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Full Length Research

A Quantitative Approach towards the Multicultural Perception on Arts Education

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For several decades educationalist have proposed that the study of art education has a momentous impact on student academic achievement and student behavior. The purpose of this study was to quantify general education by examining university students in addition; this study briefly explores the impact of music education on human brain and academic achievement at the education levels. Specific research studies provide evidence the importance of arts education at different level of study. Here we present a survey study on education data using a globalized sample of multicultural individuals. Quantitative questionnaire was distributed to each participant and evaluated further .The research design includes the independent variables: gender, nationality, age and major. The dependent variables include: (1) affects language learning skills; (2) help in learning own or other's culture; and (3) objective of music and art education for each of the study populations. Few research questions were used to explore the effect of music and art education on academic achievements, the importance of music in learning own or other's culture, degree and frequency of exposure to music, liking for different musical styles, the importance of music listening relative to other activities; and the reasons why the participants themselves listened to and played music. Conclusions were based upon sophisticated statistical tests including descriptive and inferential statistics, correlations and analysis of variance (ANOVA) statistics.

Keywords: Arts theory, music education, language learning, academic performance, multicultural outlook, culture

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INTRODUCTION

The world population has risen drastically over the preceding years. The gargantuan strain on the planet's resources has impacted the daily life of human beings. Scarcity of resources and opportunities has created unthinkable challenges and tangible and intangible issues for people. A concomitant effect of the population explosion has been the shrinking public space accorded to arts and entertainment, which are a necessary outlet of any society's concerns and aspirations.

Imperatives of survival have marginalized the role of the arts and music in daily life, public discourse and even consciousness. However it is in times like these that the need for arts and music is the greatest for this milieu is most conducive to mental illness, stress and numerous physical ailments that are the by-product of modern-day lifestyle and lower standards of living.

Since time immemorial, artistic, cultural and creative pursuits, whether enjoyed through observation and

understanding, or engaged in through creation, have been perceived to provide a very forceful counterbalance to human circumstances and troubles and can be the preventive and corrective antidote to many mental and physical illnesses. More important is to note that music is one of the defining characteristics of a culture, most expressive of the best in human language and lifestyle, and is an undeniable enhancer of creativity and inspiration. The evidence of the visceral connection of human beings to music is indicated by the USD 37 billion retail value of global recorded music industry, corresponding to sales of 2.5 billion units [1] (Bastian, 2002).

This work sets out to explore the perception that art and music education can enhance learning skills. There is ample literature to support such a premise. Music training causes improvement in several diverse aspects of cognition – one of the obvious means of producing this effect is improving attention. Music education has therefore significant impact on educational achievement. Arnaud Cabanac et al demonstrated students selecting musical courses perform better academically than those declining such courses [2].Likewise, Onur Köksal et al showed the effect of teaching English vocabulary to 5th class students through music on their achievement in vocabulary, attitudes towards English language and retention of new words [3]. Various studies have investigated students learning music and revealed in them an enhancement of IQ level [4], critical thinking [5],working memory[6]and communication skills [6b].Previous studies also illustrate the importance of background music and that playing of different genres influences the cognitive ability of students participating in academic tasks [7]. S. Hallamalso pointed out that students do better at math when it is practiced with background music [8].Like academic performance, music also helps in learning and development of language [9, 10].

METHODOLOGY

This work sets out to explore the perception that art and music education can enhance learning skills. This was accomplished through survey of students of different nationalities to determine their opinion of the role of music and art education in learning skills.

All questionnaires were administered in person. Each participant was explained the nature and purpose of the study. Participants were told that there was no time limit for the completion of the questionnaire and that the completion would likely take 10-20 minutes. The identity of each respondent would remain confidential.

Mixed method approach was implemented for the survey which consisted of both quantitative survey (questionnaire) and qualitative survey (interview**).** This survey was aimed to gather data on: type of music listened by the students; frequency of listening; and their perception of how it affects their behavior.

Questionnaires were completed by 100 students (50 boys, 50 girls) between 18 and 25 years of age (M = 21.38, SD = 2.654) who were taking undergraduate and postgraduate courses in University in different fields like medicine, engineering, trade and humanities.

The questionnaire consisted of 7 items concerning: degree and frequency of exposure to music; liking for different musical styles; the importance of listening music relative to other activities; the reasons why the participants themselves listened to and played music; and their perceptions of effect of music and art education on learning skills, enhancement in IQ level, academic achievements and learning own or other's culture.

