6.1 MUSIC PSYCHOLOGY: SCOPE AND RESEARCH AREAS

Humans spend enormous amount of time, effort and money on musical activities. Why? The modern international field of music psychology is gradually exploring a multitude of issues that surround this central question. Music psychology may be regarded as scientific research about human culture. The results of this research have and continue to have direct implications for matters of general concern, human values, human identity, human nature, and quality of life.

Questions in music psychology are often difficult to answer. It is therefore necessary to subject the research literature to careful quality control procedures. These generally take the form of anonymous expert peer-review, which is a standard feature of all leading music psychological societies, conferences and journals. Musical psychologists investigate all aspects of musical behavior by applying methods and knowledge from all aspects of psychology. Topics for research or study includes for example:

- *Every day music listening (while driving, eating, shopping reading)*
- *Musical rituals and gathering (religious festive, sporting, political)*
- *Development of musical behaviors and abilities throughout the life span.*
- *The role of music in forming personal and group identities*
- *Musical behavior such as dancing and responding emotionally to music.*
- *The specific skills and process involved in the learning a musical instrument or singing in a choir.*
- *The structure that we hear within music: melody, phrasing, harmony, tonality rhythm.*
- *The psychological processes involved in musical performance including:*
➢ Music reading, including eye movement in music reading
➢ Improvisation
➢ The interpersonal/social aspects of group performance
➢ The composition/arrangements of music on paper or with the aid of computers.

• Cognition (including language, thinking, consciousness, memory)
• Motivation and Emotion
• Childhood and lifespan development
• Health (including stress, coping, therapy, and psychological disorders)
• Personality and Individual differences
• Social Psychology and cognition
• Skill (including talent, creativity, and intelligence)
  Also it includes impact of music on human being.

My topic is somewhat related to this, to see the impact of music on personality and behavior on human being based on five factors that determine different personality types of infants, toddler, childhood, adolescence, youth, middle adulthood and seniors. However, I have grouped toddlers and childhood together, adolescence and youth together due to the same result while experimenting, with hardly any major differences in the results.

Psychology aims to describe and explain personality and behavior but in music it explains and describe musical experience and musical behavior, it investigates the nature of musical talent; it analyzes the sensory responses to music; it traces the human drives which we used to call instincts and impulses, that crave music and find their outlet in music; it examines feelings, emotions and musical thought processes, both functionally and structurally; it traces the development of the musical mind from infancy through maturation and training.

The psychology of music may be divided into 3 fields dealing with –
1. The musician,
2. The music and
3. The listener.

It is concerned with the description and the explanation of the operations of the musical mind, the music as a thing in itself and the musical activities of the listener. Naturally it deals primarily with the music as a work of art in sound and from that works back to the producer of music and forward to the listener who hears it musically.

Psychology proceeds systematically by analyzing situations and reducing them progressively to their simplest terms. The first great step in approaching the psychology of music is to recognize that everything that the singer or player conveys to the listener is conveyed through sound waves or in terms of these. This conception simplify our approach immensely in that it free us from confusion with unnecessary accessories, furnishes us with a basic for classification and terminology, and paves a way for preservation of findings, measurement and scientific explanation. Music is essentially tied up with a larger setting in which it plays a leading role. This must be taken for granted, and we may recognize that there is a very interesting psychology of each of these accessories, such as the picture hat, the smile, the anticipated applause, the sentiments connected with the national anthem or the mood of the listener. These contribute to the atmosphere and should be cultivated with care, but they are not the music. They present very interesting psychological problems; but it is to the advantage of psychology of music to separate clearly the music is in the first and the last instances.

Music is also is in the first and the last instances in the mind of the composer and in mind of the listener, and there are no actual sounds but images, ideas, ideals, thoughts and emotions. However, these are always in the terms of the physical sound to which they refer. In this respect, the creations of the musician are analogous to the creations of the painter and the sculptor, they are purely objective.
The musical instrument or voice or any other sound producing body sends out puffs or waves of air which radiate in all direction from the source. When the segments of these waves strike the ear, this set up vibrations in the tympanic membrane. These in turn are transmitted through the middle ear as the vibrations of three bones. They are taken up by the oval membrane, which in turn transmitted them to the liquid of the inner ear. The vibrations in this liquid are transferred to the receiving mechanism of the nerve cells, the end organ of hearing in the inner ear. For each vibration the mechanical shaking of the end organs of the auditory nerve set up a nerve impulse. These nerve impulses are transmitted to the brain and give rise to the tone that is heard.

Thus, in terms of waves, we may trace the physical medium of sound from the vibration of the sounding body, such as a reed of the vocal cords, through the air as air waves and through the tympanic membrane, the bony system, the oval membrane, the liquid of the inner ear, and the receiving mechanism of the nerve cells, a physical vibrations of material bodies. Then follow the physical logical stages consisting of the arousing of the nerve impulse in the end organ, its transmission over the auditory nerve and the action set up in the various brain centers reached. It is this nerve impulse that primarily determines the tone which we hear.

In this way nature has provided a means of transforming the musical medium from one form of energy to another to another; and in this process the waves are adapted progressively to each medium, finally resulting in brain activity associated with the musical experience. The experience is not that of a wave but of a tone having pitch, duration, loudness and timbre.

Musical art and the everyday experience of sound may proceed without any knowledge of physics, physiology or psychology; but when the scientist attempts to explain these experiences he must deal with the series as a whole, the sound wave, the nerve impulse, and the experience of sound. Music is the centre and core of our interest, the goal towards which we are working.
Basic Principles in the psychology of music

Psychology of music have revealed progressively a number of principles which seem to facilitate experiment, introduce important elements of personality, behavior, economy, insure exhaustive treatment, furnish criteria of validity, and form base of the foundation of esthetic theories.

1) All that is conveyed from the musician to the listener as music is conveyed on sound waves.

2) The sound waves are measurable, and there are only four variables which have musical significances: frequency, intensity, duration and form. Recognition of this is a great forward leap, in that it brings order and simplicity out of chaos and despair, physically the infinite variety of musical sounds can be reduced to these four variables and measured in terms of them.

3) The psychological equivalents or correlates of these characteristics of sound are pitch, loudness, time and timbre. Rhythm, harmony, volume and tone quality are compounds of these; thought, feeling, action, memory, and imagination are in terms of these. We thus obtain a basic classification of all musical phenomena and give each it's a place in the family tree with its four large branches: the tonal, the dynamic, the temporal and the qualitative.

4) The correspondence between the physical fact and the mental fact is not entirely direct or constant; there are many illusions of hearing. While we describe, for example the pitch of A conventionally and practically as having a frequency of 440 cycles per second (abbreviated 440), which is an invariable factor, the experience of that pitch may vary under a large variety of conditions resulting in illusions of pitch, many of which are very interesting and of practical significances in actual music. It is a triumph of science, however that we can identify measure and explain each of these illusions. Without illusions there could be no musical art.

5) The medium of musical art lies primarily in artistic deviation from the fixed and regular: from rigid pitch, uniform intensity, fixed rhythm, pure tone, and
perfect harmony. Therefore the quantitative measurement of performance may be expressed in terms of adherence to the fixed and so called “true”, or deviation from it in each of the four groups of musical attributes.

6) In each of the four categories, we have zero point scale of measures. Thus, for pitch we may start from a standard tone; for intensity, from silence, for duration, from zero duration and for timbre, from the pure tone.

7) On the basis of the above considerations, we may develop a definable, consistent, and verifiable musical terminology. For example, we shall be able to say exactly what timbre is and adopt adequate terminology for its variants. In the same way we shall be asked to scrap the hundreds loose and synonymous terms used to designate timbre and be enabling to use the selected term correctly in the light of its new definition.

8) All measurements may be represented graphically in what we have called the musical pattern score or performance score which symbolizes the language of scientific measurement in a graph that has musical meaning. This score carries the three factors pitch, intensity, and time. Timbre must be represented in a series y itself in the form of tonal spectra.

9) Norms of artistic performance may be set up in terms of objective measure and analysis of superior performance for the purpose of evaluating achievement and indicating goals of attachment.

10) The best performance of today can be improved upon. We must therefore look forward to experimental procedures to determine ideal norms which will set up new standards of attainment vastly increased resources, power and beauty in music.

11) In the future musical aesthetics will be built upon the bases of scientific measurement and experimental analysis. With modern means of measurement, any advocated theories may be put to the acid test.

12) Where there is no experiment, direct or indirect, there is no science. Science, by virtue of its adherence to minute detail, is always fragmentary and incomplete. Its findings must always be supplemented by practical intuition,
common sense, and sound philosophical theories of the art. Science deals with selected topics. The musician must deal with the situation as a whole with the means at his command.

13) Musical talent may be measured and analyzed in terms of a hierarchy of talent as related to the total personality, the musical medium, the extent of proposed training and the object to be served in the musical pursuit.

14) For musical guidance on the basis of scientific measurement, the application must be restricted to the factors measured; but it should be supplemented by an adequate audition, case history, and consideration of personality traits and avenues for achievement. All musical guidance should be tempered by the recognition of the extraordinary resourcefulness of the human organism and the vast variety of the possible musical outlets for self expression.

15) Successful performance rests upon the mastery of fundamental skills which may be isolated and acquired as specific habits; but in artistic performance, these skills should be integrated so that in the musical mood there is no consciousness of habits, skills or techniques as such.

16) To facilitate the acquisition of musical skills, objective instrumental aids may be used to great advantage, for both economy of time and precision of achievement. Among such aids are visual projections or quantitative indication of pitch, intensity, time and timbre at the moment the tone is produced.

17) In the coming electrical organs, piano, and other instruments and in the criticism which all instruments will be subjected to as a result of the possibility of measurement, future progress will depend upon the adoption of the scientific point of view and the utilization of the measurement. We are on the frontier of a new music. With the application of science, the composer will be set with new tasks and given new opportunities; the performer will constantly be facing new problems; the listener will constantly be facing new problems; the listener will be always expecting something new.
18) In the pedagogy of music in the public schools is to keep pace with the pedagogy of all the other subjects, it must frankly face and adopt the scientific point of view. Music will have its first scientific approaches in the public schools rather than in the private studies or conservatories.

19) The psychology of music is ultimately not a thing in itself. In employing a technique peculiar to that field, one must fall back upon a general grounding in psychology. After all, the laws of sensation, perception, learning, thinking, feeling and action in general need only be specifically adapted to the demands of the musical situation.

20) While the cold details of musical facts can be recorded and organized by a mere psychologist, validity and interpretation depend upon an intimate knowledge of music and feeling for it. The applied science will progress at its best when the musician can set the problem in compliance with the criteria enumerated above for scientific experiment.

Psychology if music, even in a narrow sense, is unlimited because music involves countless verities of musical performance countless verities of moods, emotions, and ideas to be expressed and countless attitudes, capacities urges and interests of the listener. In a way it involves all psychology because the understanding, description and explanation of musical experience and behavior imply understanding description and explanation of fundamental experience and behavior in general. We must therefore seek to confine ourselves to the moist essential situation exhibited in music and among them, to those immediately essential for the understanding, appreciation and expression of music.

6.2 Correlation Between Music Taste, Personality and Behavior

Personality of a person seeks out the situation and environment that satisfies their psychological needs. In the same way our personality is also very much influenced by the kind of music we listen to and the type of music we avoid.
Music is an extension of our personalities. It is possible that as we age, predicting our personality according to the genres could be different in all. As we age, music tends to define us less and our taste varies more; and this could probably be due to the fact that our personality have changed and transformed. As we develop, our musical taste evolves along with us. But though we branch out in different musical genres, we all have that one inclination towards some particular, which carries more significance for us than others. That inclination could be due to the heartfelt lyrics, aggressive tempo, or the soft twang of the guitar. Anything we willingly incorporate into our lives could be considered a personality indicator, but most of us hold music a lot closer to our hearts than we do clothes, accessories etc.

Music has strong ties with emotion and can be very effective therapeutic tool. Music elicits strong emotion more consistently and frequently than other forms of art – (Frey 1985, Williams & Morris, 1996).

Dutta and Kanungo (1975), Rubin and Kozin (1984), and Gabrielson (1991) – have shown that as taste and smell is associated with strong emotions in life events in the same way music inclination also provide trigger to recall of these and their accompanying emotions.

In terms of relationships between musical dimensions and personality characteristics in context with the inclination towards music are as follows:

- Rock dimensions found to correlate positively with ‘Openness’ and negatively with ‘Consciousness’. Negative correlation is found between rock dimension and ‘Extraversion’.
- Elite dimensions correlated positively with ‘Openness’ and ‘Agreeableness’ and negatively with ‘Emotional Stability’. Elite was also positively correlate with ‘Conscientiousness’.
- Urban and Pop Dance dimensions both positively correlated with ‘Agreeableness’ and ‘Extraversion’.
The urban dimension correlated positively with ‘Conscientiousness’ and negative correlation between ‘Elite Music preference’ and ‘emotional stability’.

