SUMMARY & CONCLUSIONS

Music is known to be a universal impulse. It brings a pleasing experience and is an effective therapy as it affects various kinds of human ailments. Practitioners of music therapy have living proof of the effectiveness of music in therapeutic applications on a daily basis. From enhancing concentration and memory, reducing stress, anxiety and depression, to dealing with diabetics, blood pressure and heartbeat as well as boosting one’s immunity; music lends its healing touch. Every parent knows that soothing tones and sounds pacify even the most irritable babies. Therefore, the primary proof of the efficacy of music therapy is the lullabies we sing to infants and toddlers. The passive form of music therapy, (listening) has a beneficial effect in almost all ailments whereas the active form, (participating) is especially helpful for neurological problems.

Music integrates mind, body and spirit and provides opportunities for self-expression. It is a scientific method of effective cures of disease through the power of music. It restores, maintains and improves emotional, physiological and psychological well-being. The articulation, pitch, tone and specific arrangement of Swara (notes) in a particular Raga stimulates, alleviates and cures various ailments inducing electromagnetic change in the body. It is this humane quality in music which promises a direct impact on the listeners in therapeutic settings.

Music is absolutely concerned with the problem of emotional content, value and beauty. It is one of the most wonderful arts in the hands of mankind to alter or modify the feelings and emotions in all living beings to such an extent that it works better than any other form of therapy in the world. The soothing power of music is well-established. It has a unique link to our emotions, so can be an extremely effective stress management tool.

Indian music has a hoary tradition and continuity for more than 5000 years. Music of India has been known for its rich cultural heritage and traditions.
Many Indian traditional healing systems like Yoga and Ayurveda have been welcomed globally and have been given scientific endorsements for their therapeutic values. Indian traditional systems of health and healing also include various musical treatment approaches.

Scientific viewpoint in music is not new in our country, though it has been sadly neglected due to the lack of evidences and distortion of facts. Our ancient musicologists had extraordinary logical concepts about sound and music. The astonishing theory of Nada, Shruti, and the creation of Swaras, Murchaans etc is indeed a great contribution to the musical thought of the world. Furthermore, associating the place of creation of Nada, Shruti and Swara with the physical body and mind provides the authenticity of scientific approach. The curative significance of Indian music has been proven since ages. Musicologists belonging to different eras in their own ways have described its therapeutic importance and establish psychoanalytical relation of various phenomenon’s such as Nada, Shruti, Swaras, Raag, Laya, and Rasa with human body and mind.

SIGNIFICANCE OF THE STUDY

Man has made tremendous progress in almost every walk of his life. In the journey of life, signs of psychological disturbances i.e. restlessness, anxiety, stress, depression, mental conflicts, and frustrations etc is visible in the dry and dull eyes of every one, irrespective of any stage of development. When health is affected, the capability to work efficiently is hampered badly; the capacity to enjoy and feel the ‘life’ is narrowed down; eventually, diluting one’s physical and mental output. According to ancient texts, health is the harmony between body and mind, harmony between mind and knowledge, harmony between the members of the family, harmony in the neighbourhood and harmony with every person living in the society. If we want a healthy body, we have to make our mind healthy. With physical health, mental health has to improve. The nature, personality, psychological and psychic framework has to change. Aim of all is to get freedom from all bondages and from vagaries of the mind. Health is an
equipoise state of body, mind, sense organs, and soul. This is the harmonious vibration of the elements of human body. This is the state of ease. Contrary to this is disease. In order to understand the different manifestations of life, first of all we should know our mind. It is through mind that we experience traumas, obsessions and conflicts.

Regardless of how long or how short the total life span is, it is usually subdivided into stages or periods, each of which is characterized by certain behavioural or developmental characteristics entangled with its own physiological and psychological problems.

Amongst all stages, the stage of adolescence is considered to be the most stressful one. It is one of the most challenging and critical phase in the life of an individual. It is during this period that personality changes takes place. The foundation of a sincere, honest, responsible, understanding, sensible and a true person is laid during this period. Adolescent stage is a period often characterized with rapid physiological and psychological changes and demands for new social roles takes place. The adolescents due to these unavoidable changes often face number of crisis and dilemmas. The expectations of society from them to perform well pose certain challenges and problems for adjustment. In this process of adjustment, there is a need to understand and appreciate adolescent problems; to manage anxiety and stress from their lives and to recommend them certain relaxation techniques which make their lives worth living.

