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## Does tertiary education in music promote psychological well-being and curb negative emotions

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### Abstract

The study aimed to find out whether stream of study (Music / Non-Music) influences tertiary students' extents of psychological well-being and experience of negative emotions (viz. depression, anxiety and stress). Two random samples were selected. One sample consisted of 145 (103 undergraduate; 42 post-graduate) students of music. Another sample comprised 87 (59 undergraduate; 28 post-graduate) students who have never studied music. Females and males were represented in the samples. Age range of the participants was 18 – 25 years. They belonged to middle socio-economic status families as assessed by standardized tool [17]. They were residents of Kolkata. Tools administered for data collection included a General Information Schedule and three standardized tests viz. Psychological Well – Being Scales [14], Depression, Anxiety and Stress Scale [11] and Socio – Economic Status Index [17]. Descriptive statistics were computed. Analysis of Variance was conducted. Results showed that stream of study (Music / Non-Music) had significant influence on participating tertiary students' extents of autonomy, depression, anxiety and stress. Participating students of music tended to be superior in autonomy but on the average suffered more from depression, anxiety and stress as compared with their peers from other disciplines. Institutions must provide counseling and guidance services customized to satisfy the needs of students of music.

**Keywords:** Stream of study, Music, Tertiary students, Autonomy, Depression, Anxiety, Stress

### 1. Introduction

Researches have indicated that young adults pursuing tertiary education are particularly vulnerable to depression, anxiety and stress. Chief reasons of depression, anxiety and stress of tertiary students are heightened academic, psycho-social and financial pressures. Uncertainty regarding future prospects and relational problems substantially contributes towards psycho-social pressures. In the wake of these problems, sense of psychological well-being of tertiary level students declines [9, 15, 18]. Medical and psychological interventions have been used for quite some time as remedies for depression, anxiety and stress; and to boost psychological well-being. Fairly recently the role of music in addressing mental health issues is receiving attention. Music as remedy usually involves listening to it or receiving training in it. Training in music is the active option which includes listening to music. Training in music could vary in rigor ranging from preliminary through intermediate to advance. Tertiary (undergraduate and post-graduate) level training in music seems reasonably intensive. So whether tertiary students of music indeed have lower depression, anxiety and stress; and enjoy more psychological well-being than their counterparts in other disciplines needs examination. For that, initially, the pertinent researches had to be surveyed.

The survey revealed that one school of researchers posits that training in music buffers against depression, anxiety and stress; and fosters psychological well-being of tertiary students. Alex (2016) [2] studied a purposive sample of 40 college students in Trivandrum (India). 20 of the participants were randomly assigned to music intervention; and the rest 20 belonged to the control group. Those who underwent the intervention were found to have lower depression, anxiety and stress; they suffered less psychological distress than the control group. Demirbatir (2015) [6] sampled 147 university students of music (mean age: 20.99 years) in Turkey. They reportedly experienced mild depression, moderate anxiety and mild stress. Depression, anxiety and stress were found to impair happiness of these students. Gautam *et al.* (2015) [7] drew a sample of 60 seemingly healthy medical students in New Delhi (India). 50% of them were

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exposed to music (experimental group) while the rest 50% were not (control group). Significant decrease in anxiety and improvement in experienced well-being were noted among participants in the experimental group; Serum Cortisol levels were lower in the experimental group. Thoma *et al.* (2013) <sup>[16]</sup> had studied 60 healthy female volunteers (mean age: 25 years). It was found that listening to music affected the psycho-biological stress system. Hearing music before exposure to standardized stressor influenced the autonomic nervous system so that it could quickly return to normal; endocrine and psychological stress-response systems were also somewhat impacted.

