercises which helps in better body attitude, Body Awareness, Body Coordination, Body Reflex, understanding of space etc helps in developing body attitude. Thus the statistical analysis also proves the importance of DMT and how it helps in developing body attitude and body attitude in order reduces the disabilities of the children with autism.

The third objective of the study is to find the effect of DMT on communication of autistic children. Communication problem is the most important problem in autism. Usually they are found to have lots of troubles in expressing their requirements both verbally and non-verbally. Though dance movement therapy does not deal with the verbal part of communication in autism but it is found to develop a lot in non-verbal ways. Dance is often said as the most important mode of non-verbal communication. The development in various areas like Body Attitude, Body Awareness, Body Coordination, Body Reflex, understanding of space, Interact ional Synchrony and development in expression through various modes of exercises used to express emotions are used to develop communication non-verbally. Exercise and movement patterns from Classical ballet, such as point work, turn-out of the legs, and high extensions; its graceful, flowing, precise movements; and its ethereal qualities helps in strengthening the muscle of the body area which is found to be weak. Ballet, especially classical ballet, puts great emphasis on the method and execution of movement. A distinctive feature of ballet is the continuous outward rotation of the thighs from the hip, referred to as "turnout". The foundation of the dance consists of five basic positions, all performed with the turnout. Emphasis is put on building strength mostly in the lower body, particularly the legs, and the core (also called the center or the abdominals) as a strong core is necessary for all movements in ballet, especially turns, and on developing flexibility and strong feet for dancing en pointe. More over use of modern dance techniques and contemporary dance techniques also helps in developing muscle coordination and completing a movement sentence through proper utilization of body and its movement vocabularies. Kathak dance modules through the use of rhythm and instant reaction to music and
live musical instruments develops spontaneity through development of body reflex. This are all the modes used to develop non-verbal vocabularies which will help the child having problems in various areas of communication relate in a simpler way.

Refereeing Table-1 where the mean and SD of two groups for all the variables irrespective of sessions were calculated, it has been found that the mean was significantly higher than the control group and SD for control group was lower than experimental group in language (communication) irrespective of sessions for both the groups. Thus the Increase in the score in mean may be attributed to DMT, as both the groups received other therapies, but the experimental group received DMT and the result is due to this factor. In Table- 4 where the mean and SD of two groups for three sessions separately are evaluated, it has been found that for the experimental group the mean is pre session was found lesser compared to post sessions. But for the control group the mean in pre session is itself low compared to experimental group pre session. So the question arises that the development in experimental group may be due to the better level of candidates compared to control group in communication. So special justification is needed at this point to support the result. Reference to Table-5 shows that the level of significance are much higher in Post sessions in comparison to pre sessions, i.e., in Language the difference in pre is at 0.029 where in Post I it is 0.002 and Post II it is infinity. It can be said that as each and every child with autism is unique in nature they showed different scores even after much effort was given for homogeneity. But the gain of these levels of significance cannot be ignored in case of autism.

Actually it has been found that communication develops best through speech therapy which is a direct mode which helps in developing communication. But besides verbal communication, non verbal communication is also one option through which an Individual can communicate even without words.
It has been explained by therapists that the physical benefits of movement therapy include greater ease and range of movement, increased balance, strength and flexibility, improved muscle tone and coordination, joint resiliency, cardiovascular conditioning, enhanced athletic performance, stimulation of circulation, prevention of injuries, greater longevity, pain relief, and relief of rheumatic, neurological, spinal, stress, and respiratory disorders. In addition, movement therapy is beneficial in alleviating emotional distress that is expressed through the body.

Further analysis reference to Tables-6 and 7 show the mean difference (paired 't') between two sessions for all the variables for all the three pairs of sessions of experimental group and control group respectively. But it is found that the development in communication is lesser compared to other variables in experimental group compared to the control group. But the explanation by the therapist pointed marked improvement in their non-verbal communication and body language after DMT which is not very reflected in score but reflected in their daily activities. Development in non-verbal activity increases the vocabulary to communicate in an alternative way other than language itself.

But when we analyze the development in experimental group in all the three sessions, Pre, Post I, Post II compared with post III for the experimental group it was found that in pre session the mean was 19.87 while in post I the score is 23.02, post II is much lower compared to other post sessions. Though a reduction is found in post III but that may be due to the stoppage of the intervention technique as the intervention was given only for three months after the pre session was evaluated. Thus it can be said that DMT does play a great role in developing non-verbal communication in autism through Speech therapy is considered as the most direct therapy which helps to reduce problem in communication both verbally and non-verbally.