The healing and curative power of Indian music is a well established fact. To prove the significance of Indian music and establish its validity and reliability on scientific grounds, the present research work has been conducted. The central or highlighted epicenter of the present investigation revolved around the impact of Indian music and to prove it to be an effective therapy. Further, to make the study more comprehensive, a comparative analysis was done, by taking three kinds of Indian music. Only adolescent stage of human development was taken for the study. The sole aim of focusing the study on
adolescents while ignoring all other stages of human development is to provide them a space to expand their wings and discover the different aspects of life. This investigation has been taken to make their lives stressed free for a while so that they could explore the world in a right manner and provides the society of which they constitute a major part and are future builders with a sense of satisfaction.

Use of music as a therapy being a relatively new field in India remains a potential area for research work. Most of the research works in this field relates to the use of Ragas on patients for clinical purposes, leaving a lot of scope for making it useful for the adolescents. Whatever little research on use of music on adolescents has been done has shown positive and effective results but they have been mainly concentrated on the effectiveness of a particular raga. The lack of a comprehensive research has inspired the investigator to work on the comparative effectiveness of Indian music on anxiety and stress level at adolescent stage of human development.

Hence, it is thought worthwhile to undertake the research entitled. It would add to the new dimension of knowledge of psychological and educational importance of music as a healer of psychological problems of an adolescent. Indian music is much more appreciated and respected today all over the world. Many composers and musicians throughout the world have been influenced by Indian music. The openness, willingness to learn it and sincere enthusiasm of western audiences are a continuing source of inspiration and delight. In light of recent research in music therapy on anxiety and stress reduction, it seems evident that Indian music can play a significant role in the treatment of adolescent suffering from high anxiety and stress-related disorders. It has been proven that Indian music can dramatically influence physiological and psychological processes and also provides, for most of the adolescents, a non-threatening, pleasurable experience of this traumatic stage in their developmental process.
STATEMENT OF THE STUDY

“Impact of Indian music on anxiety and stress level at adolescent stage of human development”

OBJECTIVES OF THE STUDY

The present study aims to

1. Study the impact of Instrumental music in reducing anxiety and stress level at adolescent stage of human development.
2. Study the impact of Fusion music in reducing anxiety and stress level at adolescent stage of human development.
3. Study the impact of Folk music in reducing anxiety and stress level at adolescent stage of human development.
4. Compare the effectiveness of all three kinds of Indian music in reducing anxiety and stress level at adolescent stage of human development.
5. Study the differential impact of three kinds of Indian music in the reduction of anxiety and stress level on gender basis at adolescent stage of human development.

HYPOTHESES FOR THE STUDY

The following hypotheses were framed for the study

1. Instrumental Music would be effective in reducing the anxiety and stress level at adolescent stage of human development.
2. Fusion music would be effective in reducing the anxiety and stress level at adolescent stage of human development.
3. Folk Music would be effective in reducing the anxiety and stress level at adolescent stage of human development.
4. There would be differentials in the effectiveness of instrumental music, fusion music and folk music in reducing the anxiety and stress level at adolescent stage of human development.
5. There would be gender differentials in the reduction of anxiety and stress level at adolescent stage of human development.

DELIMITATIONS

The present study was delimited to:

1. Three Kinds of Indian Music i.e. Instrumental, Fusion and Folk.
2. For EG₁, only Sitar Based compositions.
3. For EG₁, only four Ragas as selected by the investigator.
4. For EG₂, only pieces of Fusion music as selected by the investigator.
5. For EG₃ only Punjabi Folk music.
6. For EG₃, only songs selected by the investigator.
7. Subjects belonging to adolescent stage of human development only.
8. Subjects falling in the age range of 13-15 years only.
9. Subjects studying in class VIII and IX.
10. Subjects having Punjabi as mother tongue for Experimental Group III.
11. Subjects studying in private schools affiliated to PSEB.
12. Schools falling in the jurisdiction of district Roopnagar, Punjab.
13. Only two variables chosen for study i.e., anxiety and stress.
14. Only three types of stress scales used namely, Academic, Family and Social scale taken from Bisht Battery of Stress Scales.

SAMPLE

For conducting the present study, a sample of 500 adolescents was included. Description of the sample has been discussed under two major heads: initial sample and final sample.

Initial Sample: Based on convenient sampling technique, the investigator conducted a survey on 500 adolescents in selected 4 private schools affiliated
to PSEB of district Roopnagar, Punjab. The adolescents of class VIIIth and IXth constituted the sample of the present study. Further, those adolescents fulfilling the following criteria were included in the initial sample:

1. Children belonging to adolescent stage i.e., age ranging from 13 to 15 years.
2. Children regularly coming to school.
3. Children having no musical background.
4. Children having Punjabi as their mother tongue for Experimental Group III i.e. EG3.

