

Effect of Classical and Pop Music on Mood and Performance

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I. INTRODUCTION

It is an experimental study to measure the effects of classical and pop music on mood and performance.

1.1 Music

Music varies from culture to culture, it is a manifestation of soul, it conveys our emotions, feelings and the distinction between noise and music is culturally bound. It works like a stimulant which transforms psychological and psychic phenomena like "hypnosis ball". It is a manifestation of grief, happiness, and affection. "It is gratuitous play of a child. It is mystical asceticism. Consequently expression of sadness, joy, love, and dramatic situations are only very limited particular instances" (Xenakis, 1971). Confucius defines music as a department of ethics, he was concerned to adjust the specific notes for their presumed effect on human beings. Plato observes the association between the personality of the man and the music he played. According to Plato straightforwardness is good and complexity of notes can cause many disorders. And it is helpful to make up a stable and affective curriculum in learning. He defines music as heavenly accord, beat and tune replicate the movement of divine essence, and mirror the moral array of the cosmos. For Schopenhauer "like other arts music is not a copy of an idea it is an idea itself, complete in itself". Other forms of art articulate imitations but it is powerful, infallible, and piercing and it is connected to human feelings which "restore to us all the emotions of our innermost nature, but entirely without reality and far removed from their pain." (Encyclopedia Britannica, 1978).

1.1.2 Music in Pakistan

There is diversity in music of Pakistan. It includes Ghazal, Qawalli, Religious (Hammad, Naat) classical and regional music (Bloche, Sindhi, Panjabi Pashto, Kashmiri, Gilgiti). Different musical instruments are used in different regions of Pakistan which depicts the specialty of different regions according to their cultural values. Some of the musical instruments are Borringo, dilo, andghager, yaktaro, Dando, and Chaparoon, kani, naghara, chung, talyoon, dholak, sharnai, surando, murli, bainsuri, damboor, chimta, zargbagali, Sarangi, daf. (Baloch, 1998).

1.1.4 Effects of music

Music influences humans in good and bad both ways. It has a strong influence on one's brain, emotional experiences and source of conveying inner feelings. Gave us energy and unite brain and body (Storr, 1992). Music induces different moods and influences "social relations, anxiety" (Smith & Morris, 1977, "persuasion" (Schwarz, 1991) "consumer behavior" (Bruner, 1990) "performance" (Lesiwk, 2005) "memory"

(Blancy, 1986), criminal "behavior" (Caper, 2009) and "perception" (Hansen, 1989).

Music has the ability to relax, calm and stimulate mood. Different types of music induce different moods. Major mode produces excitement with loud volume, medium pitch, fast tempo, high pitch with major mode induces happiness. Similarly minor mode with slow tempo induces sadness. (Bruner, 1990). Fast tempo decreases heart variability rate, and minor mode increases arousal level, uplifting music manipulates the helping behavior and people become more supportive, while listening to annoying music people become short-tempered and less supportive (North, Tarrent & Hargreaves, 2004). Music affects mood, tension and mental functioning, it increases positive feelings and enhances productivity (McCarty, 2005). 'Grunge music' reduces motivation (McCarty, 2002). Music can be used to elevate depression as it has an effect on dopamine levels of the brain (Robertson, 1998).

Music relaxes our body, muscles, reduces blood pressure, anxiety, stress (Nilsson, 2005) reduces negative emotion and improves the sleep quality in older adults, a useful cure for insomniacs (Lai & Good, 2005). Music influences the behavior of students about social issues. They were more interested in social messages when a message was presented with music. (Galizo & Hesdrick, 1972).

Several studies show that music affects the purchasing and affiliating behavior (Areni & Kim, 1993, Alpert, Alpert, 1990, Mehrabian & Russell, 1974) shopping behavior can be influenced by playing different types of music. Customers buy more expensive wine while classical music is played. (Areni & Kim, 1993).

Music affects our brain; it can enhance our performance level. In research basic emotions ("happiness, anger, surprise, sadness, & fear") were checked. Results show that good and bad moods were easier to recognize. (Mohn, Argstatter & Fredrich, 2010). Music improves the quality of life. (Lesiwk, 2005). Music affects our perceptual abilities (Lesiwk (2010) & Stratton (1992) found that listening to music participants who were waiting; underestimate the time duration. It is believed that music influences response to waiting time. People are less stressful while waiting to listen to music than those groups with no music (Stratton, 1992). Customers spend more time in shopping stores with background music played (Yalch & Span Genbery, 1990). Tempo, volume, rhythm also influence perceptual abilities. Girls reported more time when music was loud. (Kellaris & Altscern, 1992).

