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MUSIC AND PERFORMANCE: A PSYCHOLOGICAL ANECDOTE



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ABSTRACT

What is music? Any sound we can empathize with is music. As we empathize and feel we project our emotions and behaviour on to this audio stimuli, thus is said to be a way of expression be it a good or a bad feeling. So does music affect us only psychologically? The answer is no. The first change induced by Music is on

our heartrate, blood pressure, on the secretion of the neurotransmitters and thus affecting our behaviour accordingly. Change in these physiological factors affect a psyche of an individual. Thus, music is used as a tool these days to increase the productivity in various sectors like working professionals, sportsmen, students, mental health care's, film and

entertainment industry and so on. Every sector requires a different genre of music as per the required performance. For example, one cannot play Death Metal song while meditating or an overly calm music at a Gym or sports training. According to the situation, the arousal or calming of the ANS is required and thus the music should be appropriate according to the situation. But to enhance the performance a certain type of music must be listened to.

Research suggests that a happy music with a rhythm and positive mode secretes Dopamine just like that of eating favourite food, sex and orgasm or recreational drugs, and runner's high to have a better performance these things are taken in an account.

Music as a tool for enhancing performance in sports if considered varies from sport to sport. The music that causes dopamine release if listened by the Athletes before the performance or while training reduces their running time and improves the performance. The release of dopamine is responsible for these positive changes in the Athletes. A few sports which need concentration and calm mind to perform for example Chess/ Archery need an audio stimulus which does not cause a dopamine shoot to keep arousal

minimum, with minimal distraction is helpful in such sports. But it is essential that music has a positive mode and slower tempo and less complexity. Hence these sportsmen prefer silent instrumental symphonies inducing calming/soothing affect the players.

Music in the field of the working profession also needs a happy mode, calm yet rhythmic music, to improve the work performance. Workplaces mostly prefer instrumental music, that reduces anxiety and stress and yet not make a professional sleepy at the workplace. So, the balance must be maintained between the mode, rhythm, complexity of the music. Similarly for the students who have academics performance to maintain, slow instrumental music improves their performance, i.e speed and accuracy while taking an exam. Music enhances the performance provided a particular type is suited to the situation. Hence music is just not limited to entertainment or fun, but it can increase our cognitive functions and enhance the performance along with regulated levels of stress and anxiety.

KEYWORDS

Music, Performance, Dopamine, Sports, Work, Students, performance, anxiety, Stress, brain, emotion.

RESEARCH PAPER

Music is the stimulus that induces empathy in brain. We tend to feel the emotion of music; we happen to have the Perception (understanding) of the sensation (audio stimulus) in a way that it triggers feelings and emotion and we are surrounded by it. We have associated music with a musical instrument but it does not need an instrument always, in fact manmade instruments try to emulate or recreate the sound of nature, for example: Bulbul-tarang imitating the sound of the male Bulbul bird, the drums or percussion instruments imitating the heartbeat or a flute and the sound of wind. Nature had sounds that made mankind to imitate its music. So we can say, nature is the true musician. Music does not have to be pleasant always; it can induce the feeling of arousal, feeling of fear, feeling of melancholy, and feeling of sadness, euphoria, suspiciousness and etc. For example: a human brain registers fear more when horror movies has startling and fear inducing audio along with the scary visuals or listening to sad songs causing sadness or feeling the Goosebumps while listening to a heartfelt music. That is why music is a way of expression let the feelings be negative or positive.

Music affects our physiological and psychological processes. It can increase or decrease the Heart rate and thus the blood pressure of an individual too. This further is associated with the feeling the arousal and feeling calm which are the part of the autonomic nervous system i.e ANS. As mentioned in [Music and Autonomic Nervos System (Dys)function, Robert J Ellis and Julian F. Thayer]; ANS acts as a connection between Central nervous system i.e. CNS (Brain, Spinal cord) and Peripheral Nervous System which includes Circulatory(Heart, Blood vessels), Disgestive(Gastrointestinal tract glands, sphincters, kidney, liver, salivary glands), Endocrine(Adrenal glands), Integumentary (Sweat glands), Reproductive(Genitals), Respiratory(Bronchiole smooth muscles), Urinary and Visual (Pupils dilator, Ciliary muscles). Humans interact to music, both conscious and unconsciously at behavioural, emotional and physiological level. It is important to explore how specific features of music (e.g., its beat tempo or pitch) trigger neurophysiological, psychophysiological, behavioural and emotional responses. Thus ANS serves as final common pathway by which music exerts a therapeutic effect of health and disease.

Music affects every aspect of human physiology and psychology directly or indirectly as mentioned above. Physiological and psychological changes are interdependent and music triggering one of them can cause an effect on the other. Humans have always experimented

with this in order to get the expected responses. One of the fields that use music to generate the emotional responses is the entertainment industry. Music has the lion's share in generating the responses or emotions in humans. To evoke these, a particular genre of film/theatre uses a certain genre of music. A thriller movie uses music that stimulates our "Fight or Flight" response, a romantic movie generates the feel good hormones and with every genre the type of the music changes. Music in advertisement industry for promoting a brand has been the oldest methods for the promotion. Music makes people empathise with the brand and when paired up with lyrics and scripts customers are drawn towards it. A lot of these advertisements are short, catchy and easy to remember which makes people buy the product. Music has been the easiest way to reach people.