Some researchers have, however, argued that students of music are like students of other disciplines. They too are affected by academic and social stresses of student-life. Training in music does not make them less vulnerable to these stressors. Orzel (2010) <sup>[12]</sup> selected a sample of undergraduate music students in the U.S. Majority ascribed high level of experienced stress to undergraduate studies in general and music studies in particular. Music students felt pressurized by academics and music-commitments. They complained about not getting enough time to pursue the activities they enjoyed. It was even opined by them that most effective way to combat stress was sleeping. Burland (2005) <sup>[4]</sup> in a longitudinal study of 32 music students (25 females; 7 males) aged 19 to 21 years revealed the career-uncertainties and struggles experienced by them. Wristen (2013) <sup>[19]</sup> stated that a sizeable proportion of university students of music experienced depression and anxiety; their prevalence rates were like that of those specializing in other disciplines. A group of researchers e.g. Rastogi and Silver (2014) <sup>[13]</sup> have even challenged the claim that music is relaxing and aids concentration in studies. They found that music-listening habits varied across educational levels with adolescents at junior levels spending more time hearing music but suffering more stress and displaying poorer examination performance than their seniors. Music was not found to be related with decrement in stress in academic contexts. The investigators remarked that this was because listening to music was distracting which hampered serious study. Liljeström (2011) <sup>[10]</sup> selected a sample of 762 individuals (436 females; 326 males) aged 18 – 65 years in Sweden. It was found that emotions in response to music as stimuli were more often experienced by the musically-trained rather than untrained listeners. Kawakami *et al.* (2012) <sup>[8]</sup> worked with a sample of 24 participants and concluded that musically-trained persons who were made to listen to minor-key, dissonant and high-note dense music rated perceived emotions as more unpleasant than felt emotions. Besides, some researchers have stated that psychological well-being of students are not dependent on their training in music. For instance, Demirbatir *et al.* (2013) <sup>[5]</sup> reported that life satisfaction of a sample of 69 undergraduate music education students were closely related with their economic status.

## 2. Research Objective

To find out whether stream of study (Music / Non-Music) influences tertiary students' extents of psychological well-being and experience of negative emotions (viz. depression, anxiety and stress).

## 3. Methodology

### 3.1 Hypotheses

- i. There is influence of stream of study (Music / Non-Music) at tertiary level on students' extent of autonomy.

- ii. There is influence of stream of study (Music / Non-Music) at tertiary level on students' extent of environmental mastery.
- iii. There is influence of stream of study (Music / Non-Music) at tertiary level on students' extent of personal growth.
- iv. There is influence of stream of study (Music / Non-Music) at tertiary level on students' extent of positive relations with others.
- v. There is influence of stream of study (Music / Non-Music) at tertiary level on students' extent of purpose in life.
- vi. There is influence of stream of study (Music / Non-Music) at tertiary level on students' extent of self-acceptance.
- vii. There is influence of stream of study (Music / Non-Music) at tertiary level on students' extent of depression.
- viii. There is influence of stream of study (Music / Non-Music) at tertiary level on students' extent of anxiety.
- ix. There is influence of stream of study (Music / Non-Music) at tertiary level on students' extent of stress.

### 3.2 Operational Definitions of Variables

**i) Stream of study:** It refers to a group of allied subjects. At tertiary level of education, it may mean a faculty of study. Here, it refers to the discipline of music vis-à-vis the other disciplines.

**ii) Psychological well-being:** It has been conceptualized as encompassing sense of autonomy (independence and self-determination), feeling of mastery over the environment (the ability to manage one's own life), experience of personal growth (being open to new experiences), maintenance of positive relations with others (Having satisfying and high quality relationships), possession of purpose in life (believing that one's life is meaningful) and sense of self-acceptance (a positive attitude towards oneself and one's past life) <sup>[14]</sup>.

**iii) Depression:** It has been defined as composed of experience of psychological unease and pervasive dissatisfaction with life (dysphoria), hopelessness, devaluation of one's own life, self-deprecation, lack of interest or involvement in activities, lack of enjoyment (anhedonia) and inertia <sup>[11]</sup>.

**iv) Anxiety:** It is defined as comprising of experience of autonomic arousal, felt rigidity and weakness of skeletal muscles, perception of most situations as dangerous and feeling of apprehension <sup>[11]</sup>.

**v) Stress:** It has been defined as sensitivity to levels of chronic non-specific arousal in terms of difficulty in relaxing, nervous arousal and being easily upset / agitated; irritable / over-reactive; and impatient <sup>[11]</sup>.

### 3.3 Tools

The following tools were administered to participants for data collection.

**i) General Information Schedule prepared by the authors:** It comprises 12 items for eliciting identifying and pertinent background information from participants. Six items are open-ended; four are closed-ended; and the rest two are a combination of open and closed-ended types.

**ii) Psychological Well-Being Scales (Ryff, 1989) [14]:** It consists of 42 items in the form of statements assessing test-taker's self-reported sense of autonomy, environmental mastery, personal growth, positive relations, purpose in life and self-acceptance. Each item can be responded to by endorsing any of the six options – strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree and strongly agree. Of the 42 items, 20 are negatively phrased and the rest 22 are positively phrased. It was found that the tool assessed well-being most reliably and validly at middle range of the score distribution for a sample 1179 women aged 52 years in the United Kingdom. Norms in terms of mean and standard deviation values are based on a sample of 321 physically healthy and well educated men and women [1, 14].