Music has an effect on criminal behavior. Classical music reduces the crime rate, and reduces the desire to commit crime (Caper, 2009). Music has healing power. (Siedliecki & Good, 2006). It can also be used for therapeutic purposes and reduces medication during child birth and relaxes the body. Bernard, Porta &

Sleight (2006) found that music reduces blood pressure and lively music lead to faster beating heart rate. Classical music is helpful for insomniac (Harmat, Tacka, & Bodiz, 2006) and mostly prescribed for blues (Maratos, Gold, Wang, & Crawford, 2008).

1.3 Mood

Mood is originated from word “Mod” It is enduring condition. Moods are actively working behind the scene and play an important role in our daily functioning. They directly affect our survival. The term mood and emotions are interchangeably used. As it is consider being an emotional state as vocabulary used to define mood is of used for emotions. Moods are classified with names “good or bad, black or blue”. The major confusion is to differentiate mood and emotions, as emotional term used are words who define feelings like “happy, sad, envy, guilty and angry” etc (Dingman. 2008). Excitation irritability, interests, depression, and elation were terms used for possible moods by Wessmen and Ricks. The difference between mood and emotions is that, emotions are vague, less severe, and are less likely to prompt by any particular activating event. Mood is the product of energy and tension (Thayer.2001) .People experiences both positive and negative feelings. They feel best when they are in serenity, relaxed energy mood then in anxious state. Food is frequently used to regulate it. Researches shows interaction between mood and culture, moods are culturally bound, two individual from different culture can’t transmit same feelings. (Dingman, 2008) mood affects individual religious and spiritual feelings. William James find out feelings associate with religion, some emotional and some enduring moods that lasts with ones life.

According to Thayer food is fundamentally connected to mood and used to ‘regulate mood’. (Thayer.2001).Larsen and Ketler (1989) suggested that ‘extroversion and neuroticism’ are linked to positive and negative moods. Extroverts react emotionally on positive effects and ‘Neurotics’ have higher reactivity on negative moods.

‘Emotion regulation’ is all about how one manages emotional experiences, and it is important factor in social relations and ones competency. Many factors are involved in emotional regulation; childhood experiences, parent-child relationship, early development, understanding of emotions and social influences (Thomson, Meyer & Jochem, 2008).

Mood effect the person perception and memory. In happy and sad mood people recalling and judgmental ability is affected. Happy mood have more effect on judgments then sad mood (Forgas & Bower, 1987).Miranda, Persons & Byers (1990) suggested that positive and negative mood effect the patient’s dysfunction beliefs. In good mood they are less likely to report dysfunctional attitude while dysfunctional thoughts increase in bad mood. Positive and negative moods also influence the job satisfaction level (Houston & Loriann,2002).Positive mood induce more inclination toward support (Petty, Schuman, Richman, & Strathman,1993),effect stereotypical attitudes(Park & Banaji, 2000)

1.2.1 Music and Mood

Bouhuys, Bloem and Groothuis (1994) conducted studies to measure the influence of music on perception. After listening

to depressing music subject report more sorrow in ambiguous faces and less cheerfulness was reported for clear faces. Results indicate that after listening to depressive music subjects’ perception was altered. Judy I & Mark I (2006) studied the effect of mood on consumer behavior, and how music affects consumer response. Result determines that music influence the mood and shopping behavior of customers. Magee & Davidson determines that music altered the mood of patients and music therapy is successful to deal with pessimistic condition in population of ‘neuro-rehabilitation’. It decreases the anxiety and depression in patients (Cassileth, Magill, & Vickers, 2003).