Musical taste and personality types are closely related. During my experimentation and data collection I found out the relationship of personality and music type. Below are the description of 5 Personality traits and 4 music types, which I used for my research purpose.

5 Personality Traits: 6-Fig.51

1. Extraversion

Extraversion is marked by pronounced engagement with the external world. Extraverts enjoy being with people, are full of energy, and often experience positive emotions. They tend to be enthusiastic, action-oriented, individuals who are likely to say “Yes” or “Let’s go”; to opportunities for excitement. In groups they like to talk, assert themselves, and draw attention to themselves.

Introverts lack the exuberance, energy and activity levels of extraverts. They tend to be quite, low-key, deliberate and disengaged from the social world. Introverts opt to be lone, their lack of social involvement should not be interpreted as shyness or
depression; introvert simply needs less stimulation than an extravert. Introvert, due
to their reserve nature is sometimes interpreted as inimical and arrogant. In reality,
an introvert who scores high on the agreeableness dimension will not seek others out
but will be quotes pleasant when approached.

2. Agreeableness

Agreeableness reflects individual differences in concern with cooperation and social
harmony. Agreeable individuals’, value getting along with others. They are therefore
considerate, friendly, generous, helpful and willing to compromise their interests
with others. Agreeable people also have an optimistic view of human nature. They
believe people are basically honest, descent and trustworthy.

Disagreeable individuals place self interest above getting along with others. They are
generally unconcerned with others’ well- being, and therefore are unlikely to extend
themselves for other people. Sometimes their skepticism bout others’ motives causes
them to be suspicious, unfriendly and uncooperative.

Agreeableness is obviously advantageous for attaining and maintaining popularity.
Agreeable people are better liked than disagreeable people. On the other hand,
agreeableness is not useful in situations that require tough or absolute objective
decisions. Disagreeable people can make excellent scientist, critics or soldiers.

3. Conscientiousness

Conscientiousness concerns the way in which we control, regulate, and direct our
impulses. Impulses are not inherently bad; occasionally time constraints require a
snap decision and acting on our first impulse can be an effective response. Also, in
times of play rather than work, acting spontaneously and impulsively can be fun.
Impulsive individuals can be seen by others as colorful, fun-to-be-with and zany.

Nonetheless, acting on impulse can lead to trouble in a number of ways. Some
impulses are antisocial. Uncontrolled antisocial acts not only harm other members of
society, but also can result in retribution toward the perpetrator of such impulsive
acts. Another problem with impulsive acts is that they often produce immediate
rewards but undesirable, long-term consequences. Examples include excessive socializing that leads to being fired from one’s job, hurling an insult that causes the breakup of an important relationship, or using pleasure-inducing drugs that eventually destroy one’s health.

Impulsive behavior, even when not seriously destructive, diminishes a person’s effectiveness in significant ways. Acting impulsively disallows contemplating alternative courses of action, some of which would have been wiser than the impulsive choice. Impulsivity also sidetracks people during projects that require organized sequences of steps or stages. Accomplishments of an impulsive person are therefore small, scattered and inconsistent.

A hallmark of intelligence, what potentially separates human beings from earlier life forms, is the ability to think about future consequences before acting on an impulse. Intelligent activity involves contemplation of long-range goals, organizing and planning routes to these goals, and persisting toward one’s goals in the face of short-lived impulses to the contrary. The idea that intelligence involves impulse control is nicely captured by the term prudence, an alternative label for the Conscientiousness domain. Prudent means both wise and cautious. Persons who score high on the Conscientiousness scale are, infect, perceived by others as intelligent.

The benefits of high conscientiousness are obvious. Conscientious individuals avoid trouble and achieve high levels of success through purposeful planning and persistence. They are also positively regarded by others as intelligent and reliable. On the negative side, they can be compulsive perfectionists and workaholics. Furthermore, extremely conscientious individuals might be regarded as stuffy and boring. Un-conscientious people may be criticized for their unreliability, lack of ambition and failure to stay within the lines, but they will experience many short-lived pleasures and they will never be called stuffy.
4. **Neuroticism**

Freud originally used the term neurosis to describe a condition marked by mental distress, emotional suffering, and an inability to cope effectively with the normal demands of life. He suggested that everyone shows some signs of neurosis, but we differ in our degree of suffering and our specific symptoms of distress. Today neuroticism refers to the tendency to experience negative feelings.

Those who score high on Neuroticism may experience primarily one specific negative feeling such as anxiety, anger or depression, but likely to experience several of these emotions. People high in neuroticism are emotionally reactive. They respond emotionally to events that would not affect most people, and their reactions tend to be more intense than normal. They are more likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult. Their negative emotional reactions tend to persist for unusually long periods of time, which means they are often in a bad mood. These problems in emotional regulation can diminish a neurotic’s ability to think clearly, make decisions and cope effectively with stress.

At the other end of the scale, individuals who score low in neuroticism are less easily upset and are less emotionally reactive. They tend to be calm, emotionally stable and free from persistent negative feelings. Freedom from negative feelings does not mean that low scorers experience a lot of positive feelings; frequency of positive emotions is a component of the Extraversion domain.

5. **Openness to New Experience**

Openness to New Experience describes a dimension of cognitive style that distinguishes imaginative, creative people from down to earth, conventional people. Open people are intellectually curious, appreciative of art and sensitive to beauty. They tend to be, compared to closed people, more aware of their feelings. They tend to think and act in individualistic and non conforming ways. Intellectuals typically score high on Openness to Experience; consequently, this factor has also been called Culture or Intellect. Nonetheless, Intellect is probably best regarded as one aspect of
openness to experience Scores on Openness to Experience are only modestly related to years of education and scores on standard intelligent tests.

Another characteristic of the open cognitive style is a facility for thinking in symbols and abstractions far removed from concrete experience. Depending on the individual’s specific intellectual abilities, this symbolic cognition may take the form of mathematical, logical or geometric thinking, artistic and metaphorical use of language, music composition or performance or one of the many visual or performing arts. People with low scores on openness to experience tend to have narrow, common interests. They prefer the plain, straightforward and obvious over the complex, ambiguous and subtle. They may regard the arts and sciences with suspicion, regarding these endeavors as abstruse or of no practical use Closed people prefer familiarity over novelty; they are conservative and resistant to change.

Openness is often presented as healthier or more mature by psychologists, who are often themselves open to experience. However, open and closed styles of thinking are useful in different environments. The intellectual style of the open person may serve a professor well, but research has shown that closed thinking is related to superior job performance in police work, sales and a number of service occupations.

**Facets of the 5 personality Traits:** 6-Fig.52
Sympathy
People who score high for this area are tender-hearted and compassionate.

Trust in others
People who score high in this area fundamentally assume that most people are fair, honest and have good intentions. They take people at face value and they are willing to forgive and forget.

Agreeableness

Sincerity
High scorers for this facet see no need for pretence or manipulation when dealing with others and are therefore candid, frank and genuine.

Compliance
Individuals who score high for Compliance dislike confrontations. They are perfectly willing to compromise or to deny their own needs in order to get along with others.

Altruism
Altruistic people find helping other people genuinely rewarding. Altruistic people find that doing things for others is a form of self-fulfilment rather than self-sacrifice.

Modesty
High scorers are unassuming, rather self-effacing and humble. However, it is important to understand that they are not necessarily lacking in self-confidence or self-esteem.
Sensitivity to Stress
High scorers on Sensitivity to Stress have difficulty in coping with stress. They experience panic, confusion and helplessness when under pressure or when facing emergency situations.

Self-indulgence
People who score in the high range for Immoderation feel strong cravings and urges that they have difficulty resisting—even though they know that they are likely to regret it later. They tend to be oriented toward short-term pleasures and rewards rather than long-term consequences.

Anxiety
The ‘fight-or-flight’ system of the brain of anxious individuals is too easily and too often engaged. Therefore, people who score high in this area often feel like something unpleasant, threatening or dangerous is about to happen.

Angry Hostility
This facet measures the tendency to feel angry. Whether or not a person expresses annoyance and hostility depends on his or her level of Agreeableness.

Moodiness/Contentment
This facet measures normal differences in the way that people react to life’s ups and downs. We are not using the word ‘depression’ in a medical or clinical sense.

Self-Consciousness
Self-conscious individuals are sensitive about what others think of them. Their concern about rejection and ridicule cause them to feel shy and uncomfortable around others. They are easily embarrassed.
Extraversion

Activity Level
Active individuals lead fast-paced and busy lives. They do things and move about quickly, energetically vigorously and they are involved in many activities.

Warmth
Friendly people genuinely like other people and openly demonstrate positive feelings toward others.

Gregariousness
Gregarious people find the company of others pleasantly stimulating and rewarding. They enjoy the excitement of crowds.

Assertiveness
High scorers for Assertiveness like to charge and direct the activities of others. They tend to be leaders in groups.

Excitement-Seeking
High scorers for this area of personality are easily bored without high levels of stimulation.

Positive Emotions
This facet measures a person’s ability to experience a range of positive feelings, including happiness, enthusiasm, optimism and joy.
### Four Music Types:

| Reflective and Complex Music Type | Blues, Classical, Folk, Jazz  
|                                 | Open minded, Politically Liberal, Creative and Intellectual, Patient. |
| Energetic and Rhythmic Music Type | Hip-Hop, Dance  
|                                 | Confident, Liberal Minded, Gregarious, Feels attractive and Athletic. |
| Upbeat and Conventional Music Type | Religious, Country, Pop  
|                                 | Politically conservative, Helpful, Hardworking, Trustworthy. |
| Intense and Rebellious Music Type  | Heavy Metal, Rock, Alternative  
|                                   | Energetic, Adventurous, Impatient, Inquisitive. |

In a way if you know person’s music preference you can tell what kind of person they are and this music taste based personality analysis would even be more lucid than the face to face impressions and interaction.

- Similarities between fans of classical music and heavy metal are that they both are creative and at ease but not outgoing and are impatient.
- People who like upbeat and conventional music like country ten to be more conventional, honest and conservative compared with fans of other genres. People who like country and pop have found to be simplistic according to ‘Rentfrow’. They just avoid making things unnecessarily.
- If one is studying or working efficiently while listening to music may depend how outgoing you are. Background music can help extroverts focus, but tends to torment introverts.
- Motivational music can give weightlifter edge. Runners however don’t move faster with the help of motivational songs.
- People who like energetic music like dance and soul are more likely to impulsively blunt out their thoughts, compared with the people who prefer other genres.
People for strong inclination for classical, folk and jazz i.e. ‘Reflective and Complex’ music type are most likely to have personality traits associated with ‘Openness’ and verbal ability. This means they have more of a creative bent and are quite open and imaginative.

People who are interested in ‘Upbeat and conventional’ music type tends towards the personality trait of ‘Extraversion’, ‘Agreeableness’, ‘Conscientiousness’ and low level of ‘openness’, verbal and analytic ability. This means they are more conventional than their classical, jazz and folk music and have strong sociability and dependability.

Stereotypes are usually to be taken with a grain of salt both physical and social stereotypes, actually have the connection to the actual personality traits of the individual.

People who are more creative are drawn to jazz and classical music, although each person is different in what they’re interested in.

**Experiment:**

An experiment that I conducted on the children including both males and females between the age group of 9-10 years and 13-14 years, to know the quality of time they give to music and in what conditions. The students I took were from Schools like, Study Hall, Lamartiner and Loreto Convent, Lucknow.

**Procedure:**

The children were given out the questionnaire with the questions related to the amount of time they give to music and at what time they prefer listening music and for what reasons. There were total 200 students including both the age groups. Amongst them 50 were males and 50 were females from the age group of 9-10 years and 50 males and females each from the age group of 13-14 years. After answering the questionnaire the data was analyzed manually based on the comments and answers they have given.
Result and conclusion:

Result indicated that listening was an important leisure activity, particularly for the children aged 13-14 years. Home music listening was correlated with enjoyment, emotional, mood, social relationships, while school music was linked with motivation for learning and being active and particular lesson content.

9-10 years students preferred soft music with friends or with their self alone in bedroom where as heaving metal, pop and rock when with social contacts or with family members enjoying or celebrating.

Music is a medium to bring people together and has been proved a way to promote a sense of community in cultures.

Subjects or students who appeared to answer the questionnaire have also said that classical and self selected music significantly reduce anxiety and increased relaxation after exposure to a stressor when compared to heavy metal music and silence.

Particularly it is found in all the age groups that self selected and self interest music acts as a therapy and helps in coping with anxiety and stress as well and enhances relaxation response in people of all ages as well as in college students.

The Impact of Music on Personality and Behavior in Context to Age Groups

Psychology is the science of mental life that discusses and explains about consciousness, behavior and social interaction and aspects of personality. Empirical psychology is primarily devotes to describing human experiences as it actually occurs. In past few years psychology has begun to examine the relationship between consciousness and the brain or the nervous system. For my research work I took up the music psychology area.

Music Psychology:

Music psychology is considered as the branch of psychology or as a branch of musicology that aims to explain musical behavior and musical experiences. Modern music psychology is mainly empiric i.e. it is based on experimental and observation
rather than theory. The knowledge of music psychology is based primarily on interpretations of data about musical behavior and experience that are collected by systematic observations and interaction with human participants.

