

## **An Experiment on the Moods and Temporary Dispositions of Tribal School Girls in Tripura**

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### **Abstract**

*Recently, Music is playing dominant role in human life. Due to heavy work load person can listens music to relax. Music is an art form, social activity or cultural activity whose medium is sound and silence. Music is an interpersonal process in which the therapist uses music and all of its facets—physical, emotional, mental, social, aesthetic, and spiritual—to help clients to improve or maintain their health. In this work we propose, how music can alter the moods and temporary dispositions of tribal schoolgirls. Testing was done by asking participants to take part in a survey whilst cheerful, somber or heavy-metal music was played in the background.*

**Key words:** *Music, Mood, Hormone, Serotonin, Adrenalin.*

### **Introduction**

"Music washes away from the soul the dust of everyday life". --Berthold Auerbach, 1856  
Music interconnection with society can be seen throughout history. Every known culture on the earth has music [1]. Music seems to be one of the basic actions of humans. However, early music was not handed down from generation to generation or recorded. Hence, there is no official record of "prehistoric" music [2]. Even so, there is evidence of prehistoric music from the findings of flutes carved from bones. The influence of music on society can be clearly seen from modern history. Albert Einstein is recognized as one of the greatest scientist who has ever lived [3]. A little known fact about Einstein is that when he was young he did extremely poor in school. His grade school teachers told his parents to take him out of school because he was "too stupid to learn" and it would be a waste of resources for the school to invest time and energy in his education. The school suggested that his parents get Albert an easy, manual labor job as soon as they could. His mother did not think that Albert was "stupid". Instead of following the school's advice, Albert's parents bought him a violin. Albert became good at the violin. Music was the key that helped Albert Einstein become one of the smartest men who has ever lived. Einstein himself says that the reason he was so smart is because he played the violin. In general, responses to music are able to be observed. It has been proven that music influences humans both in good and bad ways. These effects are instant and long lasting. Music is thought to link all

of the emotional, spiritual, and physical elements of the universe. Music can also be used to change a person's mood, and has been found to cause like physical responses in many people simultaneously. Music also has the ability to strengthen or weaken emotions from a particular event such as a funeral [4].

The modern world of medicine is finally catching on to this hundred years old theory that was first referenced in the ancient writings of the scholars Plato and Aristotle who both noted the healing qualities and influences music had on both humans and animals [5]. The immense potential of the power of Shabda (cosmic flow of sound) hidden in music was well recognized by the ancient Indian sages and they had devised several musical patterns emanating from the "Om-kara" for chanting of the Vedic hymns and for distinct spiritual effects [6]. The Shastric schools of music discovered musical octave (sa, re, ga, ma, pa, dha, ni, sa) indwelling in the subtle sounds of Nature and invented the basic classical ragas for activating specific streams of natural powers and effects; a wide variety of musical compositions were generated consequently [7]. Ever since then music has been an integral part of human culture with varied applications and forms. According to an ancient Indian text, SwaraSastra, the seventy-two melakarta ragas (parent ragas) control the 72 important nerves in the body [8]. It is believed that if one sings with due devotion, adhering to the raga lakshana (norms) and srutishuddhi, (pitch purity) the raga could affect the particular nerve in the body in a favorable manner [9]. According to the Vedic Philosophy, yoga and music both are part of Nada Vidya. Yoga deals with realization of anahata nada the sublime sound (extrasensory vibrations) of the eternal force of cosmic consciousness. Music pertains to the perception and expression of the infinite spectrum of the rhythmic flow of the ahata nada (perceivable sonic currents) pervading in Nature. Both have direct impact on the shat chakras hidden along the endocrine column and hence affect our physical as well as subtle bodies. The seven basic swaras (musical notes) of the musical octave have a one-to-one correspondence with these chakras (nuclei of subtle energy) [10]. The lower most (in the kava equina region along the erect endocrine column), viz., the Muladhara Chakra is associated with the swara "sa"; that means, the practice of chanting this particular musical note will have impact on awakening or activation of this particular chakra. Similarly, the chakras successively upwards in this direction namely, the Swadhisthana, Manipura, Anahata, Vishuddha, Agya and the top-most Sahastrara Chakra have correspondence respectively with the swaras "re", "ga" "ma", "pa", "dha" and "ni". Significantly, the order of the compositions of these swaras in the "aroha" (ascending) and "avaroha" (descending) patterns of the Shastric musical tunes also match with the top-down (from Sahastrara to Muladhara) and bottom-up (from Muladhara to Sahastrara) directions of the flow of energy. Music has been used throughout human history to express and affect human emotion. In biblical accounts, King Saul was reportedly soothed by David's harp music, and the ancient Greeks expressed thoughts about music having healing effects as well [11]. Many cultures are steeped in musical traditions. It can change mood, have stimulant or sedative effects, and alter physiologic processes such as heart rate and breathing [12]. The apparent health benefits of music to patients in Veterans Administration hospitals following World War II lead to it being studied and formalized as a complementary healing practice [13].