1.2.2 Music and Performance

Music plays profound role in cognitive functioning. It boosts performance and language acquisition improves reading and literary skills (Medina, 1993). Vendor (2003) determines that it is useful for dyslexics to improve their writing skills. Music positively influences the reasoning ability, recalling ability (Mammarella, Fairfield, & Cornoid, 2007) mathematical abilities, and helpful for ADHD children, for movement disorder (Bernatzy, Hess, & Staffen, 2004) .Music training is more influential then music listening. Children with music training have better memory then children with no music training (Patson, Hogg & Tippet, 2007)

It increases concentration and attention and improve performance (Yim Chi et al, 2003). Music education have positive effect on memory and learning, the people who have education of music are high on performance test and have more GPA then people with no music equivalent (O,Dennell,2005). According to Watkins (1995) “It’s not neutral, it have either positive or negative effects on body and brain”.

1.3 Literature review

Different type of music affect differently. It heals and reduces depression in patients (Zahra, 1997). An upbeat melody makes us happy, and slow music makes us sad; can alter our mood or entertain us. Musical mode affects the emotions; the major mode elicits positive emotions while minor mode elicits negative responses. (Diagiancomo, Anthony, Kibby, & Branda, 2006)Music language also shows profound effects. In one study the participants who listened to uplifting music offered more help than those who listen to annoying music. North, Tarrent & Hageaves, 2001).Researchers found that music affects our brain and improve our performance level. It influenced perception and quality of work. (Lesiuk, 2010) Stratton (1992) founded that music affects our perception of time. While listening to music participants who ware waiting; underestimate the time duration.

Music therapy influenced mood and self esteem. In a study one group was given music therapy with pre and post tests of mood and emotions. The other group was not given music therapy. Results showed significant difference between both groups self esteem and mood (Henderson, 1983).

McCraty,Choplin,Atkinson and Tomisino (1988) studied the effect of different genre of music on emotions, anxiety and cognitive clarity. Their was increased rate of tiredness, stress and unhappiness in group who listen grunge music and decreased in enthusiasm while designers music induce happiness, vivacity,

cognitive clarity and decrease in unhappiness, tiredness and stress.

Saarikallio and Erkkila(2007) conducted a qualitative study on eight young adults to measure the influence of music to direct mood. Interviews were taken from individual and results were examined through “grounded method”. Result indicates that music is helpful in ‘mood regulation’.

Music affects our learning ability (Nelson, 1989). Music does not have negative effect on ‘language acquisition’. (Medina, 1993). “Man expresses themselves in rhymes and beats. It is not necessary for life but it is hard to imagine life with no music” (Dallin, 1959). It affects our daily life by influencing emotional experience, our cognition and social relations (North, Hargreaves, 1994). Music therapy reduces the nervousness, distress, restlessness and the use of anesthesia, tranquilizers during colonoscopy (Ovayolu, Ucan, & Pehlivan, 2006). Music is linked to reasoning process, as ‘areas of cortical are involved in higher brain functioning’, music affect these area and enhance reasoning process (Leng, Shaw, & Wright, 1993). Performance of children increase after listening to relaxing music (Hallen, Price, & Katsarou, 2010). Researcher found that mood of ‘stroke recovery patients’ change after listening to music, they were less depress then those patient who didn’t listen music (Sarkamo, Tervaniemi, Laitinen, Forsbolm, & Pretez, 2008). Classical music successfully reduced DAT (dementia) in the females (Casby, Julie, Holm, & Morgo, 1994). Researcher conducted an experiment to measure the influence of music on the reasoning ability of adults and children. Adult performance was high on upbeat music then downbeat. Similarly children drawings were reported as more innovative, vivacious, and more technical after listening to music (Schellenberg, Nakata, Hunter, Tamoto, 2005) and it is a mood regulator for adults (Saarikallio & Erkkila, 2007). Reading Music listening on daily bases have positive influence on women with physical ill, it help them to cope with their problem. Nicol conducted qualitative research on women who were physically ill, who report music as good friend to manage unexpected onset of disease. Freeburne, Fleischer, & Murry (1992) studied the influence of music on reading and intellectual capacity. Results determine that reading speed was fast while listening to “jazz music and classical, semi classical” have no significance influence on reading and intellectual capacity.

The sad and happy classical music trigger different areas of brain which are involves in emotional experience, attention, and judgment. Fast beat cause excitement, increase in blood pressure and heart beat, downbeat generate calmness (Bernardi, Ports, & Sleight, 2005). It is less expensive cure to decreases nervousness in patients who wait and go through the inquiry for surgery (Cooke, Chaboyer, & Hiratos, 2005). It has ability to induce change in moral reasoning, upbeat music decrease consciousness. Popular music improves performance on tests then Mozart music (Susan & Schellenberg, 2006) and improves logical thinking (Schellenberg, 2005).