On the basis of cumulative record diary (for age proof), regular attendance record (for checking regularity), subjects preferred and interest (for testing the musical background) and language preferred (for selecting the subjects for EG3) by adolescents were confirmed. Hence out of 500, only 451 adolescents fulfilling the above mentioned criteria constituted the initial sample of the present study. Further, to make all the schools homogenous, a fixed ratio of adolescents from each school was chosen by the investigator. Hence 112 adolescents each from 4 schools were chosen making a total of 448 adolescents for initial sample.

**Final Sample:** Adolescents (448 in totality) were pre-tested on General Anxiety Scale for children & adolescents for anxiety developed by Dr. Anil Kumar and Bisht Battery of Stress Scales (namely; Scale for Academic Stress, Scale for Social Stress and Scale for Family Stress) for Children developed by Abha Rani Bisht. Out of these 448, the above 50% upper cases (boys or girls) i.e., adolescents who scored high on anxiety and stress together were selected for the final sample.

**DESIGN OF THE STUDY**

To achieve the stated objectives, pre-test, post-test experimental and control group design was used. The experimental control group design includes at least two groups, one experimental and one control group. In the present study, there
were four groups in totality (one control and three experimental). Initial sample of 448 adolescents in the age range of 13-15 years having no musical background were taken from 4 private schools affiliated to PSEB of district Roopnagar, Punjab. All the adolescents were pre-tested on General Anxiety Scale for children and adolescents developed by Dr. Anil Kumar and Bisht Battery of Stress Scales (namely, Scale of Academic Stress, Scale of Social Stress and Scale of Family Stress) for Children developed by Abha Rani Bisht. 224 adolescents those scored high in both tests were selected for the final sample. Out of these 224, 56 adolescents were randomly assigned to each of the four groups (one control and three experimental groups). Musical treatment randomly selected was given to all the three experimental groups for 20 minutes at alternative days for a period of three months. No treatment was given to the control group.

In the present study, different musical strategies/types i.e., Indian Instrumental music, Fusion music and Folk music served as independent (manipulated variables) and their effectiveness was studied on anxiety and stress levels at adolescent stage of human development.

PROCEDURE OF DATA COLLECTION

The data of the present study was collected in the following five phases:

**Phase-I:** In the first phase of data collection, Principals of 4 private schools affiliated to PSEB of District Roopnagar (Punjab) were contacted and consent was sought for data collection. Class VIII\textsuperscript{th} and IX\textsuperscript{th} adolescents fulfilling the criteria already discussed under sample were included in the study.

**Phase-II:** In the second Phase, all adolescents were pre-tested on General Anxiety Scale for children and adolescents developed by Dr. Anil Kumar and Bisht Battery of Stress Scales (namely, Scale of Academic Stress, Family Stress and Social Stress) for Children developed by Abha Rani Bisht. 224 adolescents those scored high in both tests were selected for the final sample. Out of these 224, 56 adolescents were randomly assigned to each of the four groups i.e. one control and three experimental groups.
Phase –III: Phase III consisted of preparation of schedule according to the time allotted by the school authorities for conducting the investigation. A tentative plan was made with consultation of time table in-charges of the respective schools as shown in Table No. 4.6.1.

Phase-IV: Phase IV consisted of intervention period. Intervention was provided to subjects of three experimental groups through various kinds of Indian music (Instrumental, Fusion and Folk respectively). Treatment was assigned randomly to all experimental groups, namely experimental group I (EG₁), experimental group II (EG₂) experimental group III (EG₃).

The subjects were given the following instructions before the start of treatment phase:

“My dear students, for the next 20 minutes, I am taking you away from yourself. Just relax and listen to the music carefully. Forget about all your worries. Be with your present. Imagine yourself to be freed from all worries and tensions of life. Just live your life you want to, in these 20 minutes. Concentrate on the good times you spent or want to spend further. Spread the wings of your imagination and fly higher and higher and higher”.

Musical Intervention in EG₁: Subjects in EG₁ were provided intervention with instrumental music i.e. Sitar based compositions. Three Ragas belonging to the specific timings of the day were selected to make deeper impact on the subjects. As it has already been mentioned that the intervention is provided every alternate day, the ragas were selected as per the time allotted in a respective school. For the morning sessions, morning raga i.e. Raga Vrindabani Sarang and Raga Bilaskhani Todi were used and for the noon sessions, afternoon raga i.e. Raga Bhimplasi were chosen. Before the starting of Raga, a brief introduction was given verbally. Following Ragas were played during the intervention period with the help of laptop:

- Raga Bilaskhani Todi-Ustad Shahid Parvez, Ustaad Vilayat Khan and Pandit Nikhil Banerjee
• *Raga Vrindavani Sarang-* Pt. Ravi Shankar and Ustad Shahid Parvez