Music is not only limited to generating expected responses, but also in improving the efficiency of humans at their personal and professional lives. Music if used as a stimulus at work place, (Lower tempo, happy mode, no lyrics for distractions) improves the performance of the working professionals. It elevates concentration and helps relaxation in the employees which not only makes them more efficient but also reduces down the stress and anxiety caused by the work load. [Crank up your work volume with music in the work place By Andrew Slate] suggests The MMR or Music in Mood regulation scale classifies how individuals regulate their mood with music. Music has found to boost mental and physical health and workplace is no different. A recent Spotify research shows that 61% respondents listen to music at work to boost their productivity and happiness. Even more compelling, 90% of workers perform better and 88% produce more accurate work when using music as a productivity tool(<https://www.wrike.com/blog/music-in-the-workplace/>). Different beats for different folks: Orchestral or classical music for steady precise inspiration: Mathematicians are 12% more accurate in solving problems when listening to classical music. Lofi or Low-fidelity hiphop music to focus and learn these part-meme, part phenomenon 24/7 streaming channels have racked up millions of views on Youtube. Trance dance music to increase speed and output: proof readers complete their tasks 20% faster when listening to the dance music. Ambient music to stay alert and spice up repetitive task. An ambient music has shown to improve accuracy of data entry by 92%.

Thus one might happily listen to the music at the work place and not feel guilty, rather have more productive work performance and a good mental state.

Music as a tool for enhancing performance in sports and varies from sport to sport. The music that causes dopamine release if listened by the Athletes before the performance or while training reduces their running time and improves the performance. The release of

dopamine is responsible for these positive changes in the Athletes. Dopamines just like that of eating favourite food, having sex and orgasm or recreational drugs but with no side effects, and runner's high gives a positive stimulus to sportsmen. As runner's high (music and physical training together) elevates dopamine release, thus it is used to enhance the performance of athletes by exposing them to an upbeat music with happy mode and rhythm causing arousal by dopamine release. Dopamine being the Motivation molecule of brain which is a part of a pleasure reward system thus makes you "feel-good".

A few sports which need concentration and calm mind to perform for example Chess/ Archery need an audio stimulus which does not cause a dopamine shoot and keeps the arousal minimum, with minimal distraction is helpful in such sports. But it is essential that music has a positive mode and slower tempo and less complexity. Hence these sportsmen prefer silent instrumental symphonies inducing calming/soothing affect the players. Music also happens to reduce the stress hormone Cortisol which helps in regulating performance anxiety. Thus to have a better performance these things are taken in an account. Also listening to music creates empathy in individuals thus prolonged exposure of sportsmen to appropriate music elevates the feeling of sportsmanship, appreciating the win/lose situation and having a good bonding with fellow player and opponents.

We have seen music as a tool to initiate responses, increase productivity at works place and improve performance at sports. But one of the most important qualities of music is the power of healing. Music Therapy is a type of expressive art therapy which involves and individual indulging in singing, performing, song writing, playing a musical instrument, improvisation, recreation reception and discussion; so as to improve the mental, physical and social well-being. Music affects the brain especially the areas of cognition, movement, emotions which suggests that music can be a very effective tool for treating physiological, psychological, mental, emotional issues. Music can be used as a therapy to Mental disorders like Depression, anxiety, neuroses, psychoses, autism, dementia and positive changes can be seen. It can be used as a situational tool for reducing the stress levels i.e. pain perceptions for mothers in labours, for patients undergoing painful treatments/ surgeries, for people experiencing trauma or panic attacks, for people having problems after stroke and also proved to be helpful in alzheimers.

Music works wonders with children, not to forget their affinity towards the nursery rhymes and songs. It not only is a fun activity for socializing and enjoyment but also enhances their vision, balance, speech, behaviour, sensation, skills, movement and emotion. There has been a strong bond between music and memory, so singing helps them

in memorising and focus/ concentration. Humans process sound and speech in the same pathway, thus children with musical treatment or a hobby have enhanced listening skills and improved linguistic skills (neurophysiological distinction). Music therapy for children with learning disabilities hence proves to be very helpful as it stimulates every activity of the brain that is mandatory for development of brain. It strengthens weaker areas of the brain for children with Learning disabilities. Research suggests that children facing attention, concentration, memory problems, impulse control issues self-esteem and motivation problems can benefit from music therapy or a music class. Thus music as a therapy has calibre to unlock the solutions for medically unsolvable problems.

Music for the students who have academics performance to maintain, slow instrumental music improves their performance, i.e speed and accuracy while taking an exam. Also the stress and anxiety are soothed when music is used while or before studying because of the calming and relaxing actions of music. It is all interlinked, reduced stress enhances the performance while enhanced performance inhibits stress and anxiety and music proves to be an efficient tool for doing this. Students also believe that the music inhibits other psychological, physical factors that cause disturbance while studying. Memory being one of the most important parts of academic performance and as mentioned before music as a tool memorises the data and many students happen to tune in the information for their study purposes which they can recollect for longer span. Music enhancing the attention and concentration of students ultimately results into perceiving the subject with utmost calibre of the student and having the desired academic performance.

On a final note, music has been a fellow mate in development of humans as specie and a tool for brain development, social and psychological well-being, improving performance in professional and personal life and with treating a various ailments from child to an adult. Music is subjective and thus it makes it add on empathy to humans. It makes them bond and socialize and share the feeling of belonging with each other. It is not just a tool but a gift from nature to the mankind, where nature created sounds while on the other hand it created human brain that can perceive it as music.