Music psychology even elucidates non-psychological aspects of musicology and musical practice. Music psychology contributes to music theory by investigating the perception of musical structures such as melody, harmony, tonality, rhythm meter and form. Research in music history is the systematic study of the history of musical syntax or psychological analysis of the personalities of composers in relation to the psychological effect of their music. Ethnomusicology can benefit from psychological approaches to the study of music cognition in different cultures. Research is only beginning in many of these promising areas of interaction.

**Performance Psychology**

Performance psychology is the branch of psychology that studies the factor that allows individuals, communities, and societies to flourish. Most recently psychology performance has included the study of the psychological skills and knowledge necessary to facilitate and develop peak performances guidelines into best practice for sport, business, fitness and the performing arts.

The past few years have seen an explosion in the field of performance psychology. This growth has been primarily in the study of performance excellence in sports as applied to the field of business. Important links have been made between world class championships individual and team sports performance and business results. In a similar vein there has been an increase in the interest of coaching top performers and addressing their needs not just providing remedial coaching for underachievers. During that time more research has been devoted to understanding the characteristics of high achievers in sports as well as business.

6.3 **EXPERIMENTAL BEGINNING**

Before I begin with my experimental work delineation lets first understand about developmental psychology, personality, behavior, infants, toddlers, adolescents,
youth, middle adulthood and seniors and few other aspects of psychology in context to my work.

Personality – the psychological characteristics that make each and every individual unique. Personality is related to both traits and states where traits is considered to be that characteristics which is there for longer period of time like temperament and state is that characteristic which are considered to be changeable like mood. Both states and traits in personality are considered to be developed at early stages in life where the hereditary psychological and social influences are the most responsible causes for the formation of the personality.

**Types of Infants**

Infants are typically ‘egoistical’ and are mainly concerned with satisfying their physical desires such as hunger.

*‘Sigmund Freud’,* viewed this focus on physical gratification as a form of self pleasuring, because infants are particularly interested in activities involving mouth (sucking and biting for example). Freud labeled first year of life as the “**Oral Stage of Psychosexual development**”.

*“Dr. T.Berry Brazetton”* has told most types of babies as:

1. **The mellow or laid back**
2. **Slow to develop baby**
3. **The even tempered baby: who develops according to the plans**
4. **The hyper active or intense baby: who may hit some milestone ahead of time.**

*The three main traits found in infants are:*

i. **Colicky Baby:**

Though we don’t know that if infantile colic is inherited, we can say these babies seems to have a certain personality from early on. These babies are very sensitive to the environmental stimuli: loud noises, sudden movement, or tension from
caretakers, seems to agitate these babies. They hate to be naked. They are slightly hypertonic which means there muscles are tense. These babies sometimes tend to be tense and anxious as they grow older.

ii. **Mellow and Relaxed:**

Nothing bothers them. They are always ready for a smile and seem to enjoy all sorts of stimuli such as new faces and handles loud music and new environment and they love being naked. Many of these babies grow up to be individuals who seem to go with the flow. The pretty grievances of life do not seem to be bothering them. They may develop at normal pace or may be slow to perform gross motor milestone such as rolling over crawling. They are just not in a hurry to get anywhere.

iii. **Shy Babies:**

They are shy from the get go. They notice new caretakers and show signs of stranger phobia early on. They may end up being kindergartner who is in the corner peering anxiously put at her peers. Many times parents will say, “I was the same way”.

Sometimes the personality traits that child develops depends more on the environment he is being brought up. If a child sense that a parent is anxious about strangers, shots, new places, blood, drawing etc. the child is more likely to be apprehensive about those things.

If a child grows up in a warm and welcoming homely environment, then he is more likely to be open to new people and experiences. Families that travel together often have children who welcome new experiences and adventure an embrace people from different cultures.

Theorists have different perspectives on the personality development of infants. Most important development is ‘Melaine Klein’s – Object Relation Theory’ where object is considered here is as infants because babies at such tender age are unable to understand things fully and their limited understanding of things may process on evolving the perception of what a passion is.
According to ‘Klein’ “the inner core of personality stems from the early relationship with mother”.

While according to ‘Freud’ – “The child’s fear of a powerful father determines personality”, but ‘Klein’ theorized that; “the child’s need for powerful mother is more important as the first relationship that child establishes is with mother. The infant interacts with the mother mostly during time of eye contact and breast feeding and during this the infant internalizes an image of the mother – good or bad that may or may not be representative of how the mother truly is.”

Views over Infants Development – by the Theorists & Psychologists:

Theorist ‘John Piaglet’ was the first one to note that children play an active role in gaining knowledge of the world. According to his theory children can be thought as ‘little scientist’, who actually constructs their knowledge and understanding of the world.

‘John Bawby’, believed that early relationships with care givers play a major role in child's development and continue to influence social relationships throughout life.

According to ‘Albert Bandura’, infants learn new behaviors from observing that external reinforcement was not the only way that people learned new things. Instead ‘intrinsic’ reinforcement such as a sense of pride, satisfaction, and accomplishment could also lead to learning. By observing the actions of others including parents and peers, children develops new skills and acquire new information.

Another psychologists ‘Lev Vygotsky’, believed that children learn actively and through hands on experiences. He also said that parents, caregivers, peers and the culture at large were responsible for the development of higher order functions.

The following traits when taken together build up the baby’s personality and temperament:

I. Calm or Active – More active babies may be tougher to parents, day to day. They don’t sleep as much, they become restless when they are supposed to be
eating and then parents have to watch them like hawks. But at the same time they are curious, alert, and quick to pick up new skills.

II. Happy or Sad – Some babies are smiley, giggly and sunny and some just aren’t. That doesn’t mean they are not just the way they are weird.

III. Predictable or Not – The regular baby does you the favor of setting her schedule all on her own, walking, sleeping, eating, playing at the same time in the same way each day.

IV. Adaptable and Cautious – When faced with a new person place or even playing, baby carries on as if nothing is changed.

V. Intense or Easygoing – Babies who are sensitive to sensory stimulation may react strongly to loud noise, bright lights and even to pungent smell.

Other babies may be oblivious. Knowing what upsets you infant goes a long way towards helping avoid the troubling triggers.

Traits Temperaments, As Each Baby Is Unique:

Parenting is very important, but these components of temperament and behavior have lot to do with nature rather than nurture. There are nine components of temperament that are common in showing how each baby is unique.

Key component of baby’s behavior is how they handle new situations like some babies will refuse new food time and again fuss at any change in routine. Other babies are not as fazed by new caregivers and love playing with new toys and exploring a new environment.

Babies have varying degrees of energy levels as well. Low energy babies are often content to sit and watch and barely moves a muscles during diaper changes. Higher energy babies are next to impossible to change or strap into a car seat due to squirming and kicking and flipping and always want to be on the move. Each baby is unique in the range of intensity as well. Some little ones rarely makes a peep and when they do it, it is usually more like fussing than all out crying or screaming. These babies will usually smile than all out laugh.
On the other hand of the spectrum are the high intensity babies who sound off loudly (very loudly) regularly. When these babies are happy they are squeaking and giggling and when they are upset they are screaming at the top of their lungs.

Sensitivity is another trait with low and high ends of the spectrum. A high intensity baby will not necessarily be highly sensitive though. Babies who are highly sensitive may react to new smells or sounds, wet diapers and temperature changes, and just because they don’t sound off loudly about them does not mean that they are not sensitive to it.

Each infant cries differently, smiles differently and develops differently. There are some common traits in infant’s behavior. I will discuss some traits which I think is interesting to see how infant’s behavior and personalities are made up of a mixture of these traits.

- **Distractibility:** is a personality trait. Every infant and toddler has a pretty higher tendency to be distracted easily however at young age you can see a difference in this trait. On the extreme low end of this spectrum are the babies who become completely immersed in playing with a toy. These babies will notice if you walk out of the room and they will play with one thing for a long time.

Highly distractible babies on the other hand will quickly toss aside the toy they are playing with for a new object.

You can set a watch to some babies routine while other is unpredictable and have low irregularity. Babies with high regularity don’t need to work into a schedule or routine because they do it for you. Babies with low regularity can be difficult to run because there is no knowing when they are going to be hungry tired or have dirty diapers.

Having a baby with higher adaptability can make things lot easier, in today’s world of quick changes. These babies are fine to jump from task to task in and out of the stroller, the car seat, and the playgrounds. Babies with low adaptability often struggle when switching to a new activity even if it is an activity that they enjoy.
And finally there is an infant behavior trait of persistence. Babies who are lower on this scale do not care to figure out a new toy or master a new skill and will often report to infant cries quickly. Babies who are more persistence will work at a new skill like rolling over until they figure it out.

**Effects of classical music in Infants:**

Music is a powerful stimulant. It can completely sway our emotions. A soft gentle song can make you hum in pleasure, an inspirational song can fill up with positive vibes and give you the courage to move on, a relaxing soothing sound can help you in your sleeping and curing insomnia where as an energetic orchestra can fill you up with excitement and enthusiasm. In recent past many studies have been conducted on the impact of music on mind and brain. During my research I have believed and have firm belief that music can defiantly change the thinking process of our mind and brain particularly in developing years. It could be concluded as well that music is one way that even charms up our language skills and mood as well.

During my research I found that listening to classical music during infancy will even have impact on the functioning of neurons apart from the fact that classical music even makes infants smarter. As we age number of neurons that used by us depletes and the exposing babies to the music like classical can improve the functioning of neurons which results in ready acceptance of knowledge and talent. That’s why some children who start playing organ or starts learning singing at early age do that really well and remembers the pieces of music, including the ability to retain the process to remember any other information they were exposed to while listening to classical music.

The American Heritage Dictionary defines classical music as traditional genre music conforming to an established form and appealing to critical interest and developed musical taste. This can either be instrumental, vocal, folk music styles etc.

Classical music can actually improves your spatial abilities and aid your language learning skills. During my research I found that babies who were exposed to classical
music tend to have much higher spatial IQs compared to babies were not made to listen classical music. Also their ability to learn and understand language much better, which also helped them to understand and differentiates between complex sounds. Classical music can also have a huge effect on baby’s health. It has been observed that listening to classical music can help to calm the mind of an infant and alleviate pain, especially in babies who are born premature.

New parents who want to ensure that your baby benefits a lot, then you can introduce your child to classical music at an early age by playing music for them. Ensure to control volume. Some kids choose to sing which can often develop and help them not only understand and recognize your voice but also help them develop their language skills.

Along with these the impact of classical music is also on the following as well:

- **Intelligence**: Classical music during infancy helps building passage ways in the brain. Babies are born with billions of neurons in the brain and these neurons are easily and quickly lost if unused. According to the doctors ‘more stimuli infants are exposed to, the more neuron functions in the brain with which babies will learn things more easily and develop new talents more readily’.

- **Memory**: Infants can actually remember pieces of classical music they have heard at 3 months of age. Listening to music can also help them to remember how to do new things. When an infant is learning new information while listening to music he will remember it better. If a baby is learning how to feed himself and classical music is playing in background, he can remember the task more easily the next time he hears that piece of music.

- **Understanding**: ‘Spatial understanding and language are greatly aided by the ability to process information more quickly. Babies who listen to classical music on regular basis have much higher spatial’ says, “Dr Bales”. The ability to understand and process the languages is accompanied by the understanding the various sounds created by speech. Babies who have been exposed to classical music are already
accustomed to listening to different and complex sounds which help them with language.

- **Mood**: adult moods and emotions are directly tied to music. It is difficult to feel happy during a sad song and hard to stay depress when uplifting music is playing in the background. Babies feel the same thing. Soothing music not only helps a baby calm down or falls asleep, music also builds emotional intelligence. In London, experiment was conducted in which for 6 months, classical music was played on the speaker in the subway. The study found out that in some of the more dangerous neighborhoods, robberies decrease 33%, assaults decreased 25% and vandalism decreased to 37% - all believed to be the direct result of the classical music. A supermarket tried similar experiment outside the store and found that the music led to less vandalism and fewer youth's loitering.

- **Health**: Music can have a powerful impact on health. According to ‘Mariah Snyder and Linda Chlan’ – “listening to music plays a vital role in good health”. Music helps in restoring healthy breathing which calms the psyche and aids with blood pressure and heart rate. Music even has effects that relieve pain and promote healing premature babies are often plays music to aid their recoveries.

- **Decision Making and Thinking Skills**: According to the babyclasroom.com infants who listen to music are stimulated to develop decision making and thinking skills. Encouraging infants to sing play or move while listening to classical music also helps those skills.

- **Emotional Development**: Soothing songs calms fussy children. According to ‘Dr. Diane Bales’, “music has a powerful effect on emotions”. Child who grows up listening to music and is regularly exposed to classical music develops strong music related connections and has a great understanding of emotions.