• *Raga Bhimplasi-* Pt. Ravi Shankar, Nikhil Banerjee and Ustad Shahid Parvez

**Musical Intervention in EG₂:** Subjects in EG₂ were provided intervention through fusion tracks by:

• *Ustaad Zakir Hussain on Tabla,* Pt. *Hari Prasad Chaurasia on Flute,* John *Mclaughlin on Guitar and Jan Garberek on Saxophone from the album ‘Making Music’.*

• *Ustaad Zakir Hussain on Tabla,* Pt. *Hari Prasad Chaurasia on Flute,* John *Mclaughlin on Guitar and Vikku Vinayakram on Ghatam.*

• *Ustaad Zakir Hussain onTabla and John Mclaughlin on Guitar from the album ‘Remember Shakti’.*

• *Rahul Sharma on Santoor and Richard Clayderman on Piano, from the album-‘Confluence’.*

**Musical Intervention in EG₃:** Subjects in EG₃ were given an open choice to select their favourite songs from the list provided to them by the investigator. Choice was given acknowledging the fact that Punjabi is their mother-tongue and choice of songs themselves will ensure their enthusiastic participation in the experiment. The selection was done at two stages:

**Stage I (Initial Selection of Songs):** In stage I, the researcher prepared and gave list of 20 Punjabi folk songs of her personal choice which she considered to be popular amongst the subjects. They were further instructed to tick and choose 10 songs of their choice; they want to listen during the intervention period.

**Stage II (Final Selection of Songs):** In stage II, 10 songs were selected as the final Folk Music sample used in the study based on the choice of the subjects. The list is as follows:

• *Balle ni Punjab diye sher bachive* by Asa Singh Mastana

• *Batti baal ke banere ute rakhni aa* by Shamshad Begum
Phase-V: Phase-IV consisted of re-administration of General anxiety for children and adolescents by Dr. Anil Kumar and Bist Battery of Stress Scales for children (namely, Scale of Academic Stress, Family Stress and Social Stress) by Abha Rani Bisht on all (EGs and CG) groups to find out the changes in anxiety and stress levels of adolescents in order to see the effectiveness of various types of Indian music.

TOOLS USED FOR THE STUDY

To test the above-mentioned hypotheses, the following tools were used:

1. General Anxiety Scale for school going children and adolescents developed by Dr. Anil Kumar to determine the anxiety scores.

2. Bisht Battery of Stress Scales for adolescents developed by Abha Rani Bisht to determine stress scores.

3. Samples from Indian music (namely, Instrumental- Sitar based compositions, Fusion music and Folk music) for musical interventions (Treatment sessions).

STATISTICAL ANALYSIS EMPLOYED

In the present study following statistical techniques were employed for testing research hypotheses:

- Descriptive statistics namely mean and Standard Deviation for all variables was obtained for ascertaining the nature of distribution of
scores on the effect of Indian music on anxiety and stress levels at adolescent stage of human development.

- Analysis of variance was worked out to test the homogeneity of all groups and to find out variance between treatment techniques.

- t-test was applied to test the effectiveness and to find out the significance of difference between different forms of Indian music on anxiety and stress level at adolescent stage of human development.

- Graphic representation presented through bar charts and histograms was done wherever necessary.

RESULTS AND FINDINGS OF THE PRESENT STUDY

The findings of the present study are as follows:

Impact of Instrumental, Fusion and Folk music on Anxiety and Stress level

- The t-values between pre-and post-test anxiety and stress scores (Table 6.1.1) of EG₁ (whose subjects were given treatment through Instrumental music) were found to be significant at 0.01 level of confidence which implies that instrumental music has proved its effectiveness in reducing anxiety and stress level of adolescents.

- Mean differentials between pre-and post-test anxiety and stress scores (Table 6.2.1) of EG₂ (whose subjects were given treatment through Fusion music) were significant at .01 level of confidence which implies that Fusion music has proved to be effective in reducing anxiety and stress levels of adolescents.

- The t-values between pre-and post-test anxiety and stress scores (Table 6.3.1) of EG₃ (whose subjects were given treatment through Folk music) were significant at .01 level of confidence which implies that Folk music has proved to be effective in reducing anxiety and stress levels of adolescents.
• On the other hand, insignificant t-value was found between pre-and post-test anxiety and stress scores (Table 6.1.2) for CG (whose subjects were not provided any treatment) which implies that there is no reduction in the anxiety and stress scores of the subjects who didn’t listen to any kind of Indian music.

• The t-value between the post-test anxiety and stress scores (Table 6.1.3) of EG₁ and CG was found significant at .01 level of confidence which implies that there are significant differences in the mean post scores of both the groups. It clearly shows that the subjects who have been provided intervention through Instrumental music has reduced anxiety and stress level as compared to ones; those didn’t listen to Instrumental music. This proves the effectiveness of Instrumental Indian music.