Music has been around for a long time and is not restricted to any society or country [14]. It has been called a universal dialect as one does not need to talk the dialect with a specific end goal to welcome a society's music. All societies, religions and countries have some type of local melody, music or instrument that is a piece of their custom [15]. The reason music is well known in all societies is a direct result of the alleviating impact it has on individuals [16]. Listening to delicate music and getting a charge out of it can adjust a man's state of mind and bring a sure satisfaction, euphoria and bliss in them. This can be extremely valuable in lifting our spirits on occasion when we are feeling down, disillusioned or discouraged [17][18]. Music can offer in helping so as to decrease some assistance with stressing our muscles to unwind, while lessening our breathing rate [19][20]. It additionally invigorates the creation of the hormone serotonin that fulfills us feel and enhances our temperament. Music is likewise ready to hoist our dispositions by modifying our cerebrum waves. Quick, motivational music can be valuable in getting our adrenalin pumped with the goal that we will be roused amid activity or work. The ability to perceive emotion in music is said to develop early in childhood, and improve significantly throughout development. The capacity to perceive emotion in music is also subject to cultural influences, and both similarities and differences in emotion perception have been observed in cross-cultural studies. Empirical research has looked at which emotions can be conveyed as well as what structural factors in music help contribute to the perceived emotional expression. There are two schools of thought on how we interpret emotion in music.

### **Related Work**

In [21] author proposed Emotions are a bit of any normal correspondence including people. They can be conveyed either verbally through excited vocabulary, or by imparting non-verbal prompts, for instance, articulation of voice, outward appearances and movements. In [22] author proposed Music has vital effect on our body and mind. In [23] author proposed "Emotion in Motion" is a test proposed to fathom the enthusiastic reaction of people to the arrangement of musical choices, by method for self-report studies and the recording of Electro Dermal Action (EDA) and Heart Rate (HR) signals. In [24] author proposed "Emotion in Motion" is an examination planned to appreciate the energetic reactions of people in the midst of music tuning in, through self-report surveys and the recording of physiological data using on-body sensors [24].

### **Methodology**

The cognitivists' approach argues that music simply displays an emotion, but does not allow for the personal experience of emotion in the listener. Emotivists argue that music elicits real emotional responses in the listener. It has been argued that the emotion experienced from a piece of music is a multiplicative function of structural features, performance features, listener features and contextual features of the piece, shown as:

$$\text{Experienced Emotion} = (\text{Structural features}) \times (\text{Performance features}) \times (\text{Listener features}) \\ \times (\text{Contextual features})$$

Where,

*Structural features* = (Segmental features) x (Suprasegmental features)

*Performance features* = (Performer skill) x (Performer state)

*Listener features* = (Musical expertise) x (Stable disposition) x (Current motivation)

*Contextual features* = (Location) x (Event).

In this experiment we use -30 participants, each 12 years old, A cheerful, happy music CD (e.g. Upbeat children's songs), A somber music CD (e.g. Opera music), A heavy-metal music CD, A CD player, A classroom, Tables and chairs.

1. For this experiment, the independent variable is the type of music played in the background. The dependent variable is the temporary disposition of the participants. This is determined by having them each complete a survey form. The constants (control variables) are the number of questions asked and the length of time the music is played.
2. Prepare a survey form to help evaluate the emotions, moods and temporary dispositions of the participants. An example of the survey form is shown above. There are also commercially available surveys which can be acquired for the purposes of this experiment. Make 30 copies of the form.
3. Separate the participants into 3 groups of 10 persons each. Bring only one group into the classroom at a time. When the 1st group enters the classroom, play the cheerful music in the background for 1 hour before having them fill up the survey form. Play the somber music for the 2nd group and the violent music for the 3rd group.
4. After each group of participants has completed the survey form, collect the forms and total the points for each participant. Separate them into the following categories: Happy (24 to 30 points), Somber (17 to 23 points) and Violent (10 to 16 points). Record your results in a table, as shown below.