- **Musical Knowledge**: Infants who are exposed to music are able to notice difference in rhythm, changes in pitch and hear melodies and recognize songs. For an infant screeching and noises are ways use to express themselves along with experimenting with making sounds and noises. Encouraging them to sing or make sounds along birth music helps develop musical knowledge and understanding.
According to ‘Dr. Gordan Shaw, university of California’, “infants who listens to classical music scores higher in mathematics”.

- **Calming Physical Effect**- Classical music affects babies physical well being. Listening to slow soft classical music will help babies to relax. His breathing will become deeper and slower, allowing him to relax and rest. Babies heart rate will also be positively be affected. According to the study cited in – “Circulation – Journal of American Heart Association”, “the heart rate will increase or decrease depending upon the tempo of music”. Therefore listening to a slow piece of classical music will help to slow his heart rate and reduce tension, which can be beneficial at the bed time.

- **Uplifting Effects**- Listening to certain types of classical music can lift your baby’s mood. Listening to such music helps the body to secrete endorphins, which are natural relaxants that are released in the brain, improves mood, relax the body and even reduce pain. According to the ‘American Music Therapy Association (AMTA)’ – “Classical music can reduce pain, improves mood and promote healing”.

- **Reduction in Birth Traumas**: the experience of being born can be both frightening and stressful for a new born baby. ‘Dr. Slavka Viragouva of the Kosiea’ –“Hospital believes that classical music can reduce this trauma. While the baby is in utero she listens to the mother’s heart beat”. The sound of the heart beat is familiar and comforting to the baby. In western countries doctors use Mozart to comfort infants during and after the birth experience. The newborn babies listen to Mozart for ten minutes at a time, six times per day.

- **Emotional Responses To Music**: Music is an important evolutionary adaptation comes from the developmental perspective. Caregivers around the world sing to infants and young infants are responsive to such music. Singing directed at infants is rendered in a style that is distinct from other types of singing and infants prefer to listen to infant directed over non infant directed renditions of the same song. The function of infant directed singing remains somewhat elusive. However one of the main theories is that caregivers use infant directed singing to express
emotional information, and to regulate their infant’s state. Young infants are of course not good at state regulation and require intervention in order to calm down when upset. Mother’s sing in two distinct styles:

1. **Lullaby style**
2. **Play song style**

Adults can discriminate play songs and lullaby styles easily, and they rate play songs more rhythmic, brilliant, clipped and smiling in character and less soothing and airy then lullabies. Furthermore infants react differently when exposed to lullabies and play songs, focusing their attention inward during the former and outward during the latter. Thus music has the power to affect an infant’s state

On the basis of the evidence that music is universally used in caretaking contexts for emotional expression and state regulation, and that infant react differently to different musical styles; it is possible that singing to infants serves an important adaptive function in development. Specifically music can provide one route into learning about social interaction and self regulation before infants understand any language. Children are also able to distinguish different emotions in music. **“Cunningham and Sterling”** ‘showed that 4-6 years old could discriminate happy, sad, angry and fearful musical excerpts. **“Trainor and Trehub”** found that – ‘children as young as 4 years could reliably associate excerpts from Prokofiev’s Peter and the Wolf and Saint Saen’s Carnival of the animals with the pictures of the animals, giving emotion laden justifications for their responses such as that the wolf excerpt sounded scary’.

The bases for early emotional reactions to music have not been investigated widely, but they likely involve interpretations based on pitch, tempo, and timbre characteristics of the music. One aspect of pitch structure has been investigated. **‘The consonant intervals are associated with positive emotion and dissonant intervals with negative emotion’**. Using a visual looking paradigm in which infants control how long they listen to consonant vs. dissonant chords by how long they fixate on a visual target.
On the studies it has been found that infants as young as two months prefer listening to consonant over dissonant musical intervals and same goes with the older infants as well.

Number of EEG studies on non musical emotional processing in infants has been done which shows asymmetric relation to frontal portion. For example: Infants tend to show greater right frontal EEG activation, which shows negative stimuli like, faces displaying distress, or fear, tastes sour etc. and greater left frontal EEG activation, which shows positive stimuli like, faces displaying joy, smiling, and sweet tastes etc. Infants who show greater right than left frontal EEG activation tend to show intensified distress to new novel events and maternal separation.

### 6.3 (a) An Experiment with Infants

Now to check the infant’s right frontal EEG activation, which shows negative stimuli and left frontal EEG activation, which shows positive stimuli, we recently recorded the EEG and ECG of 3, 6, 9, 12 month old infants who are made to listen the joy, fear, and sad orchestral excerpts (to trace the responses that would show the same asymmetry effects for emotions if induced by music or not). But before we proceed further with the experiments and conclusion let us see the four categories of Brain Wave Pattern which are as follows: 6-Fig.59

1. Alpha – 8-13.9 Hz
2. Beta – 14-30 Hz
3. Delta - .1-3.9 Hz
4. Theta – 4 – 7.9 Hz
Four Categories of Brain Wave Patterns

**Beta (14-30 Hz)**
Concentration, arousal, alertness, cognition
Higher levels associated with anxiety, disease, feelings of sparrow, flight or flight

**Alpha (8-13.9 Hz)**
Relaxation, superlearning, relaxed focus, light trance, increased serotonin production
Pre-sleep, pre-waking drowsiness, mediation, beginning of access to unconscious mind

**Theta (4-7.9 Hz)**
Dreaming sleep (REM sleep)
Increased production of catecholamines (vital for learning and memory), increased creativity
Integrative, emotional experiences, potential change in behavior, increased retention of learned material
Hypnagogic imagery, trance, deep meditation, access to unconscious mind

**Delta (1-3.9 Hz)**
Dreamless sleep
Human growth hormone released
Deep, trance-like, non-physical state, loss of body awareness
Access to unconscious and "collective unconscious" mind, greatest "push" to brain when induced with Holosync®

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Infant alpha power for frontal (F3, F4) and parietal (P3, P4) regions and left (F3, P3) and right (F4, P4) hemispheres. Note that music has opposite effects compared to baseline at 3 and 12 months of age.
According to the above graph the infant’s alpha band activity (4-8 Hz) was recorded and activation was taken as the inverse of this measure. There were interesting changes across. Compared to the baseline, the presence of music significantly increased brain activity at 3 months of age, had little effect at 6 and 9th month of age and significantly attenuated brain activity at 12 months of age suggesting that music is having a calming effect by 12 months as infants are increasingly able to regulate their sensory input. However, no left/right asymmetries were found in any condition.

There are number of possible reasons for the lack of asymmetric responses to musical emotion in infants. It is possible that musical emotion is processed differently than other emotions in infancy, but this would be surprising given the behavioral evidence for a central role of a musical emotion in everyday infant care giving activities. Another possibility is that the orchestral musical excerpts used were simply too complex for infants. While it is advantageous to use the same musical excerpts with infants and adults, this music is certainly not very similar to typical infant directed singing. Still another explanation is that sufficient frontal lobe maturation for the cognitive appraisal of musical stimuli is yet not developed in the first year of life.

To address these possibilities, studies are underway to measure infant EEG with more ecologically valid stimuli. In particular, we are using vocal singing, infant directed speech and infant directed speech for conveying various emotions. At this point it is not possible to answer the questions of whether infants process musical emotions with similar brain circuits to those used for other emotions, or whether infants and adults use similar brain circuits to process musical emotion. However, methodologies now exist to ask these questions and hopefully more data will be forthcoming.

**Conclusion**

The popular notion that music elicits powerful emotions appears to be close to truth. That music is not only about emotion, but that it elicits emotion directly can be seen clearly from the physiological responses it induces. The changes in heart rate, respiration rate, blood flow, skin conductance are clear indications that music activates the phylogenetically old parts of the nervous system and that music elicits a cascade of
subconscious activity. Music also appears to activate the cortical systems associated with the emotion including circuits in the frontal lobes. For adults in the modern world music does not command the same approach /withdrawal reactions as other emotion laden stimuli, much evidences suggests that music does activate the same cortical sub-cortical and autonomic circuits as other emotions. But answer to the question that appears here is why music appears to activate the essential survival circuits to the nervous system, when music does not appear to serve any obvious survival function – lies in the evolution of development and child care. Human infants are particularly helpless for an extended period of time and are reliant to their care givers for survival. An emotional bond and the communication of positive and prohibitionary emotional information are essential for survival. Perhaps music evolved in order to further emotional communication between infants and caregivers. And perhaps infant directed singing and infant directed musical speech are intimately connected with approach and withdrawal behavior on the part of the infant. Taking this one step further, as children develop other means of communication such as language and as they learn to keep overt expressions of emotion under control, music may go underground. Music still elicits emotion, but more directed and precise methods of emotional communication can occur with language. Perhaps, however, music retain a survival role in adults in that it allows the practice of feeling emotions without having to risk the consequences of acting on these emotions. Thus we are free to laugh and cry on music, to feel our heart race, to feel chills, and to hold our breath and perhaps ones again to feel like the infant who is exquisitely tunes to the emotion in its mother’s voice.

Musical Sensitivity in Infants

Music is present in some form in all human cultures. Sensitivity to various elements of music appears quite early on in infancy with understanding and appreciation of music emerging later through interaction between developing perceptual capabilities and cultural influences. The ability to sense beat and music helps individual to synchronize their movements with each other such as necessary for dancing and producing music together.
For many years, psychologists were apt; to accept the perceptual world of the infant as ‘one great blooming, buzzing and confusion’. The infants world was one in which objects were continually coming into and going out of existence with changes in the infants own line of sight.

The processing of musical pattern in infants is very much similar to that of adults. Infants at such early stage in life can recognize upward and downward shifts of pitch, they even recognize the alteration of tempo, the sequences of tones, and this all is possible because ‘infants are engaged in the relational processing of pitch and temporal patterns’. Infants can even able to observe the interval changes by minute frequency ratio including the observation of the changes in scales with unequal steps and rhythms. ‘Mothers sing regularly to infants, doing so in a distinctive manner, marked by high pitch slow tempo, and emotional expressiveness. The pitch and tempo of maternal singing style to the unusual style of singing than to maternal speech. Maternal singing also has a moderating effect on infant arousal’

6.3 (b) An Experiment with Maternal Music

Mothers uses special purpose repertoire consisting of lullabies and play songs to sing to their infants. Mother’s usual style of singing differs when singing to their babies marked by the virtues of expressive voice quality, emotive quality, higher pitch slower tempo etc. Specifically their pitch level is higher and articulations of words are more blurred for infant than for preschool audiences. These features of care giving style are also evident in fathers’ singing to infants and in preschoolers singing to their infant siblings. However, ‘structural simplicity or repetitiveness seems to be the principle cue that guides identification’.

During the experimental research we observed that – ‘When mother sings to her infant than her singing pitch is lower to that of the pitch of speech i.e: “women’s singing tends to be higher-pitched than their speech, but speech to infants is higher pitched than singing to infants. This situation results from the large increase in pitch level say for instance three to four semitones; for infant-directed speech coupled with the small
increase (one semitone) for infant-directed singing”. With the help of clustered columns, we have graphed out the pitch difference of songs and verbal phrases by 10 mothers. These verbal songs and phrases were repetition separated by one week or more.

There is considerable variation in maternal singing, but with surprising stability. When mothers sing the same song to their infant on two occasions separated by a week or more, their pitch level differs and their tempo (in beats per minute) differs by only 3%. Such pitch and tempo variations are smaller than those reported for adults’ repeated renditions of pop or folk songs. Mothers’ repetition of identical verbal phrases across the same period shows considerably greater variability in pitch and tempo. If the act of singing affects mothers’ mood or state that might account, in part, for the stability of pitch and tempo over extended periods—a possible consequence of state-dependent memory. Frequent singing to infants may also implicate motor memory. In any event, mothers’ performances of songs seem to become ritualized, which may facilitate their use as communicative signals to paralinguistic infants, (see above graph).

“In a recent investigation it has been shown that six-month-old infants furnished saliva samples before and after mothers sang to them for 10 minutes. Changes in salivary cortisol from pre- to posttest levels were highly but inversely correlated with pretest levels. Specifically, infants with initially lower
levels of salivary cortisol showed cortisol increases, but those with initially higher levels showed decreases. The arousal-modulating effect of maternal singing was also reflected in reduced variance from pre- to posttest levels. These findings are impressive, given the narrow range of initial cortisol levels and the absence of stressful circumstances” – “(SHENFIELD, T. & S.E. TREHUB. 2000. Infants’ response to maternal singing. Poster presented at the biennial meeting of the International Conference on Infant Studies. Brighton, UK. July)”.