• Mean differentials between post-test anxiety and stress scores (Table 6.2.2) of EG₂ and CG were significant at .01 level of confidence which implies that there are significant differences in the mean post scores of both the groups. It clearly shows that the subjects who have been provided intervention through Fusion music has reduced anxiety and stress levels as compared to ones, those didn’t listen to Fusion music. This proves the effectiveness of Fusion music.

• Mean differentials between post-test anxiety and stress scores (Table 6.3.2) of EG₃ and CG were found significant at .01 level of confidence which implies that there are significant differences in the mean post scores of both the groups. It clearly shows that the subjects who have been provided intervention through Folk music has reduced anxiety and stress levels as compared to ones, those didn’t listen to Folk music. This proves the effectiveness of Folk music.
Differential impact of various types of Indian music on Anxiety and Stress levels.

- Mean differentials in the post-test scores between EG₁-EG₂ and EG₁-EG₃ and EG₂-EG₃ (Table 7.4.1.1) with regard to anxiety was significant at .01 level of confidence respectively. It implies that there occur significant differences between the effectiveness of all three types of Indian music used for adolescents in reducing anxiety.

- Mean differentials in the post-test scores between EG₁-EG₂ (Table 7.4.1.2) with regard to Academic stress level was insignificant which implies there are no significant differences between the effectiveness of Instrumental music and Fusion music used for adolescents in reducing academic stress level.

- Mean differentials in the post-test scores between EG₁ EG₃ and EG₂-EG₃ (Table 7.4.1.2) with regard to Academic stress were significant at .01 level of confidence respectively. It implies that there occur significant differences between the effectiveness of Instrumental- Folk music and Fusion-Folk music for adolescents in reducing academic stress level.

- Mean differentials in the post-test scores between EG₁-EG₂ and EG₁-EG₃ and EG₂-EG₃ (Table 7.4.1.3) with regard to social stress were significant at .01 level of confidence respectively. It implies that there occur significant differences between the effectiveness of all three types of Indian music used for adolescents in reducing social stress level.

- Mean differentials in the post-test scores between EG₁-EG₂ and EG₁-EG₃ (Table 7.4.1.4) with regard to family stress were significant at .01 level of confidence respectively. It implies that there occur significant differences between the effectiveness of Instrumental music-Fusion music and Instrumental-Folk music used for adolescents in reducing family stress level.
Mean differentials in the post-test scores between EG2-EG3 (Table 7.4.1,4) with regard to family stress were found to be insignificant which implies that there are no significant differences between the effectiveness of Fusion music and Folk music in reducing family stress level of adolescents.

Impact of Indian music on anxiety and stress levels on Gender Basis

- Insignificant t-values were found between the mean post scores of boys and girls of EG1 (Table 7.5.1) on anxiety and stress level (AS, SS &FS).
- Insignificant t-values were found between the mean post scores of boys and girls of EG2 (Table 7.5.2) on anxiety and stress level (AS, SS &FS).
- Insignificant t-values were found between the mean post scores of boys and girls of EG3 (Table 7.5.3) on anxiety and stress level (AS, SS &FS).

CONCLUSIONS OF THE PRESENT STUDY

In light of findings of the present study, the following major conclusions can be drawn:

Impact of Indian music viz., Instrumental, Fusion and Folk music on anxiety and stress level:

- The post mean score for anxiety and stress level tested after the treatment phase comes out to be lower as compared to pre test in EG1. It implies that in the treatment phase that exists for 3 months on alternate days, sitar based compositions based on Ragas helps the adolescents in shedding the anxiety and stress level from their lives. The concentration on Raga based compositions namely, Raga Vrindavani Sarang, Raga Bhimplasi and Raga Bilashkhan Todi on Sitar restored and calmed their minds to a great extend. The sensory stimulation and playful nature of Indian classical instrumental music proves to be a great relaxation tool. Instrumental music used during intervention actually helps the subjects to silence their thoughts and move away from the noisy runaway thoughts running in their brains to a quieter, calm and peaceful mind.
Instrumental music i.e. Sitar based compositions of three Ragas integrated their minds, bodies and spirits and provides them with opportunities for self-expression. It helped in restoring, maintaining and improving emotional, physiological and psychological wellbeing. The articulation, pitch, tone and specific arrangement of Swara (notes) in Raga stimulated, alleviated and cured high anxiety and stress by inducing electromagnetic changes in their bodies. It proved the humane and soothing quality of instrumental Indian music which promises a direct impact on the listeners in therapeutic settings.

- The post mean score for anxiety and stress level tested after the treatment phase comes out to be lower as compared to pre test in EG₂. It implies that in the treatment phase that exists for 3 months on alternate days, fusion tracks (blend of Indian and western instruments) helps the adolescents to a great extend. The concentration on Fusion music helps in making the subjects highly motivated and impacting their minds to stay calmed and relaxed. The rhythmic pattern of tracks used for the treatment makes them to enjoy the moments of concentration.