Palheiros and Hargreaves (2001) found that listening to music and its education has positive influence on adolescent. Music education increases their devotion to knowledge, and at home music listening serves as entertainer for relaxation and improves their social dealings.

1.4 Rationale

Music is the area of interest for researcher. Many researches were conduct to measure the effect of music on ones life. How it influence mood, emotions, learning, memory, perception, social behavior etc. And this study is conducted to investigate the effect of music on mood and performance of young adults. Many researches have been done for this purpose and my study is aim to see whether these findings are applicable in our culture.

1.5 Objective

To investigates the effect of Pop music on mood and performance.

To investigates the effect of Classical music on mood and performance.

To investigate whether there is any difference between the effect of pop and classical music on mood and performance.

1.6 Hypotheses

Classical music would affect mood and performance.

Pop music would affect mood and performance.

Both kind of music (pop and classical) would affect the mood and performance differently.

II. METHOD

2.1 Participants

Sample comprised 50 students 25 girls and 25 boys age range 18-25 from GCU Lahore. It was based on convenience sampling.

2.2 Instruments

In experiment following instrument were used.

2.2.1 Music tracks

Two music tracks were used one in classical music and other in pop music. Classical track was Raag Mesh by Nusrat Fateh Ali khan and pop track was Music of Life. Both track was presented for 4 minutes and were without lyrics to avoid the effect of lyrics on individual as lyrics tend to be perceived differently by very individual.

2.2.2 Oxford Happiness Questionnaire

It was used to measure the current mood of individuals. It is originated from general happiness inventory(GHI) develop by Argyl, Martin & Crossland (1989) which is comprise of 29 items,21 reverse item of BDI and add 11 more item to measure well being With four options scale. Oxford general happiness questionnaire also include 29 items, with six option likert scale. The OHQ is easy to administer. Both GHI and OHQ show values α (167) =0.92 and α (168) =0.91 respectively. The inter-item correlations for the OHI ranged from -0.03 to 0.58, mean 0.28, and the corresponding values for the OHQ were -0.04 to 0.65, mean 0.28.

2.2.3 WAIS Coding Scale

It is develop by David Wechsler in 1855. Forth edition was published in 2008 by Pearson. It is primarily used to assess the intelligence of adults. It includes both verbal and non verbal

tasks (performance tests). It is used to measure the intelligence of people age 16 or above, it is determine that it appropriate measure for over 74. For performance IQ reliability is .93 across all groups, verbal IQ .97 and $r = .97$ for full test. .95 is Split half reliability which is very strong. It is valid test and highly correlated with other IQ test.

2.2.3 Procedure

Experiment was conducted in seminar room of psychology department GCU. Participants were randomly assigned to all conditions. In first group 25 participants were taken. Brief instructions were given about experiment. They were

given OHQ before music. Then pop music (music for life) was presented for 5 minutes. After pop music they were given OHQ, and after completion of questionnaire they were given WAIS coding task to fill it in 2 minutes. Then they were presented classical music (rag mesh by Nusrat Fateh Ali khan) for 4 minutes. And OHQ was again given after classical music and after completing questionnaire WAIS coding task was given for 2 minutes. Then on second

Day, 2nd group were given similar conditions but in different order. They were presented classical music first and then pop music to reduce the order effect.

III. RESULTS

Data was analyzed trough Two Way ANOVAs.

Table 3.1
Mean and standard deviation of pop, classical and no music.

Variables	<i>M</i>	<i>SD</i>
No Music	4.10	0.57
Pop Music	4.22	0.73
Classical Music	4.0	0.76

Table 3.2
Two way ANOVA comparing gender and music on mood (N = 50)

Sources of Variance	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P</i>
Gender	1	1282.7	2.4096	0.12
Error	43	532.4		
Music	1	514.6	4.6455	0.04*
Music x Gender	1	35.8	0.3233	0.57
Error	43	110.8		

Analysis of data revealed that significant main effect of music $F(1, 43) = 4.65$, $p < 0.05$ on mood. A post hoc analysis indicated that pop music ($M = 4.23$, $SD = 0.73$) has significant effect on mood as compared to classical music ($M = 4.04$, $SD = 0.76$) and no music ($M = 4.1$, $SD = 0.57$). No interaction was found between music and gender.