Psychological and Physiological Significance of Singing to Infants

“Mothers’ tendency or propensity to sing to infants and the impact of their singing on infant attention and arousal raise the possibility that maternal singing could have enhanced infant survival in difficult ancestral conditions. Children’s extended period of helplessness would have created intense selection pressures for parental commitment, including pressures for infant displays to sustain such commitment. It is likely that singing to infants promotes reciprocal emotional ties, just as singing in other circumstances reduces the psychological distance between singer and listeners. Presumably, mother’s growing attachment to infants would lead them to generate increasingly expressive performances. To balance the enormous physical and psychological costs of parenting, infant recipients of such largesse would have to advertise their worth. Falling asleep to lullabies or entering trance-like states to performances of other songs might qualify in this respect. In general, favorable consequences of maternal singing on infant arousal, whether through cry reduction, sleep induction, or positive effect, would contribute to infant well-being while promoting the continuation of such maternal behavior. The healthy and contented offspring of singing mothers would be more likely to pass on their genes than would the offspring of non- singing mothers” – “(SANDRA E. TREHUB. "Musical Predispositions in Infancy", Annals of the New York Academy of Sciences, 01/25/2006)".
6.3 (c) An Experiment with Music According to Infant’s personality

Psychologists have come to an aid of those who believed that human ear, is biologically attuned to appreciate harmonious music.

Experiment:

An experiment was conducted over few infants as per their personality to see the effect of music on them. There were 32 participants who were infants between 3-5 months of age, out of which 16 were girls and 16 boys. All participants were healthy, full term infants who were free of colds, on the test day and had no family history of hearing impairment. An additional 14 infants were excluded from the final sample, because of fussing or parental interference. Most infants lived and had family of multilingual language, English as well as Hindi. These children were from Lucknow, and nearby places like Barabanki, Kanpur and Banaras.

Experiment was conducted on the casual and naturalistic bases. It was found that the infants seemed calmer and more content when harmonious sounds were played. They were the ones who were stubborn and were feeling very uneasy. But when the out of tune sound was produced for both the personality type; the calmer ones as well as the cry baby, they both looked disgust, they cried all the more, fret, and not even looked at the speaker or even their parents. Hence the infant’s responses are entirely consistent with dominance of musical scales with simple frequency ratio throughout the history and across the culture.

6.3 (d) Infant’s Discriminating ability in Context to Music: Empiric Approach

The experiment is to watch and listen to alternating audios and videos of two young woman (one women is complete stranger and other is mother of the infant, who is subject in the experiment) singing two different melodies (i.e lullabies).
In the first set videos will be played in which, one woman sings one melody and another women would sing another melody. In the second set, things were switched. One woman will sing the other woman's melody in her own voice and one woman voice will be dubbed when the other woman is on the screen.

Interesting thing about these studies is that infants show sensitivity to all the characteristics of the music. They could detect the mismatch faces of face to songs as well as face to voice. They are paying attention to everything. As adults perhaps, are so tuned into detecting changes in content that we miss the changes in voices.

**Experiment 1:**

To find out infants ability to judge tonal quality and music sense and also notice the attraction of child towards maternal singing.

Let’s take $W_1 =$ Stranger woman

$W_2 =$ Mother of the child

**Apparatus and Procedure:**

Infant sat on their father's lap in a dimly lit testing room, with two monitors located 140cm in front and to the right and left of infants, as an observer I recorded infants looking times by pressing one of the two buttons on the computer. To attract infants towards screen, a flash of red light was used. Music plays when they look and stops when they look away (i.e listening) this perhaps proven to be an effective method of measuring infants reaction to stimuli.

In the first place, two lullabies have been recorded say $W_1$ sang one and then $W_2$ sang the other.

$W_1$ sang the melody; red light was flashed to attract the infant. The infant saw the audio recording for some time and then looked away and music was stopped.

$W_2$- the mother sang the lullaby. Baby looked (listened) giggled and after few minutes looked apart. (In both the cases the ladies were not visible).
According to the time and infants reaction, it was quite clear that infants are more aware of the tonal quality and the connection infants share with their mother one's they are in the fetus and out in the world from embryo, which was proven by the time spent at looking the screen with audio and the action of the infant towards W₂.

To cross check, we asked W₁ to sing the same lullaby that W₂ sang. As the recording started and red light flashed infant’s reaction was completely different baby wasn’t that enthusiastic neither giggled and time noted was far different than it was on the first place.

**Experiment 2:**

This is to be conducted to know that do infants can easily differentiate between the musical patterns with the facial appearance. In this case we altered the melodies. W₁ sang the W₂ melody and vice-versa.

While W₁ was singing the W₂’s melody the kid was attentive but the time he gave his ear was quite similar to the time he spent in previous experiments towards W₁. Which made it quite clear that infant was sure that it wasn’t the same tonal quality he suppose to be hearing but when W₂ sang the W₁’s melody child was enthusiastic but could not able to establish the connection better and time noted was again same but with minutely high to the one that was noted of W₁.

Now W₁ was asked to mime and W₂ was asked to sing from behind in a video recording. Though expression of infant was that of ‘lost’ and he wasn’t that attached, he looked immediately into other direction as if he knew that it wasn’t the face that supposes to have this voice. Now to confirm this we asked W₂ to mime and W₁ to voice her. As the music began infant looked enthusiastic clapped giggled, but gave the same reaction as if it wasn’t that voice to that face.

This whole procedure proved that infants have connection to the maternal singing and they can easily figure out the tonal quality and musical pattern. This proves that infants who are very much aware of ‘timbre’ also has the inborn sense and gift to understandpitch as well as has better sensitivity towards music.
Conclusion

It is clear that infants do not begin life with a blank musical slate. Instead, they are predisposed to attend to the melodic contour and rhythmic patterning of sound sequences, whether music or speech. They are tuned to consonant patterns, melodic as well as harmonic, and to metric rhythms. Mothers cater to infants’ musical inclinations by singing regularly in the course of care giving. They also adapt their usual singing style in ways that are congenial to infant listeners. Such maternal singing has the features of a unique vocal signature.

Perhaps it is not surprising that infants are predisposed to attend to and appreciate the species-typical vocalizations of their primary caregiver. Infants’ predisposition to attend to particular aspects of musical structure is surprising only if music is viewed in a narrow sense, as fully developed musical systems of particular cultures. Viewed broadly, however, music embraces what all musical systems have in common. In that sense, infants begin life as musical beings, being responsive to the musical primitives or universals that are the foundation of all styles of music.
6.4 IMPACT OF MUSIC ON THE PERSONALITY & BEHAVIOR OF TODDLERS: AN EXPERIMENTAL STUDY

The experiments were conducted in *Bal Mandir Nursery School affiliated to Banasthali University Rajasthan*. Mrs. MaanDeep and Mrs Neeta take two shifts of classes of children between the age groups of 2-3, and 3-5 years including both boys and girls. The classes’ works in two shifts

1. 8 am – 11 am
2. 11:20 – 1:20pm

First shift that starts from 8am – 11am includes the children of 1st grade employees of Banasthali University i.e the kids of teachers, officers, registrar etc. and the second shift of classes that begins from 11:20-1:20 pm includes the children of 2nd grade employess of Banasthali University i.e. the kids of peon, servants, cooks, sweepers etc. On the whole they teach around 90 children daily. In Neetaji’s class there were 48 kids and 42 kids in Manjeet ji’s class.

Details of morning shift classes of 1st grade employee kids in both Neetaji and Manjeet ji’s class:

There are total 26 Toddlers in new junior section of Mrs. Neeta and Mrs Manjeet. Though the toddlers were new to class but they were not at all, quiet, hesitant or nervous by the environment. Though both the teachers were very polite and expressive in conveying their words and thoughts to kids but they were not at all cooperating with the teachers and neither listening to them. Children were trying to be the centre of attraction. Few children even showed the traits of being stubborn and rude. Teachers first tried to engage them in some activities of playing and coloring but then teachers come up with the best they could do, i.e. to play songs. Within the few minutes of playing the song, all children settled down and some who were still distracted, started shaking themselves to the beat of the song. Then teachers started acting according to the words of nursery rhyme and seeing to this, children started imitating their teachers and began to dance. While dancing, singing
and shaking in the flow teachers taught them few habits of good mannerism which children grasped quickly and enthusiastically. Though children did not understand the words at the background but still they were very much in rhythm with the beat of the song.

I noticed that amongst the children of hyper active and rude were some who were quite polite and shy. Those children had also started dancing, though their movements were not at all full of energy but rather soft and dull. But then these kids slowly with the flow of music came out of their nutshell of shyness and started dancing and sharing a laugh with their peers.

As far as second shift was considered, the shift of 2nd grade employees’ children – they were very nervous when entered the class. They had language problem as well as they belonged to the Rajasthan village area, but there were vast difference in the personality of both the groups of children. Let’s compare and see the difference:

Though both the shift’s children were new to the school but there could be noticed a huge difference in their approach towards class and surrounding, in their behavior and personality. Where the kids of 1st grade employees were ruder and stubborn, less cooperative and weren’t listening to the teachers on the other hand kids of 2nd grade employees were more attentive and followed every instruction that was been given to them. They were more disciplined and showed more interest and curiosity in learning and understanding new things.

Though the former group of kids had the advantage of language which was not the benefit with the latter kids, thus this could also be considered as one of the main reason for the kids of 4th grade employee that they were nervous and hesitant and not very comfortable in the environment.

Latter kids were very cooperative and had the feeling of team work, sharing and helping and being social. On the other hand former kids preferred staying isolated; it seemed as if they had some of their own comfort zone from which they were not
ready to come out. They were rude and more into fighting and wasn’t at all interested in sharing. They found to be non-sociable.

I also notice their lunch boxes.

Later kid’s lunch boxes were healthier as compared to the former ones. They had seasonal vegetables, puri, roti, Bajara, pickle where as former kids except two or three all either had Maggie, biscuits, chips or some snacks.

**Difference in the Behavior and Personality of Toddlers**

Children of today are smart enough to easily understand the difference between couples or to say between their parents and then can easily take the advantage of those particular situations, to turn the coin in their favor and mould them to fulfill their demands. It’s more important for parents to improve their approach then children. After talking to teachers and parents I found the answers to the question that, why there are such differences in the personality of kids, in their nature, or in their behavior and I found the following: I named 1\textsuperscript{st} grade employee kids as A and for the 2\textsuperscript{nd} grade employee kids I named them as B –
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>They were born and brought up in nuclear Family</td>
<td>They were born and brought up in joint family</td>
</tr>
<tr>
<td>Mostly both the parents were working and child was</td>
<td>Even if both the parents were working, child were in safe</td>
</tr>
<tr>
<td>at home with some servant or care taker</td>
<td>hands with grand- parents or some other family members</td>
</tr>
<tr>
<td>Children were extra pampered</td>
<td>Pampered but in limits to the things parent knew were apt</td>
</tr>
<tr>
<td>Spend more time alone, watching T.V or Video</td>
<td>and enough acrrding to kids need</td>
</tr>
<tr>
<td>games, no outdoor activities</td>
<td>These kids play more of outdoor games.</td>
</tr>
<tr>
<td>Most of the demands are being fulfilled they are</td>
<td>They are in habit of listening to 'NO' for the things that are</td>
</tr>
<tr>
<td>actually being provided with more of 'YES' and</td>
<td>not necessary for them; it’s exactly on the contrary to the</td>
</tr>
<tr>
<td>hardly any 'NO’s'</td>
<td>aspect of A kids.</td>
</tr>
<tr>
<td>Ignoring the faults and mistakes and considering it as</td>
<td>They are being told their faults, mistakes and the reason</td>
</tr>
<tr>
<td>a child mistake</td>
<td>behind it.</td>
</tr>
<tr>
<td>Extra demanding and demands are also being</td>
<td>Hardly any demands, fully satisfied with what ever they</td>
</tr>
<tr>
<td>fulfilled</td>
<td>have and if in case there are any demands then those are</td>
</tr>
<tr>
<td>Due to emnnse workload, working parents bring</td>
<td>only fulfilled that are required and which could be</td>
</tr>
<tr>
<td>their share of frustrations at home.</td>
<td>fulfilled.</td>
</tr>
<tr>
<td>Today’s kids are more into distructing cartoon serials</td>
<td>If any frustration, it comes out either in the working hours,</td>
</tr>
<tr>
<td>like Shin chan and Doremon</td>
<td>or in the kitchen or share them with family or friends.</td>
</tr>
<tr>
<td>No time is devoted for praying and indulging kids into it.</td>
<td>These kids love listening to inspirational stories like that</td>
</tr>
<tr>
<td>Parents prefer single child.</td>
<td>of Ramayan or any other</td>
</tr>
<tr>
<td>Many parents give instructions not to share tiffins at lunch</td>
<td>Children are made part of prayers and small rituals as</td>
</tr>
<tr>
<td>hour at school with friends</td>
<td>well.</td>
</tr>
<tr>
<td></td>
<td>They have more of siblings and hence they develop sense</td>
</tr>
<tr>
<td></td>
<td>of sharing and care.</td>
</tr>
<tr>
<td></td>
<td>Parents let them make their own decision, whether they</td>
</tr>
<tr>
<td></td>
<td>wish to or not to, share their food or other things, which</td>
</tr>
<tr>
<td></td>
<td>develops descision making power.</td>
</tr>
</tbody>
</table>
Apart from having so much of differences I found something common in these children despite the fact of different upbringing and personalities. And that was their inclination towards music.