| <i>Temporary disposition survey</i> |                                | <i>Group : 1 / 2 / 3</i> |        | <i>Total points</i>                  |          |          |
|-------------------------------------|--------------------------------|--------------------------|--------|--------------------------------------|----------|----------|
| Name                                |                                | Age                      | Gender | Select one of the following emotions |          |          |
| No.                                 | Condition                      |                          |        | 1 Point                              | 2 Points | 3 Points |
| 1                                   | Normal state                   |                          |        | Angry                                | Moody    | Happy    |
| 2                                   | Something is lost or misplaced |                          |        | Frustrated                           | Anxious  | Relaxed  |
| 3                                   | Getting scolded                |                          |        | Angry                                | Hopeless | Relaxed  |

|    |                                 |            |          |                      |
|----|---------------------------------|------------|----------|----------------------|
| 4  | Receiving a gift                | Excited    | Calm     | Happy                |
| 5  | Failure to complete a task      | Frustrated | Hopeless | Willing to try again |
| 6  | Successful in completing a task | Excited    | Calm     | Happy                |
| 7  | Receiving praise                | Excited    | Calm     | Happy                |
| 8  | Being cheated                   | Angry      | Somber   | Relaxed              |
| 9  | Winning a contest               | Excited    | Calm     | Happy                |
| 10 | Scoring top grades              | Excited    | Calm     | Happy                |

**Results and Analysis**

It was observed that the temporary disposition of the participants was somewhat altered according to the type of music they had been listening to before taking the survey.

| Music listed to prior to the survey | Effect of music on participant’s disposition |                   |                     |
|-------------------------------------|--|-------------------|---------------------|
|                                     | Happy (24 to 30)                             | Somber (17 to 23) | Agitated (10 to 16) |
| Cheerful Music                      | 7  | 2                 | 1                   |
| Somber Music                        | 2  | 6                 | 2                   |
| Heavy Metal Music                   | 1  | 3                 | 6                   |

The above results were then plotted onto a graph, as shown below:

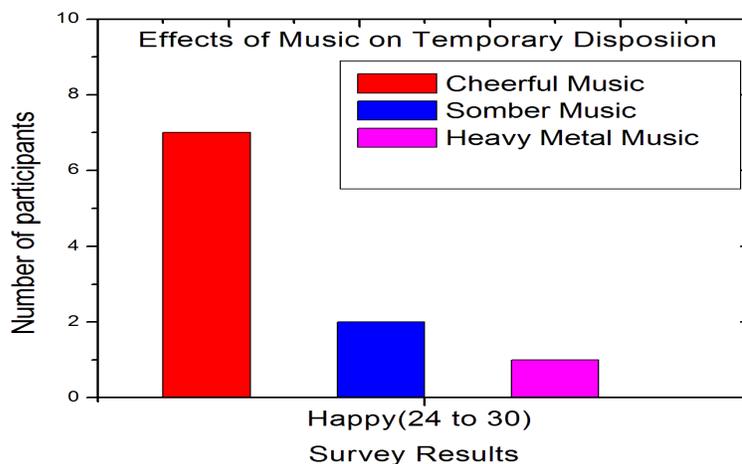


Fig 1: Effect of music on participant's disposition, Happy (24 to 30)