Table 3.3
Mean and standard deviation of pop and classical music on performance

variables	<i>M</i>	<i>SD</i>
Pop Music	51	19.4
Classical Music	46	16.7

Table 3.4
Analysis of variance comparing gender and music on Performance (N = 50)

Sources of Variance	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P</i>
Gender	1	4.76	4.13	0.04*
Error	43	1.15		
Music	2	0.405	4.263	0.01*
Music x Gender	2	0.175	1.843	0.16
Error	86	0.09		

Analysis of data shows that music has significant $F(1, 43) = 4.13, p < 0.05$ effect on performance. WAIS Coding scale suggests that men ($M = 45.2, SD = 17.64$) has significant low performance as compared to women ($M = 52.8, SD = 18.14$). Performance is significantly high on pop music ($M = 51, SD = 19.4$) as compared to classical music ($M = 46, SD = 16.7$).

IV. DISCUSSION

Music is pure form of art, complete in itself. Although every culture has its own musical style but language of music is universal, even if one cultures' music is unknown to other still it conveys meaning and influences others. It can be possible that it's helpful to bring people together from different culture.

Music has been an area of interest for researchers for a long time and still researchers are conducting studies on music and its effect on human beings. It has healing power; influence our social behavior, interaction, cognition, learning abilities, judgment, perception, criminal behavior and emotions. It has strong influence on ones life it can be either positive or negative (country music induce suicidal tendencies and increase the suicide rate but not neutral. Music can alter our behavior, and can mold it in specific ways. It has power to reduce pain, anxiety, reduce sleep disturbance, depression and used for therapeutic purpose. As various studies have been done on "consumer behaviors", how specific type of music alter the customer shopping behavior. It can manipulate our perception and judgment. Even different genre of music elicits different responses. Music is effective tool to induce change in ones life, if he has proper knowledge of music and how it affects human beings.

This study was conducted to measure the influence of classical and pop music on mood and performance of university students. Our study has also support that music has influence on our mood and performance. Every genre of music have different influence, as in our study Pop music enhances positive mood and level of happiness. While classical music decrease the level of happiness and mood become low.

Similarly there was significance effect of music (pop and classical music) on performance of WAIS coding scale. The performance was high on pop music as compared to classical music. Performance on classical music was higher then no music.

Our study claims that there is effect of music on mood, level of happiness and performance. Gender difference was also founded in performance. Although it was not included in our hypothesis but we want to see either gender affect the performance level or not, for this purpose post hoc were used. Results indicate that Women score higher then men. The findings of Lesiuk (2005) study also suggested that music improves the quality of work and alter mood and perception about work environment.

As in this study specific type of music was taken from pop music, which was energetic, upbeat, and cheerful may be if any other music is taken from this genre effect would be different. And the music taken from classical genre was "raga mesh" by Nusrat Fateh Ali khan, and if any other rags or song was used it could have different impact. Many other factors could be involved in these findings. As study of Cassidy & McDonald shows that there is different effect of music on extroverts and introvert. The performance of introverts was more affected when "high arousal" music was present. So it could be possible that these differences were due to personality types. The findings of Larsen and Ketler (1989) also suggested that 'neurotic' and extroverts react emotionally different.

4.1 Conclusion

Our study claims that pop and classical music effect performance and mood of individuals. The performance was high with music as compared to no music. Similarly pop music enhances mood and level of happiness as compared to classical and no music.

4.2 limitations

Sample size was small and was taken from one university. Large sample size may have different results.

The music was presented for 4 to 5 minutes, if more time was given, it could have more effect on mood and performance.

Participants' music preferences could affect findings, if their liking and disliking is considered; it may have given better results.

4.3 Implications

As studies indicates that there is significant impact of music on individual mood and performance level. So it is applicable in schools and universities to enhance memory and performance of students. Music education would also lead to better academic performance. It can be used for therapeutic purpose to regulate emotions and mood. Every genre of music has different impact on mood so different forms of music can be used to manipulate mood.

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