As group A kids were not listening to the teachers and their instructions but as they heard music in the background they were stilled at their places for few minutes and then started moving their bodies in rhythm. Though they were not attentive towards the words of the song but still enjoying it; they were totally transformed children now, to the ones they were just few minutes back, where they were fighting with friends but now dancing hands in hands with the same peers.

Same happened with the group B kids. Though they had problem with language, but could still follow the rhythm well and move their body accordingly. They learned few
words while dancing and singing and class mannerism as well with great interest and enthusiasm.

Though for both the groups A and B, it was quite difficult for them to follow the words of the song but still in flow of the rhythm and singing they were acting, dancing and humming and trying to copy the words of the songs. They were learning countings, singing alphabets, were trying framing lines themselves. Kids were very active and showed the immense curiosity in learning. They began to be expressive and very open to new things and surroundings and were not at all nervous or destructive in nature.

During my Research I even had the curiosity to know, why in schools teachers give more preference to prayer before beginning the routine work.

An early morning class of kids begins with prayers and then it follows with clapping of hands, shaking themselves, and running, jumping and laughing out loudly. After these activities teacher asked the kids that now what would they love to do? Drawing or singing? And kids in one go, opt for the singing activity next on the list.

Teacher told me that singing is a way through which language skills develops. They learn new words, body parts and counting more easily. They get to know about the mother land, nature and their surroundings.

Teachers believed that kids catch musical patterns more easily than anything else. Starting their day with music keeps them in rhythm for rest of the day which helps them to memorize things easily. It provides moral values, develops self confidence and gives them strength to have faith in themselves. It is a kind of healing process where praying and singing soul fully provide kids with positive vibes. It teaches kids to have respect and provide them sense of unconditional love and to pay their gratitude and respect to that unknown authority that is not visible but surly exists. As these early morning prayers unknowingly fills one with positivity. It helps to heal inner self, provide peace to your mental realms and also keeps children energetic, active throughout the day.
Experiments -

To have music related experiments on kids, I asked them the kind of music they prefer to hear. Though they were really small and were tough on their part to figure out their music preferences, it took about a week for me to select and find out the kind of music they preferred. After the selection of fast pace music with sequenced rhythmic pattern, I decided to conduct two experiments.

Experiment 1:

Objects: Toddlers of 2-5 years

Aim: To know the reflection or impact of music on kids with and without music

Procedure:

Just to make sure the fact that does making kids sing in the morning keeps them in rhythm for the rest of the day, energize and active. I asked the teachers for a days not to teach them prayer or any music lesson, just directly ask them to play and enjoy any activity of their choice. Children at first wanted to sing and dance but when their teacher told them that, well just play today, the kids were observed to be excited towards this activity as well. But after few minutes they got bored and dull and started fighting. They seemed to be agitated at one point. After that they were given the figures to draw and colors to fill them.

These activities which were been given to kids were of their choice which they daily use to do like coloring, and playing with blocks. But today kids were not interested in doing them. They were very dull, and it was very much evident through their body language that they were just doing all those activities for the sake of doing. They were not at all active the way they use to be as compared to the rest of the days. They became tired and their work wasn’t up to the mark as before. They showed the impression of being uncomfortable and they didn’t have their lunchbox for lunch properly.

Just to confirm these reactions I repeated the same experiment again after few days and found the same results as well. So I came to the conclusion that ‘Yes’ music does keep
children in rhythm and energize them for the rest of the day, and keep them confident and positive.

**Experiment – 2**

**Objects:** Toddlers of 2-5 years

**Aim:** Impact of music on controlling the behavior of toddlers

**Methods:** To have music related experiments on kids, I asked them the kind of music they prefer to hear. Though they were really small and were tough on their part to figure out their music preferences, it took about a week for me to select and find out the kind of music they preferred. After the selection of fast pace music with sequenced rhythmic pattern, I decided to conduct two experiments

**Procedure:**

With the help of the class teachers I spread different colorful blocks on the carpet. I asked the kids to assemble all the blocks according to the numbers written on them in a string. But they haven't showed any interest in the following activity. Then they were asked to draw and color, but again they were very much distracted and weren’t listening to their teachers. They were shouting, and being very mischievous.

After instructing them several times to concentrate in coloring and arranging block pattern, we finally decided to play the music of their choice to see the change in their behavior. As we played their preferred music in the background, for sometime they continued being the same, moving shouting and throwing things. But within few minutes they started moving their limbs with the rhythm. They were happy, smiling, dancing and enjoying. For some time we let them continue doing so. After few minutes we politely asked them again to arrange the blocks in the string and to some we even asked to draw and color. This time there was a remarkable change that was noticed in their behavior and in their work. Kids were so much concentrated to their activity with full determination and were enjoying it to the limit. At lunch time also, they had all their lunchbox and kids participated in all the class activities with full confidence and interest.
Conclusion

According to the above experiment it could be concluded that, if music is being played by the choice of kids in the background and are being encouraged to do the work, they will keep doing it with interest and even their work will show the remarkable improvement. Effect of music has even showed that hyper active children of the class were also in control and were performing in a sequence and disciplined way. Therefore the reflection and impact of music on the behavior of the kids were observed to be positive with remarkable improvement in their work and in their personality.

6.5 REFLECTION AND IMPACT OF MUSIC ON STAGES OF LIFE

6.5.1 Childhood:

When children go to preschool, they broaden their social horizons and become more engaged with those around them. Impulses are channeled into fantasies which leave the task of the caretaker to balance eagerness for pursuing adventure, creativity and self expression with the development of responsibility. If caretakers are properly encouraging while being consistently disciplinary, children are more likely to develop positive self esteem while becoming more responsible and will follow assigned activities. If not allowed to decide which activities to perform, children may feel guilt upon contemplating taking initiative. This negative association with independence will lead them to let others make decisions in place of them.

In this stage intelligence is demonstrated through logical and systematic manipulation of symbol related to concrete objects. Operational thinking develops which means actions are reversible and egocentric thought diminishes. Children go through the transition from the world at home to that of school and peer. Children learn to make things, use tools, and acquire the skills to be a worker and a potential provider. Children can now receive feedback from outsiders about their accomplishments. If children can discover pleasure in intellectual stimulation, being productive, seeking success, they will develop a sense of competence. If they are not successful or cannot discover pleasure in the pleasure in the process, they may develop a sense of inferiority and feelings of inadequacy that may haunt them
throughout life. This is when children think of themselves as industrious or as inferior.

6.5.2 Adolescence

Adolescence is a period of life between the onset puberty and the full commitment to an adult social role, such as, worker, parent, or a citizen. It is the period known for the formation of personal and social identity and the discovery of moral purpose. Intelligence is demonstrated through the logical use of symbols related to abstract concepts and formal reasoning. A return to egocentric thoughts often occurs early in the period. Only 35% develops the capacity to reason formally during adolescence or adulthood.

Adolescence is the transition period between childhood and adulthood – encompasses age 12-19. It is a time of tremendous change and discovery. During these years, physical, emotional and intellectual growth occurs at a dizzying speed, challenging the teenager to adjust to a new bod, social identity and expanding world view.

Most adolescents reach Piaget’s stage of formal operations – age 12 or older, in which they develop new tools for manipulating information. Previously, as children, they could think only concretely but in the formal operations stage they can think abstractly and deductively. Adolescents, in this stage can also consider future possibilities, search for answers, deal flexibly with problems, and test hypothesis and draw conclusions about events they have not experienced firsthand.

Cognitive maturity occurs as the brain matures and the social network expands, which offers more opportunities for experimenting with life. Because this worldly experience plays a large role in attaining formal operations, not all adolescents enter this stage of cognitive development.

Characteristics of Adolescents

Adolescents are characterized by their diversity as they move through the puberty growth cycle at varying times and rates. Yet as a group they reflect important
developmental characteristics that have major implications for those agencies that seek to serve them.

In the area of ‘Intellectual Development’, adolescent:

- Display a wide range of individual intellectual development
- Are in a transition period from concrete thinking to abstract thinking.
- Are developing the capacity to understand higher levels of humor.
- Are intensely curious and have a wide range of intellectual pursuits, few of which are sustained.
- Prefer active over passive learning experience.
- Prefer interaction with peers during learning activities
- Respond positively to opportunities to participate in real life situations
- Are often pre-occupied with self.
- Have strong need for approval and may be easily discouraged.
- Develop and increasingly better understanding of personal abilities
- Are inquisitive about adults, often challenging their authority and always observing them
- May show disinterest in conventional academic subjects but are intellectually curious about the world and themselves.

In the area of ‘Moral Development’:

- Are generally idealistic, desiring to make the world a better place and to become socially useful.
- Are in transition from moral reasoning which focuses on ‘what in it for me’ to that which considers the feelings and rights of others.
- Often shows compassion for those who are downtrodden or suffering and have special concern for animals and the environment problems that our world faces.
• Moving from acceptance of adult moral judgment, to development of their own personal values, nevertheless, they tend to embrace values consonant with those of their parents.

• Reply on parents and significant adult for advice when facing major decisions

• Increasingly assess moral matters in shades of grey as opposed to viewing them in black and white terms characteristics of younger children.

• At times are quick to see flaws in others but also slow to acknowledge their own faults.

• Owing to their lack of experience are often impatient with the pace of change, underestimating the difficulties in making desired social changes.

• Are capable of and value direct experience in participatory democracy.

• Greatly needed and are influenced by adult role models, who will listen to them and affirm their moral consciousness and actions as being trustworthy role models.

• Are increasingly aware of and concerned about inconsistencies between values exhibited by adults and the conditions they see in society.

In the area of ‘Physical Development’:

• Experience rapid and irregular physical growth

• Undergo bodily changes that may cause awkward, uncoordinated movements.

• Having varying maturity rates, with girls tending to mature one and one-half to two years earlier than boys.

• May be at a disadvantage because of varied rates of maturity that may require the understanding of caring adults.

• Experience restlessness and fatigue due to hormonal changes

• Need daily Physical activity because of increased energy

• Develop sexual awareness that increases as secondary sex characteristics began to appear
• Are concerned with bodily changes that accompany sexual maturation and changes, resulting in an increase nose size, protruding ears, long arms and awkward postures.
• Have preference for junk foods but needs good nutrition
• Often lack physical fitness, with poor levels of endurance strength and flexibility
• Are physically vulnerable because they may adopt poor health habits or engage in risky experimentation with drugs and sex

In the area of ‘Emotional and Psychological Development’:
• Experience mood swings often with peaks of intensity and unpredictability
• Need to release energy, often resulting in sudden, apparently, meaningless outburst of activity
• Seek to become increasingly independent, searching for adult identity and acceptance
• Are increasingly concerned about peer acceptance
• Tend to be self conscious, lacking in self esteem and highly sensitive to personal criticism.
• Exhibit intense concern about physical growth and maturity as profound physical changes occur
• Increasingly behave in ways associated with their sex as sex role identification strengthens.
• Are concerned with many major societal issues as personal value system develops
• Believe that personal problems, feelings and experiences are unique to themselves.
• Are psychologically vulnerable because at no other stage in development are they more likely to encounter so many differences between themselves and others

In the area of ‘Social Development’:
• Have a strong need to belong to a group, with peer approval becoming more important as adult approval decrease in importance
• In their search for self, model behavior after older esteemed students or non-parent adults
• May exhibit immature behavior because as they search for a social position with their group, often discarding these ‘new identities’ at later dates.
• Must adjust to the social acceptance of early maturing girls and the athletic success of early maturing boys, especially if they themselves are maturing at a slower rate.
• Are dependent on parental belief and values and seek to make their own decisions.
• Are often intimidated and frightened by their first middle level school experience because of the large numbers of students and teachers and the size of the building.
• Desire recognition for their efforts and achievements.
• Often overreact to ridicule, embarrassments and rejections are socially vulnerable because as they develop their belief, attitudes and values, the influence of media and negative experiences with adults and peers may compromise their ideal values.

Benefits and Positive Effects of Music on Adolescents

Music is often target to teenagers, and because they typically go through big changes and start making life affecting decisions in their teens, many people naturally wonder what effect music has on teenagers perhaps there are many positive effects.

‘Music can be a positive force for mental health, calming relaxing, intellectually stimulating. This is true for adults, teens and children. Music can and does affect our emotions; it can create ‘channels’ in our mind pattern of thinking’.
As per the above quote, music is a positive force for mental health. It’s like a broom made up of silk fibers that gently whisk your troubles away (trying listening music in major key).

The constant sound of something keeps the mind sharp and aware. Brain becomes ever so vigilant and starts to absorb information easier and quicker. While listening to music, brain is in constant motion. It keeps processing the noise and in turn keeps the brain stimulated.

**Music and Academics**

Music helps teenagers, adolescents or to say students improve academically, particularly students’ who study music and learn a musical instrument. Studying music involves maths and science so practically students often improve in those areas.

According to the collage, “Bound seniors National Report”, done in 2001 by the college Examination Board, students who partake in music performance scored, on average 41 points higher on math and 57 points higher on verbal than students who did not partake in music performance.