The fourth objective of the study is to see the effect of DMT on problem behavior in autism. The main need of this study is to find out whether DMT helps in reducing the problem behavior of the autistic people. Usually
children with autism face different kinds of problem behavior in different domains such as auditory, tactile, olfactory, social, temper tantrums, physical harm towards others, odd behavior, self injurious behavior, fears, rebellious behavior, repetitive behavior, language problem either verbal or non-verbal, vestibular problems, inattentiveness and restlessness and odd sexual behavior. DMT is one such therapy which tries to overcome to problems in various domains such as odd behavior, self injurious behavior, fears, rebellious behavior, repetitive behavior, language problem either verbal or non-verbal, vestibular problems, inattentiveness and restlessness, where DMT helps the child the perceive stimuli in his own way through his or her existent repertoire of movement vocabulary and response to the stimuli with appropriate body movement - gestures and postures to overcome odd behavior and other problems. DMT with its proper training in muscle movement, coordination and awareness tries to reach the society where the individual can encode and decode stimuli in an appropriate way.

When we analyze the result we observe that the mean of the pre session in experimental group irrespective of sessions is lesser than the control group irrespective of sessions. Though we have not judged the importance of DMT on the basis of sessions so we cannot say that the low score in experimental group is due to DMT because both the groups were exposed to other therapies. But further analysis in case of experimental group shows that in pre session the mean in problem behavior was higher than the post sessions even after three months of the therapy. Compared to the experimental group for the control group the pre session score was higher than the post session of the control group but compared to experimental the score was less reduced and remained same even after 3 months which indicates the importance of DMT in the experimental group as both the groups received other therapies but the control group didn’t receive DMT. When we computed the mean difference (paired t) between two sessions for the experimental group it was found significant for pre and post I, pre and post II and post I and post II sessions while for the control group the mean difference was found to be insignificant for post I and post II sessions. But the most important thing is to see whether the effect of DMT remains even
after 9 months of the intervention. Further analysis proves the importance of DMT. For the experimental group post III data was taken in order to find the importance of DMT even after 9 months of the intervention. The mean difference was found significant in all the pairs, pre and post III, post I and post III and post II and post III. Actually it was found that in pre session the mean was 126.4 which reduced to 118.05 just after the intervention. But after three months the intervention was stopped the value reduced to 121.1. Further analysis to see the effect of DMT even after 9 months of the intervention the score was 122.7. Thus it is obvious that the therapy should be continued in order to retain the effect of DMT through out life.

The fifth objective of the study is to find the effect of DMT on socialization of the autistic children. It is evident that improvement in communication, body attitude, reduction in problem behavior will lead to better socialization for an individual. Usually children with autism are found to remain in their own world devoid of proper association with the society. Thus DMT aimed at improving the body language of each individual so that they can react and reciprocate properly to each circumstance and respond properly in order to socialize in a successful way.

It has been found that all the variables are interrelated. Improvement in body attitude is the most important factor in development of other variables. Body attitude develops posture, gesture and helps in improving non-verbal communication through body language. This is the ultimate aim of DMT as DMT helps an individual communicate; socialize in a better way with minimum response to the society. From the present study the importance of DMT was observed and evaluated statistically for all the selected objectives of the study, which proves the importance of the research. But Dance Movement therapy is such a technique which needs to be continued in order to persist the effect of the therapy. The specific exercise patterns and movement repertoire needs to be rehearsed in order to stimulate proper neurotransmission. It has been previewed from previous research that continuous muscle stimulation does increase the rate of neurotransmission which helps in better encoding and decoding of the stimulus. Moreover,
further research may also prove that in the long run DMT develops communication for elaborate expression to dissolve need gratification for better living in the society.

It has been found that DMT is one such therapy which not only helped in improving body attitude, communication, and socialization and reduced problem behavior but at the same time played a important role in overall development in the life style of the children. It was observed that non-verbal body language was highly influenced by this therapy so often it was found that for those subjects who found it difficult to communicate verbally could easily communicate through their body language and facial expressions. The emotions of happiness, sadness, anger, anxiety was easily understood by their body language which was missing in their regular life. For healthy living one has to acquire such possibilities by which an individual can easily lead a regular life independently and DMT is one such therapy which helps a autistic child to lead a independent life through simple ways of communication with the help of their body language, posture, gesture through simple movement continuum for a better life.