PROCEDURE

All questionnaires were administered in person and explained the nature and purpose of the study to all the participants before asking them to volunteer. Participants were told that there was no time limit for the completion of the questionnaire and that the completion would likely take 10-20 minutes. The details shown in Table 1. The information provided by each individual remains confidential.

Mix method approach has been done in order to fulfill the Questionnaire. The survey was consist of quantitative survey (questionnaire) and qualitative survey (interview**).** This survey has created a baseline for the type of music listened by the students, how often they listen to it, and if they feel these habits affect their behavior.

PARTICIPANTS

Questionnaires were completed by 100 students (50 male, 50 female) between 18 and 25 years of age (M = 21.38, SD = 2.654) who were taking undergraduate and postgraduate courses in University with different backgrounds like medical, engineering, trade and humanities. Researchers were sought and included in the study based on their willingness to participate in the data collection.

QUESTIONNAIRE

The questionnaire consisted of 7 items. It was divided into several sections concerning the benefits and improvement in learning skills, enhancement in IQ level, the effect of music and art education on academic achievements, the importance of music in learning own or other's culture, degree and frequency of exposure to

music, liking for different musical styles, the importance of music listening relative to other activities; and the reasons why the participants themselves listened to and played music.

RESULTS AND FINDINGS

The first part of the questionnaire asked participants to state whether they think that music and art education bring serious benefit to students as they progress into more formal learning. Eighty one (81%) responded 'yes', nineteen (19%) responded 'no.' Participants then reported how music and art education improves the learning/thinking skills. According to seventy two (72%) agreed with this statement, (22%) disagreed with this and (6%) reported adverse effect. Respondents were given five options (Singing, listening, playing instruments, dancing, All or none) to select which field of music influences the learning skills. Majority students showed their interest on playing musical instruments, collectively (94%) agreed with all (Singing, listening, playing and dancing), (6%) disagreed that any field has impact on learning. Respondents were also asked to chose weather music and art education improve IQ level of student, (65%) reported 'yes' and (35%) reported 'no'. Respondents were then asked to state how many hours per day they typically spent listening to music, they have given four options and there was a fluctuation in the answers, according to some students (12%) they do not listen and some students (12%) used to listen daily about 5 or more than (these music lovers looked happy to answer such questionnaire), 21% reported 3-4 hours and majority (55 %) selected an average of 1.45 hours per day (SD = 0.67).Participants were given four options (Kindergarten, high school, University or no need). Majority of students (58%) agreed on art and music should start from kindergarten, 12% agreed on high school level, 12% on university level and according to 4% there is no need of art and music should be taught. Participants were asked whether they attended art and music classes during their educational career and also elaborate effect of training they attended. Forty five (45%) participants reported "No" and gave different reasons e.g. for some students music and art education were not a part of curriculum and for some music and art were optional subjects so they did not choose them. Fifty five (55%) participants reported that they attended these courses. Out of this 29% believed that such courses helped them in improving learning skills. Twenty six (26%) reported the least effect in improvement of learning skills. Firstly, participants were asked the effects arts and music on language learning skills, according to sixty one (61%) students replied that both arts and music enhance the natural abilities of learning own as well as other language. Twenty nine (29%) students think little effect on learning and 10% think that there is no effect. Participants then reported do music and art education help in learning own and other's culture, majority (94%) agreed on this.

Data Analysis Techniques

Descriptive and inferential statistics for the independent variables and the dependent variables, correlation and regression analysis were conducted to reveal significant correlations, analysis of variance (ANOVA) and residual statistics. A number of charts and figures were used to indicate relevant information regarding correlations and significance, if any.