**Emotions**

Being a teenager or adolescent can be a rough time emotionally, as a body goes through a lot of changes. Music is an especially emotional art form covering every type of emotion including happiness, anger, sadness, regret and anxiousness. That’s why music can be especially meaningful to teenagers. If they able to find song that match their mood, they can feel comfort as if a friend with them, as they’re not alone in their emotions. As music is a way to express emotions, many adolescents might try to make their own music, which can create healthy emotional expression.

**Learning about Culture through Music**

Music is often entrenched in culture, and almost every culture has produced music, indigenous to them. Thus listening to music can teach adolescents a lot about their own cultures and other cultures, they might normally not have been exposed to.
They can learn musical traditions, musical instruments, and history lessons, political issues of that culture and more. Though listening to music is a fun activity, this can be a more fun way to learn about cultures rather than simply reading textbook.

**Social Skills**

Music tastes and interests can often bring people together especially adolescents. Learning another teenager like the same style of music or band can be an easy way for two teenagers to share a connection and being in a relationship, whether friendship or something more. Music is often enjoyed in public, at concerts and dance clubs, places teenagers often hang out. Typically people attending these places clubs and share a common interest, so connections can easily be made. Sometimes feel isolated or like outcasts, music can help build a sense of community. Music helps children become aware of the connections between sound and the emotion in music, from this children develops the ability to understand others emotional feelings, from their tone and speech. Musical activities can increase a child’s self esteem and confidence levels which can last lifetime.

**Motor Development**

Moving to the beat, dancing, swaying back and forth are just few actions children and adults alike tend to do when listening to music. Music teaches children rhythm, causing them to obtain balance and body coordination. Being coordinated and having good motor development skills can help children be more successful when playing sports and other activities. It’s suggested that parent incorporate music, dancing and singing at early age.

**6.5.3 Youth (Early Adulthood) and Middle Adulthood**

Adulthood has no signpost, as adolescence could be announced by puberty. Developmental psychologists consider middle age or youth from 20-40 years and middle adulthood 40-65 approximately.

In youth or in early adulthood, the person must learn how to perform intimate relationships, both in friend and in love. The development of this skill relies on the
resolution of other stages. Long term relationships happen at this stage which forms with marriage and children and career related decisions are also faced by the youths. It may be hard to establish intimacy if you haven’t developed trust and sense of identity. If this skill is not learned the alternative is alienation, isolation, fear of commitment and the inability to depend on others.

Decision of marriage and family are often taken during this period. According to the researchers, divorce cases are more likely to happen with the people who got married during their adolescence or to those whose parents had gone through divorce and with those who are in no way similar in age, intellectual, personality, or attractiveness. Another reason for separation is seen amongst those who do not have children. Mostly people who are divorced remarry; consequently, children may experience more than one set of parents.

Alternatives to marriage that youth or early adulthood people opt for is “living together” – cohabitation. In 1997, the ‘Census Bureau’ estimated that; “4.13 million unwed couples lived in United states.

At this stage work/career choice affects the not only the socioeconomic status but also friends, political values, residence location, child care, job stress, and many other aspects of life. To them income/salary/source of earning is very important for achievement, recognition, satisfaction, security, confidence and challenge.

Psychological and social development continues during this stage. A personal life cycle develops during this period. Generally it is during this period that a person establishes a relationship with the significant other, a commitment to something and competence. Material and vocational choices represents the determinants of one’s overall personality development in general and future personality development in particular, since they are the two most significant decisions of a life time whose responsibility is beard by the youth and young adults. Commitment of oneself to a specific way in life takes place through marriages and children rising. A person has attained adult status with the completion of physical, maturation and he she has become sufficiently well integrated and sufficiently mature as well as emotionally
mature to utilize the opportunities and accept the responsibilities that accompany it. His/her independence from their parental families motivates them to achieve interdependence and find their places in the society. Through vocation and marriages he/she becomes united to networks of persons, find task that demand involvement and gains role into which he/she fit which help define their identities. Most individuals will give up their much sought independence to share with another in marriage. Then the life cycle rounds to the point at which young adults are again confronted by the start of life. But now as a member of parental generation and they often go under profound personality reorientations as they become involved in the unfolding of the life. This stage of life ends when a person has achieved a stable position in society and the time when his/her children no more need his/her attention. Intimacy vs. isolation is the representative of this stage in the psychosocial theory. Developmental tasks of youth include choosing education and occupation, selecting a marriage partner, learning to live with spouse and developing a satisfactory sex life.

**Beneficial Impact of music on Youth**

*Henry Wadsworth Longfellow*, ones said:

*MUSIC IS THE UNIVERSAL LANGUAGE OF THE MANKIND*.

If you are a musician or one at heart, you probably know that something magical exists between the notes that connect us to others despite our differing cultures, religious or political references. In fact research shows a great deal about music that benefits all of us and particularly how it contributes to the development of children and adolescents.

According to the research article: *childhood music lessons may provide lifelong boost in brain functioning* – Music lessons can pay off for decades, even for those who no longer play instruments. Music keeps the mind sharp, serving as a challenging cognitive exercise. It also feeds the soul develops character and boosts
creativity. Music doesn’t discriminate between race income and social status. It benefits all youth equally.

Music matures youth success at school in life. A study in the journal – “Social Science Quarterly” – ‘Adolescent involved with music does better in school’ – found that music had positive effect on reading and mathematics. Studies conducted by cognitive neuroscientists from seven leading US universities. ‘Learning Arts and the Brain’ – correlates music training with improved cognition, motivation, attention, memory and other developmental benefits. This shows the importance of attention to every aspect of school performance and cognition.

Recent research fueled by ‘neuroscience’- there is solid evidence that music programs help develop internal strength in children and youth like creativity, self belief, initiative. To learn music and musical performances, youth must overcome many obstacles.

Orchestral music presents the kinds of challenges that develop initiative, including the opportunity to choose one’s instrument, participation in an environment that contains rules and complexities and long term practice and repetition. Music training is correlated with higher academic performance and increased internal strength in children. In fact music is a key contributor to positive youth development.

A program that began in ‘Venezuela’, more than 35 years ago, shows how music fosters social changes.

‘El Sistema’, a classical music training program for children, started in a parking garage through the efforts of the Dr. Jose Antonio Abrew, and economist and musician with a big vision. He believed in symphony orchestra, like an ideal society could nurture a better environment for children. It turns out that he was right.

Since its meager beginnings, ‘El Sistema’ has grown to include many orchestras that now teach ensemble music to 30,000 of Venezuelan’s poorest children, demonstrating how music can positively change the lives of a nation’s youth and the communities to which they belong.
The Venezuela, 60% of the children in ‘El Sistema’ programs were at risk of dropping out of school, were already outside of the educational system, or were victims of family violence and social neglect. Through its social action centre and numerous supporting institutions, ‘El Sistema’ has improved the lives of marginalized young people throughout Venezuela.

Thus this acknowledges the benefits that music brings to children and youth, though current economic conditions no longer afford many schools the opportunity to offer music training.

6.5.4 Middle Adulthood

During this stage person experiences a conflict between generativeness and stagnation. They may either feel a sense of contributing to the next generation and their community or a sense of purposelessness. Physically middle aged experience a decline in muscular strength, reaction time, sensory keenness, and cardiac output. Also women experiences menopause and the sharp drop in the hormone estrogen. Men do not have equivalent to menopause, but they do experience decline in sperm count and speed of ejaculation and erection. Most men and women remain capable of sexual satisfaction after middle age.

A major concern that people develop at this stage is related to welfare of the family, future generation. At this stage though development is more comfortable and stable although some people develop a ‘midlife life crisis”; “The feeling of distress that affects some people when they realize that they are no longer younger”. Although this term is more commonly used to describe men who strive to recapture their sense of lost youth by having extramarital affairs, changing jobs all of a sudden or adopting youthful fashion trends. The middle year starts when person achieves maturity, usually in their early thirties having gained the skills, knowledge and assurance needed to settle into their careers and family lives. They soon move into period most people consider the “prime of life” the year among 35 and 55 during which they reach the midlife transition or crisis as mentioned previously. It is during
this period of growth and development the life style changes occur because of other changes. Several physical changes occur during this period. The most important of them is menopause in women. The changes may occur very gradually and go unnoticed, or may be seen early. The stage is represented as the stage of generativity vs. stagnation in the psychosocial theory of development. The development tasks faced in adulthood are:

- Adjusting to physical change
- Having grown children
- Developing leisure time activities
- Relating to aging parents

“Erik Erikson”, refers to the problem posed at this stage as _generativity vs. self absorption._

_'Robert Havighurst’ lists 7 major tasks in middle adulthood:_

1. Accepting and adjusting to physiological changes, such as menopause
2. Reaching and maintaining satisfaction in one’s occupation
3. Adjusting to and possibly caring for aging parents
4. Helping teenage children to become responsible adults.
5. Achieving adult social and civic responsibility
6. Relating to one’s spouse as a person
7. Developing leisure time activities.

Though in 40’s and 50’s, midlife crisis is not regarded as the universal phenomena, but to one it gives the recognition that more than half of one’s life is gone. That recognition may prompt some to feel that the clock is ticking and that they must make sudden, drastic changes in order to achieve their goals, while other focuses on finding satisfaction with the present course of their lives.

**Music and Middle Adulthood**

It is found that people in middle adulthood who are in a way indulged in music in some way or the other are found to be much more active, alert and have less
incidence of memory impairment. It came to notice that music have equipped them with the mind to deal with mental illness to the brain.

Music is a great stress reliever. Music is one of the few activities that involves the whole brain and when exposed to different kinds of music in middle adulthood, has been immensely beneficial to the health and in overall.

**Impact of Music**

- **Memory Performance**

In middle adulthood, music training has shown better impact that just listening to music. Listening to music or soothing classical music relaxes the one and provide mental peace and improves the concentration. Selection of music may also improve the life quality at this stage. Preferring listening to motivational music will help people to stay happier, motivates to dance and walk and will develop an ability to stay active.

- **Body movements and Coordination**

Music reduces muscle tensions and improves body movement and coordination. Music play an important role in restoring the physical functions of the person with movement disorder by developing, maintaining, and releasing the muscle tensions as music of upbeat kind is a great source to find some extra energy.

- **Insomnia**

One of the most common problems in middle adulthood is ‘insomnia’. Insomnia makes the person depressed, fills with anxiety, loneliness, and at times disturbs the person’s mental condition. But through relaxing classical music is the safe, cheap and easy way to beat all the troubles from depression to anxiety to insomnia. Even the researches today have shown that 45mins of relaxing music before bedtime can make restful night.
Music even reduces the sympathetic nervous system activity, decreases anxiety, blood pressure, beat and respiratory rate and may have positive effects on sleep via muscles relaxation and distraction from thoughts.

- **Stress and Negative Emotions**

Listening to slow quiet classical music is proven to reduce stress as it can be used while you do your usual deeds. Music even promotes relaxation of tensed muscles. Music help into practicing yoga and self hypnosis and can help one feel energized.

Upbeat music is very helpful to take one’s mind off from the stressful condition and helps the person to be more optimistic and positive. Music helps to have stressed free life. Researchers discovered that music can decreases the amount of the cloistral and stress related hormones produced by the body in the response to stress. A modern researcher tends to even confirm that music benefits in every aspect in middle adulthood and after.

**6.5.5 Old Age – Late Adulthood.**

During old age, people experience a conflict between “integrity vs. despair”. When reflecting on their life they either feel a sense of accomplishment or failure.

Physically older people experiences a decline in muscular strength, reaction time, stamina, hearing, distance perception and the sense of smell. They are also more susceptible to severe diseases such as cancer and pneumonia due to a weakened immune system. Mental disintegration may also occur, leading to Dementia or Alzheimer’s disease. However, partially due to a lifetime’s accumulation of antibodies the elderly are less likely to suffer from common disease such as the cold and flu.

Whether or not intellectual powers increase or decrease with age, it still remains controversial. Longitudinal studies have suggested that intellect declines, while cross sectional studies suggest that intellect is stable. It is generally believed that crystallized intelligence increases upto old age, while fluid intelligence decreases with age.
As ‘Erik Erikson’ suggested that, “at this point of time in life it’s more important to find the meaning and satisfaction in life rather than being worried and become bitter, disillusioned, and try to resolve the conflicts of integrity Vs. Despair”. It has been estimated that by the year 2030, people over 65 will make up 20% of the population. Despite with the problems associated with longevity, studies of people in their 70’s have shown that growing old is not necessarily synonymous with substantial mental or physical deterioration. Many older people are happy and engaged in variety of activities.