Fusion music in India seems to be in a state of strong formation. Patronage enjoyed by music is changing gradually and fusion musical culture is playing its part in this process.

In the present study, fusion category involves the classical instruments of India namely, Santoor, Flute, Tabla with a blend of Guitar, Piano and Saxophone in different tracks, again proving the magical value of Indian music. The soft patterns of Indian instrumental with a blend of western instruments created its magic on adolescents. Results of this study proved that Fusion music is likely to alleviate psychological states such as anxiety and stress in adolescents. In the present investigation, fusion music was selected because it is becoming a popular choice of present times. New Age music is another genre that has grown into a well-accepted and effective type of music for stress management. The
magical blend of rich Indian musical traditions with rhythmic patterns of western music proved to be beneficial for the adolescents in the current study.

- The post mean score for anxiety and stress level tested after the treatment phase comes out to be lower as compared to pre test in EG3. It implies that in the treatment phase that exists for 3 months on alternate days, Punjabi Folk music helps the adolescents in shedding the anxiety and stress level from their lives.

The folk music of India has the power to evoke the emotions. Punjabi Folk music is particularly chosen because the investigation is undertaken in Punjab and the subjects for EG3 had Punjabi language as their mother tongue. Moreover, the belongingness to the language and feeling of ‘self identity’ has proved its worth in the present investigation. To make it more close to their hearts and to make a deeper impact on their minds, the selection of songs was done on the basis of popular songs based on subject’s choice.

The fast beat Punjabi Songs helps the subjects to forget their worries and tension and lost in the world of enjoyment. Unlike instrumental and fusion music, which creates a soothing impact on their minds, and made them to concentrate on the positivity’s of their lives, this fast paced folk music takes them a step further where they danced, hummed the songs and clapped with the tracks played.

Without a doubt, Folk music integrated their minds, bodies and spirits and provides them with opportunities for self-expression. To investigation’s knowledge, Punjabi folk music has never used for reducing anxiety and stress of adolescents. Every type of music which we heard today is known to be emerged from folk music. The positive results from this study proved once again that folk music has the power to create magic with its simple tunes and words and can create a deeper impact on the minds of the listener.
In the present study, the following implications can be applied:

- Indian music reduced adolescent’s anxiety and stress level which can help them to positively improve their learning abilities such as memory, impulse control, recognize, learning, perception, improved communication, alertness, environmental awareness, integration experiences.

- It may also lead to their emotional awareness, expressing appropriate behavior, elevated mood, reduction in stress, trauma, fear of illness, enhanced self assessment and environment, improved motivation, increased impulse control, frustration control, improved decision making skills, problem solving skills, supporting a sense of hope, developing personal insight, promoting acceptance, healing and forgiveness, improving self direction and independence, promoting a sense of control over life, sense of accomplishment and promoting spiritual exploration.

- Indian music reduced adolescent’s anxiety and stress level which can help in fulfilling the social goals by establishing relationships, overcoming the fear of shyness, increasing social involvement, peer interaction, eye contact, increasing response to verbal and non verbal cues, maintaining and strengthening interpersonal skills and improving group behaviors. It can also be beneficial in enhancing quality of life, expression of feelings, awareness and responsiveness, positive associations and socializations.

**Differential impact of various types of Indian music on anxiety and stress level**

- Significant mean differentials in the post-test scores between EG1-EG2, EG1-EG3 and EG2-EG3 with regard to anxiety indicate that Instrumental
music was more effective than that of Fusion and Folk music. Further, between Fusion and Folk music, folk music proves to be more effective in reducing anxiety of adolescents.

- Insignificant mean differentials in the post-test scores between EG₁-EG₂ with regard to academic stress scores indicates that both instrumental and fusion music were equally effective in reducing academic stress levels at adolescent stage of human development.

- It can also be concluded from the results that significant mean differentials between EG₁-EG₃ and EG₂-EG₃ indicate instrumental music and fusion music has proven to be more effective than folk music in reducing academic stress. Moreover instrumental music was more effective than fusion music in reducing academic stress at adolescent stage of human development.

- Significant mean differentials in the post-test scores between EG₁-EG₂, EG₁-EG₃ and EG₂-EG₃ with regard to social stress indicate that instrumental music was more effective than that of fusion and folk music. Further between fusion and folk music, fusion music proves to be more effective.

- It can be concluded from the significant mean differentials in the post-test scores between all the experimental groups with respect to social stress scores that instrumental music is more effective followed by fusion and then folk music in reducing social stress at adolescent stage of human development.