Descriptive Statistics, Correlations, Analysis of Variance (ANOVA), and Regression

There are several inferential statistical procedures that were employed in this study. One employed procedure was a factorial Analysis of Variance (ANOVA), sometimes called an *F* test. Closely related to the *t* test where differences are measured between means of two groups, the ANOVA (*F* test) tests the difference between the means of two or more groups. Therefore, a factorial ANOVA examined data that was classified on multiple independent variables. Furthermore, a factorial ANOVA will show whether there is a significant main effect of the independent variables and whether there are significant interaction effects within and between independent variables in a set of data. Interaction effects occur when the impact of one independent variable depends on the level of the second independent variable (Creswell, 2003). One potential drawback to an ANOVA is the loss of specificity. The *F* test will distinguish that there is a significant difference between groups, not which groups are significantly different from each other. To determine this statistical significance, if any, a post hoc comparison was conducted to reveal where specific differences occur. In other words, which groups are significantly different from each other and which are not. Common post-hoc comparisons include Scheffe and Tukey (Solso, Johnson, & Beal, 1998). Finally, regression statistics were conducted. An extension of an ANOVA, regression is a statistical technique used to predict the value of a dependent variable using one or more independent variables (University of Newcastle upon Tyne, 2002). It is used to account for or predict variance in an interval dependent, based on linear combinations of interval, dichotomous, or dummy independent variables as shown in Table 2. Since there are a number of independent variables and one dependent variable in this study, a multiple regression was employed. Multiple regression

Table 1 presents the results of univariate analysis of variance tests of between-subjects effects for the dependent variable music and art education in learning culture for the entire study population.

Tests of Between-Subjects Effects

Dependent Variable: Music and art education can help in culture learning

Source	Type III Sum of Sq8uares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.374[a]	24	.016	.222	1.000	.066
Intercept	33.458	1	33.458	476.544	.000	.864
nationality	.374	24	.016	.222	1.000	.066
2Error	5.266	75	.070			
Total	118.000	100				
Corrected Total	5.640	99				

a. R Squared = .066 (Adjusted R Squared = -.232)

Table 2 presents mean, standard deviation, and frequency (*N)* for the dependent major of studies and the independent variable spending time listening music each day the entire study population.

Descriptive Statistics

Dependent Variable: major

Q	Mean	Std. Deviation	N
0	2.3333	.98473	12
1-2	2.1957	1.00265	46
3-4	2.3600	1.03602	25
5 or more hours	2.1176	.85749	17
Total	2.2400	.97566	100

Tests of Between-Subjects Effects

Dependent Variable: major

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.809[a]	3	.270	.277	.842	.009
Intercept	397.847	1	397.847	408.789	.000	.810
Question	.809	3	.270	.277	.842	.009
Error	93.431	96	.973			
Total	596.000	100				
Corrected Total	94.240	99				

a. R Squared = .009 (Adjusted R Squared = -.022)

can establish that a set of independent variables explains a proportion of the variance in a dependent variable at a significant level (through a significance test of *R*) and can establish the relative predictive importance of the independent variables by comparing beta weights (Garson, 2006).

Literature survey reveals a variety of positive effects of music on health and affect; these are summarized below:

Research has shown music to be effective in reducing the perception of pain, especially among older patients, those in intensive care and those in chronic or long-term pain [11].A study has demonstrated that people will bike harder when listening to fast music. Another has shown that people run faster and endure more physically when listening to upbeat music [3].Listening to up-beat music during exercise helps boost physical performance and endurance during tougher sessions [12]. This effect is in part explained by the distraction provided by music during tougher work-outs. Music, regardless of type, has shown to help the body recover faster from the physical stress of exercise [13], with slower music having a more profound effect. Classical music has been proven to effectively treat insomnia in college students, making it an alternative to sleep medication. Playing light music with dimmed lights while eating has shown to slow down eating and overall lower the amount consumed [14].Music has been shown to act as a dopamine agonist. Music enjoyment triggers stress reducing chemicals in6 the brain [15].Slow8 music alters brain activity to produce mental states similar to when a person is meditating or is in hypnosis. Inducing brain activity similar to that in such states of altered consciousness with the aid of music can reduce the symptoms of migraine and behavioral problems [16].Classical and slow music can help reduce depressive feelings while rock and aggressive tunes can exacerbate depression. Music has been shown to improve mood, arouse and make self-aware the listeners. Thus, music has a demonstrated effect on affect and mood regulation. Music has been shown to demonstrably enhance cognitive functioning [15] and test performance. Music is as effective in lowering anxiety as a massage. It helps lower anxiety among heart patients prior to surgery. It is effective in reducing post-surgery stress. It produces the perception of stress-reduction and lowering of physical pain among cancer patients [13] while improving their quality of life. Compared to those who did not listen to music or heard only audio books, the memory, attention and mood of stroke patients who regularly listened to music was significantly improved.

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