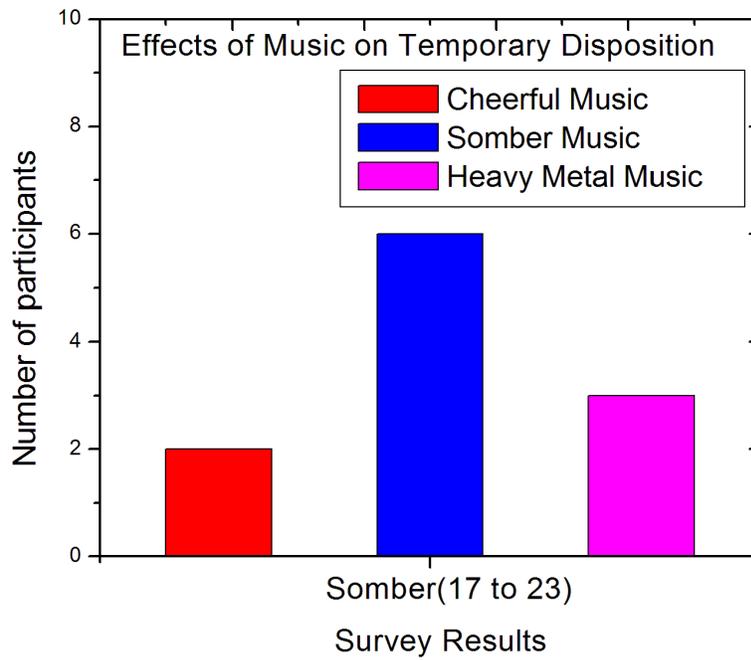


Fig 2: Effect of music on participant's disposition, Somber (17 to 23).

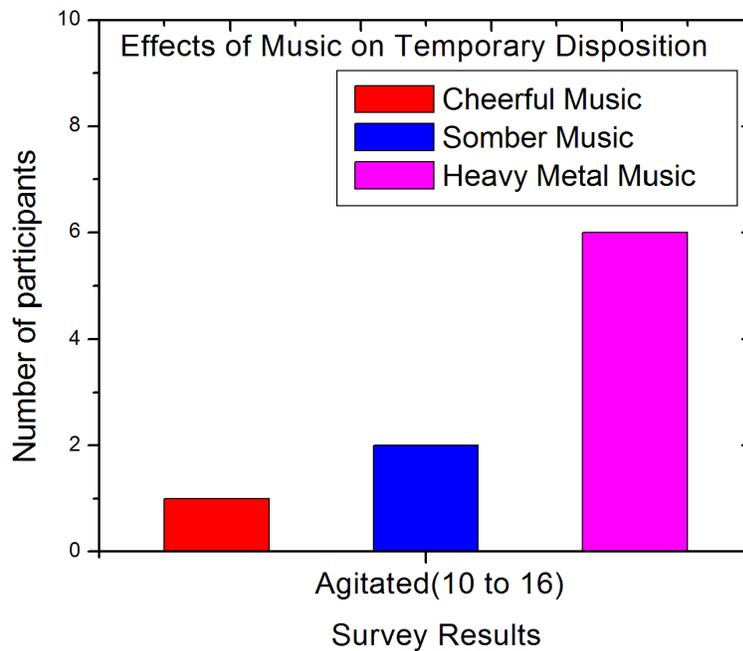


Fig 3: Effect of music on participant's disposition, Agitated (10 to 16).

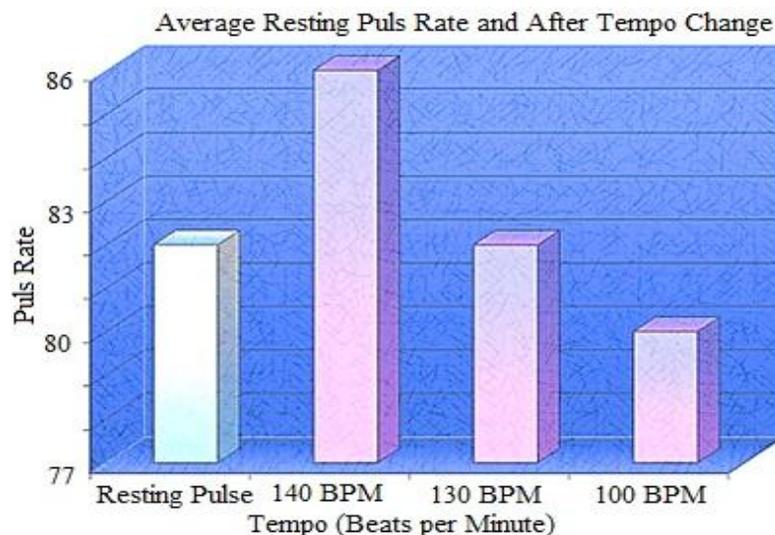
### **Conclusion**

In this paper we investigated, music can alter the moods and temporary dispositions of tribal school girls. The type of music will affect the temporary disposition of tribal school students has been proven to be true. Music can help calm a person, reduce stress, making them happier and more motivated. However, for this to happen, the person listening to the music must enjoy the music. If the listener does not like the music being played, the effect on the listener may instead of negative.

### **Future Work**

In our future work, we try to improve the health of young ladies by using Raga Therapy (RT) and Body Sensor Networks (BSNs).





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