- Significant mean scores between the post test scores of EG₁-EG₂, EG₁-EG₃ indicate instrumental music has proven to be more effective than Fusion music and folk music in reducing family stress.

- It can also be concluded that insignificant mean differentials between the post test scores of EG₂-EG₃ indicates that both fusion and folk music
were equally effective in reducing family stress levels at adolescent stage of human development.

**Effectiveness of Indian Instrumental Music**

Indian Instrumental music (*sitar based compositions*) proved to be most effective in reducing anxiety and stress level of adolescents.

The results derived from Table 7.6 clearly states that instrumental music proved to be the most effective amongst the three kinds used during treatment phase. It implies that *Ragas* have the power of producing certain mental effects and has the ability to touch the emotions of an individual to the greater extend. It is believed that *Ragas* represent particular moods, associations, or atmosphere of the human mind, or of nature, and are able to evoke or call up an indistinctive kind of feeling answering to the state of the mind, or its physical environment, for the time being. Indian *Raga* system has melody providing an agreeable succession of soft, sweet and mellow sounds, emphasized appropriately with cadences in the shape of Alankars, which takes a high place in creating the feeling or emotion of pleasure. There is a fundamental psychic value involved in *Ragas* which helps in the interpretation of particular emotional situations and conditions. *Indian Ragas* have been assigned different moods and sentiments and they are sung according to their respective aesthetic sentiment for creating different emotional moods in the minds of the singer and the listener. The effectiveness of three *Ragas* used in the present study proved that Indian classical music is the soul of music which greatly affects the brain activity; it also has a positive effect on hormone system that’s why people feel relax after hearing the classical music. Most of the music therapists in India or across the world validate Indian *Ragas* for curative purpose which shows its emotive significance.

The *ragas* of the Indian classical music are created according to the deep knowledge of harmonious consonance between the seven swaras and chakras. This is why classical musical compositions are found to have significant

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positive effect on the mind-body system and also have the potential to awaken the otherwise dormant faculties.

The primary values of the Indian musical tradition are spiritual, with the aesthetic and the sensory being subservient to it. In the hierarchy of music making goals, the primary place belongs to the generation of Rasa at the highest possible level of intensity. A musician shapes and re-shapes Ragas in order to achieve the Rasa goal.

The results further authenticate that whatever is mentioned in ancient musical texts regarding the nature of ragas and emotive significance attached to it is absolutely right. The corresponding effects of ragas on the organs and the physiological system of the body as a whole are obvious consequences. From its very origin, the Indian classical music is most suitable and beneficial in this respect and also for spiritual elevation because of the soothing and harmonizing impact of the Ragas on the body and mind. The findings of Altekar (1968); Deva & Virmani (1968); Pathak (1969); Bhattacharya (1970); Tiwari (1980); Maudgalya (1980); Thakur (1981); Chopra, Deepak (1989); Thambe (1994); Menuhin, Yehudi & Davis (1998); Bhadhuri (1992); Bhardwaj (2003); Bagchi (2003); Charles & Angliki (2004); Sairam (2004); Sairam (2005); Gupta & Gupta (2005); Khandekar, B. (2006); Sairam (2006); Bharathi (2007); Bhandari, Sanjeev (2008); Deshmukh; Sarvaiya; Sethalakshmi & Nayak (2009); Pandey & Rathore (2009); Singh (2009); Sharma, Mamta (2009); Ramesh, Vaid (2010); Chakorvarty (2011); Lal, Madan (2011); Patel, A. (2011); Sengupta (2011) on immense potential of the classical Ragas in music therapy scientifically validate the present study and results.

The results of the present study should be propagated by the researchers for the benefit of large number of adolescents suffering from varieties of psychosomatic disorders these days.
Gender differentials in the reduction of anxiety and stress levels at adolescent stage of human development

- Insignificant t-values between the post test scores of boys and girls with regard to anxiety and stress scores (AS, SS & FS) indicate that there were no gender differentials in the reduction of anxiety and stress level at adolescent stage of human development. Impact of Indian music has proven equally effective in reducing anxiety and stress levels for both boys and girls.

The above mentioned results prove that through three kinds of Indian music used in the present investigation, there is reduction in the anxiety and stress level of adolescents irrespective of the gender. It implies that music is a universal impulse and has the potential of having effective impact on the mind of the listeners irrespective of sex. Music is enjoyed by everyone.

IMPLICATIONS

The sensory stimulation and playful nature of Indian music can help develop an adolescent’s ability to express emotions, communicate and develop rhythmic movements. Indian music has the potential of decreasing stress, anxiety and pain. Review of literature validates that Indian Raga system appropriate and beneficial in hospice environment with those who are sick, preparing for surgery or recovering post-operatively. Adolescents can also experience improved self esteem through musical activities that allows them to succeed.