“Gerontology”, an interdisciplinary field that studies the process of aging and the aging population, involves, psychology, biology, sociology and other fields. The stage of older adulthood is considered to begin at 65 years of age. Many psychological, physical and social changes occur during later adulthood. The critical transition comes at the time of retirement for both husband and wife. In old age persons are moving towards completion of their life cycles. Old age can be a time when a person can enjoy his/her time with his/her grandchildren and leisure time activities and forget about things caused him/her a great deal of stress and anxiety in the past three or four decades. During this stage person must adapt to changing physical abilities. This stage is characterized by increased wisdom although many other things are lost as health, friends, family, and independence. The aging process of people in this stage of development varies greatly. “Ego integrity Vs. despair” represents this stage in the psychosocial theory. The development tasks of the older adults are: adjusting to decreasing physical strength, and loss of health, adjusting to retirement and reduced income, coping with death of a husband and wife.

Successful Aging

Theories of successful aging include the following:

- As people age their withdrawal from society is normal and desirable as it relieves them of responsibilities and roles that have become difficult. This process also open up opportunities for younger people, society benefits as
more energetic young people fill the vacated positions. – The Disengagement Theory

- Activity that is necessary to maintain a “life of quality” that is, that one must “use it or lose it”, no matter what one’s age and that people who remain active in all respects – physically, mentally, and socially adjust better to the aging process. Proponents of this theory believe that activities of earlier years should be maintained as long as possible. – The Active Theory

Ageism

Ageism may be defined as the prejudice or the discrimination that occurs on the basis of age. Although it can be used against people of all ages, older people are more frequently its target and it may often result in forced retirement. Stereotyping of the elderly is also an aspect of ageism, as seen in such a statement as, “He drives like a little old lady”.

Physical Changes

People typically reach the peak of their physical strength and endurance during their 20’s and then gradually decline. In later adulthood, a variety of physiological changes may occur, including some degree of atrophy of the brain and decrease in the rate of neural processes. The respiratory and circulatory systems are less efficient and changes in the gastrointestinal tract may lead to increased constipation. Bone mass diminishes, especially among women, leading to bone density disorders such as osteoporosis. Muscles become weaker unless exercise programs are followed. The skin dries and becomes less flexible. Hair loss occurs in both the sexes. There is also decreased sensitivity in all of the sensory modalities, including olfaction, taste, touch, hearing, and vision.

Cognitive Changes

The study of cognitive changes in older population is complex. Response speeds (neural and motor) have been reported to decline. Some researchers believe that age
related decrease in working memory is the crucial factor underlying poorer performance by the elderly on cognitive tasks.

- **Intellectual Changes** in late adulthood do not always result in reduction of ability. While ‘**Fluid Intelligence**’ – ability to see and to use patterns and relationships to solve problems) does decline in later years. ‘**Crystallized Intelligence**’ – ability to use accumulated information to solve problems and make decisions; has been shown to rise slightly over the entire life span. ‘**K. Warner Schaie’ and ‘Sherry Willis’**, reported that a decline in cognitive performance could be reversed in 40% to 60% of elderly people who are given remedial training.

- **Dementias** are usually responsible for cognitive defects seen in older people. These disorders however occur, only in about 15% of the people over 65. The leading cause of dementia in most of the case is Alzheimer’s disease, a progressive, eventually fatal disease that begins with confusion and memory lapses and ends with the loss of ability to care for oneself.

**Retirement** at the age of 65 is the conventional choice for the many people; although some work until much later. People have been found to be happier in retirement if they are not forced to retire before they are ready and if they have enough income to maintain an adequate living standard.

Chronic health problems such as arthritis, rheumatism, and hyper tension increasingly interfere in the quality of life of most individuals as they age.

**Widowhood**- Women tend to marry men older than they are and on average, live 5 to 7 years longer than men. One study found ten times as many widows as widowers. Widowhood is particularly stressful if the death of the spouse occurs early in life; close support of friends, particularly other widows, can be very helpful.

**Death and Dying** – Death and dying has been studied extensively by ‘**Elisabeth Kubler- Ross’** – who suggested ‘*that terminally ill patients display the following five basic reactions*’ –
1. An attempt to deny the reality and to isolate oneself from the event is frequently the first reaction. – Denial
2. The person envies the living and asks, “Why should I be the one to die”? – Anger
3. The person pleads to God or others for more time. – Bargaining
4. As the end nears, recognition that death is inevitable and that separation from family will occur leads to feelings of exhaustion, futility and deep ; Depression
5. Acceptance often follows if death is not sudden, and the person finds peace with the inevitable.

People who are dying are sometimes placed in a ‘hospice’, a hospital for the terminally ill that attempts to maintain a good quality of life for the patient and the family during the final days. In a predictable pattern after a loved one’s death, initial shock is followed by grief, followed by apathy and depression, which may continue for weeks. Support groups and counseling can help in successfully working through this process.

**Music and Quality of Life in Old Age**

Music is important and positive for well being in old age. Music not only heals serious illness but also protects from being ill and increases longevity and maintains basic cognitive and physical skills.

*The current performers in ‘Young at Heart’, range in age from 73-89 (Young @ Heart, 2006). They are happy and still able to perform on stage and go on tours, also many old people we get to see in classical concert, they look pretty satisfied and healthy.*

Old musicians in comparison to non- musicians have better motor skills, *(Bruhn and Schrter, 2009)*. Referring to the book ‘Psychology’, obviously one rule applies in aging, namely, ‘If you don’t use it, you lose it’, meaning that many age related changes of skill/abilities are more likely due to a lack of practice than a natural decline.
Therefore it is important to practice these skills in old (Gerrig and Zimbards, 2008, p.409).

Quality of life is the result of many factors including, well being health and maintenance of basic human skills, which are the most prominent determinants. Music has the power to influence the human mental or psychic state, and our psyche in fact contributes to our physical health.

Thus relationship between music and old people eventually allow identifying new musical techniques and practices to prevent old and fragile people from illness.

**Music and Well Being of Old People**

“*Well being means – One’s own psychic satisfaction*”. In accordance with the “18-item version of Ryff’s Scales of psychological well being”, well being is divided into six distinct facts –

1. **Self Acceptance**
2. **Positive relations with others**
3. **Autonomy**
4. **Environmental Mastery**
5. **Purpose in Life**
6. **Personal Growth**
   (Laukka, 2006, p.221).

First three are self explanatory, the latter three according to ‘Lukka’ means:

- **Environmental Mastery**: The individual’s ability engage in and manage, activities in ones surrounding world (2006, p.221).
- **Purpose in life**: Beliefs that give one the feeling that there is purpose in and meaning to life (p.221)
- **Personal Growth**: One’s own development and his or her ‘potential growth or to grow and expand as a person’. (p.221).
Another frequently occurring term is ‘listening strategies’, which mean that one uses consciously music to reach the different basic psychological goals, which are mentioned facets of well being. There are four different categories of listening strategies –

1. **Identify and Agency**: One uses music to contribute to or strengthen his/her personality, self esteem or self image.

2. **Mood Regulation**: Uses music to regulate one’s own emotional state.

3. **Relaxation and Company**: To come down, relax and build an appropriate background with music

4. **Enjoyment**: Using music for fun and pleasure, nothing more.

*Gembris (2008)*, demonstrated in his study that music is important for our 65 years old people. Also *Lukka (2006, p.223)*, showed that it is important that elderly person listen to music quite frequently and perceive music.’

*Lukka (2006)*; showed that emotional responses to music seem to occur quite frequently. Therefore he asked his 500 participants, who were aged between 65 and 75 years, to first rate if they feel emotions in response to music and then as a follow up to rate the relative frequency with which they feel various emotions in response to music. One interesting finding of this study is that positive emotions were among the most frequently felt in response to music. Based on the results of this study, *Lukka (2006, p.225)*; also presents a table where the mean ratings of emotion terms felt in response to music are listed – (1 – never, 2- Seldom, 3- Often, 4- Always)

Interesting is that from position one to 22 of this table there are only positive emotions, whereas from 23-45 there are only negative emotions listed. For example: the first term is happy with a mean rating of 3:10 where as the 23 term is sad with the mean rating of 1.94.

We can see that positive emotions were often felt in response to music than negative emotions. It is also known from previous research that experiencing such positive affective is related to increased well being – *Lukka – 2006, p-217*.
Hence it indicates that music has the power to increase well being.

Referring to ‘Thayer, Newman and McClain (1994, p.912 and 921), listening to music is one of the most used activities to enhance energy, change a bad mood or reduce tension. In addition ‘Saarikallio and Erkkila (2007, p. 97), ‘discovered that music helps old people to relax and provide energy simultaneously’.

‘Another interesting point of mood regulation for old people was to get rid of anger by hearing loud and aggressive music’ - ‘Saarikallio and Erkkila (2007, p. 97)’.

This is a more peaceful way than screaming or fighting with someone. Music also helps to express one’s inner self and thus it facilitates problem solving. (Hays&Minchiello 2005, p. 441).

Research done by ‘Cooper 1998’, showed that personality and health status were the most important predictors of well being, where as the contribution of listening strategies to well being was much smaller but still significant. This idea has lot in common with ‘Maslow’s Hierarchy-of needs’ which tells us that – ‘basic need such as food, water, sleep, sex and so, on have to be fulfilled before the mankind is interested in the next higher leveled needs.

(Maslow, 1943) 6-Fig.64
Furthermore person’s happiness level is determined by three major factors which are-

1. The genes for happiness,
2. The circumstantial factor relevant for happiness
3. Happiness relevant activities and practices. (Lukka, 2005, p.231)

According to *Hays & Minchiello 2005, p. 142-143*, music is an essential way to communicate for the people who have lost their ability to talk. So old people who for different reasons are not able to communicate verbally, can get help from music by expressing through it. Furthermore music provides interaction with others, *Hays & Minchiello 2005, p. 142-143* and because social contacts contribute to well being, this is another clear argument for music and its positive effects on well being.

Similar to *Gembris, (2008), Saarikallio and Erkkila (2007, p. 94-95)*, also found out that active and passive music helped old people to strengthen positive feelings and to change their mood in a positive direction.
‘In addition music can evoke memories of close people which may be no longer living and this helps old people to feel their missing persons intensely and to overcome their sad and loneliness’, “Hays & Minchiello 2005, p. 449”.

“Hays & Minchiello 2005, p.438” – pointed out that music helps old people to reduce stress, tension, anxiety and also pain. In support of this finding ‘Knight and Richard – 2001’; observed that music reduces stress or anxiety induced increases of subjective anxiety, systolic blood pressure, and heart rate. For this purpose they used the music piece : ‘pachelbel’s Canon in Donajor’. These results are also supported by ‘Hays & Minchiello 2005, p. 444’; ‘who found that engaging old people with musical activities, actively or passively, they can get sidetracked from their medical conditions and feel physically and psychological better.

Therefore – “Listening to or performing music can be a means of discovering new works, satisfying intellectual curiosity and learning new material to play that contributes to a sense of a person’s well being and provides meaning and purpose in life” – “Hays & Minchiello 2005, p. 447”.

Many scientific investigations proved that music is important for over 65 years old people – ‘Gembris- 2008; Lukka – 2006’, thus music has ability to influence them. There is a possibility that music enhances well being, though personality and health status are negative. It has also been proved that music reduces stress, tension, anxiety, and also pain; also music gives old people the possibility to communicate, if they, for different reason are not anymore being able to do verbally. This in turns strengthens their social contacts and contributes to the well being of old people. It was also found that music can sidetrack old people from their medical conditions so they can feel physically and psychologically better.

Music induces and increases happiness in old people. Different investigations had showed that happiness has a significant positive effect on health. Significant effects of greater happiness on biological functioning were lower systolic blood pressure, lowers heart rate, cloistral levels and lower stress.
Music and Physical Aging Process

The physical aging process includes a decline in seeing gearing, feeling, moving, energy and endurance. One axiom of psychology is the sentence, “if you don’t use it, you lose it”. According to this, old people reduce their moving skills because they aren’t any more motivated to move; therefore it is important to motivate them to move.

‘Saarikallio and Erkkila, 2007’, found out that music inspires old people to dance and move.

‘This is first evidence that music contributes to the maintenance of physical skills. Different researchers proved that music induces and enhances energy in old people.’ – ‘Saarikallio and Erkkila - 2007, p. 94-97; Thyes et al- 1994, p. 921; Hays & Minchiello 2005, p. 445.’

‘Gembris – 2008, p. 107’ showed that playing in an orchestra is challenging for old people. Keeps them fit and maintains their mental and physical activity.

‘Hays & Minchiello 2005, p. 445; ‘Identified music as a key to maintain muscle tone, to increase cardiovascular strength and to enhance respiratory functioning of old people.’

Music inspires old person, who are not any more willing to do so, to move and dance. Energy is a must have for every human action and it seems that music has the possibility to counteract at least the physical aging process. Researchers also showed that playing in an orchestra keeps old people fit and maintain their physical activities. Keyboard playing increases muscle strength of fingers and dexterity of old people suffering from hand osteoarthritis, an observation allowing the assumption that music can have a similar effect on healthy old persons.

There are evidences that professional musicians in comparison to amateur musicians do not suffer from age related declines in music related cognitive functioning. To envisage the inter relationship and influence of music on the quality of life of old people the following model was designed:
This model depicts the way how music improves the quality of life in old age. Music, active or positive improves well being, health and supports the quality of life.