Music therapy is finally being recognized globally. Newer concepts are emerging day by day. New vistas are beckoning and a whole new breed of music therapists and new music curricula have coming up in India. The future of music in India is exciting and alluring for in traversing uncharted waters of unconditional healing roots of it and making valuable music at the same time.

In India, music as a therapeutic tool is fairly underdeveloped when compared to the progress made in the west after decades of serious and creative
experimentation. However, in India, music and its benefits have been known to every generation. The position of music therapy should gradually see an upswing in Indian in the years to come. The analysis and the scientific evaluation of the effect of music is in its developing stage, but it can be easily concluded that there’s proportionately a lot more research going finding out the therapeutic role of music than in other professions.

Research in music therapy profession supports the effectiveness of Indian music in many areas such as facilitating movements and overall physical rehabilitation, motivating people to cope with treatment, providing emotional support for clients and their families and providing an outlet for the expression of feelings, reducing stress and other related problems. **The important therapeutic characteristics of Indian music for an adolescent are:**

- Indian music has the capacity to enhance the quality of life by creating a positive environment and sets the occasion for successful growth.
- Rhythmic music of Indian can be implied to avoid boredom in the classrooms even when work or exercise has to be repeated.
- The curative power of Indian music can be implemented in increasing concentration and retaining memory.
- Indian music has the ability to captivate and maintain attention.
- Indian Music stimulates all the senses and involves the child at many levels. This multi-nodal approach facilitates many developmental skills.
- Music is a powerful relaxation tool as proved by the results of present study.
- Indian music has the capacity to encourage socialization, self expression, communication and motor development.
- Indian music helps a child to manage pain and stressful situations in life.
Indian music is highly motivated, yet it can also have a calming and relaxing effect. Enjoyable music activities are designed to be success-oriented and make children feel better about them.

The schools can utilize these musical strategies utilizing Indian music forms in providing remedial measures which can greatly help in reducing anxiety, stress level and can cure many adolescents passing through the tough and complicated stage of their development. The major concern and challenge confronting schools these days is managing stress from the lives of their students. Incorporating Indian music in day to day activities can be a helping hand to the school authorities in minimizing the stress during adolescent period. Measures which can be adopted by school are as under:

- Making arrangements in the existing time table for one compulsory period of meditation using Indian *Ragas* every day.
- Playing background Indian instrumental music during breaks and free time.
- Arranging workshops on ‘Music Therapy –For stressful lives’ for the faculty and students to make them understand the hidden potential of Indian music.
- By incorporating Indian music in clinical settings/counseling sessions to achieve the educational goals.

The present study maintains and implies the effective and significant role of instrumental, fusion and Punjabi folk in reducing the anxiety and stress level of adolescents.

We can conclude from this study that Indian music can serve as a powerful tool in curing and ailing many physiological and psychological disorders.
1. The present study was limited to the use of only three types of Indian music namely, Instrumental, Fusion and Folk music. More types can be replicated for further research.

2. The scope of this study can further be widened by conducting it on other stages of human development also. Further, a comparative study can also be conducted at various stages of human development using Indian music.

3. The present investigation was restricted to reduce anxiety and stress level at adolescent stage of human development. Similar studies in other areas or in combination of other variables such as depression, mental conflicts, frustration etc needs to be conducted.

4. The same study should be conducted with larger sample size.

5. The treatment tenure can be increased.

6. The scope of this study with respect to age and grade (class) can be widened.

7. The present study has been conducted on subjects from private schools affiliated to only PSEB schools; further study can be done on subjects from government schools or private schools affiliated to other boards as well. Moreover a comparison can also be drawn between the results of public and private schools.

8. The present study was limited to district Roopnagar, Punjab. Similar work can be done for other districts or states of India or worldwide.

9. Further comparative study can be conducted between the effectiveness of Indian and western music on adolescents or any other stage of human development.
10. Indian music can also be used in curing diseases such as blood pressure, diabetes, cancer, insomnia in clinical settings.

11. Only instrument Sitar has been used in the present study, other instruments can also be used under the same category.

12. Further, a comparison can also be drawn between different instruments in seeing their effect on anxiety and stress.

13. Only compositions based on Raga Vrindabani Sarang, Raga Bilaskhani Todi and Raga Bhimplasi were used in the present study. Other Ragas can also be applied.

14. A comparative study can be undertaken between the Ragas used.

15. Only selected pieces of fusion by selected artists was used in the current study. More fusion pieces/tracks can be used and with the combination of more instruments and artists.

16. A comparative study between different tracks of fusion music used in the present study can be further taken.

17. Only Punjabi folk music was used in the current study. Folk music of other states can also be used.

18. The present study was limited to the use of selected Punjabi Folk songs of Punjab.