**iii) Depression, Anxiety and Stress Scale (Lovibond and Lovibond, 1995) [11]:** It is a self-report tool which comprises 21 items (seven items each assessing depression, anxiety and stress respectively). Each of the three sub-scales is a dimension. Items are in the form of statements to be rated by the test-taker on a four-point scale. Scores for depression, anxiety and stress are calculated by adding the scores for the relevant items and multiplying by two. Cronbach's alpha are .94, .87 and .91 for the depression, anxiety and stress sub-scales respectively. As for concurrent validity, the depression sub-scale scores correlated .79 with Beck Depression Inventory scores; anxiety sub-scale scores correlated .85 with Beck Anxiety Inventory scores; stress sub-scale scores correlated .70 with Beck Anxiety Inventory scores. Norms are in percentiles and based on a sample of 1794 individuals [3, 11].

**iv) Socio-Economic Status Index (Verma *et al.*, 2008) [17]:** It consists of eight items for assessment of socio-economic status of students. The items pertain to family status; parental education, occupation and income; caste; dwelling-area; possession of valuables; membership of clubs; political positions etc. Test-retest reliability of the tool was found to be .74. As for construct validity, the total scores on the tool

correlated .36, .28 and .28 with measures of verbal intelligence, non-verbal intelligence and achievement respectively; these coefficients were significant at .01 level. Normative sample comprised 1000 girls and boys of class X; norms are in T scores, z scores and stanines [17].

### 3.4 Sample

Two random samples were selected. One sample consists of 145 (103 undergraduate; 42 post-graduate) students of music. Students of music were selected from Hindustani Vocal Music, Rabindrasangeet and Instrumental Music departments of Rabindra Bharati University. Another sample comprises 87 (59 undergraduate; 28 post-graduate) students who have never studied music either formally or informally. These students were selected from various arts (humanities), commerce and science undergraduate and post-graduate departments of two colleges affiliated with University of Calcutta. Females and males are represented in the samples. Age-range of the participants is 18 – 25 years. They belong to middle socio-economic status families as assessed by standardized tool. They are residents of Kolkata.

### 4. Procedure

Permission of authorities of institutions were sought and obtained prior to data collection. Data were collected by personally meeting the students (in groups of about 25 individuals each) at respective institutions and administering the tools. Before scoring the standardized tests, random samples were selected by draw of lots. Initially, the socio-economic status index was scored. Only students who belonged to middle socio-economic status remained in the samples. Then information obtained through the General Information Schedule were tabulated. Next, tools assessing psychological well-being; and depression, anxiety and stress were scored. Computerized statistical analysis was conducted. Descriptive statistics was computed. Analysis of variance was conducted.

### 5. Results and Discussion

**Table 1:** Descriptive Statistics

	Autonomy		Environmental Mastery		Personal Growth	
	Mean	SD	Mean	SD	Mean	SD
Stream: Music (N= 145)	30.52	5.18	27.04	5.14	32.01	5.14
Stream: Non-Music (N=87)	27.05	6.71	26.71	5.52	30.53	6.54
	Positive Relations		Purpose in Life		Self-Acceptance	
	Mean	SD	Mean	SD	Mean	SD
Stream: Music (N=145)	29.87	6.31	30.99	5.53	30.38	5.56
Stream: Non-Music (N=87)	30.84	6.72	29.75	7.22	29.86	6.60
	Depression		Anxiety		Stress	
	Mean	SD	Mean	SD	Mean	SD
Stream: Music (N=145)	20	8.15	23.49	8.89	23.79	7.82
Stream: Non-Music (N=87)	11.40	8.89	10.92	8.17	14.87	9.17

SD: Standard Deviation

Mean values (Table 1) show that participating tertiary-level students of music have on the average scored higher than their peers from other disciplines in autonomy, personal growth, depression, anxiety and stress. Participants from the two streams of study are almost equal in environmental mastery, positive relations, purpose in life and self-acceptance. Students of music manifest wide dispersion of scores as

evident from high standard deviation values (Table 1) in depression, anxiety and stress. Similarly, students of disciplines other than music show heterogeneity of variance apparent from high standard deviation values (Table 1) in purpose in life, depression, anxiety and stress. In other cases, within-group variability has been found to be moderate.

**Table 2:** Results of Analysis of Variance: Independent Variable - Stream of Study (Music / Non-Music)

Dependent Variables	Source of Variation	Sum of Squares	DF	Mean Square	F	Sig
Autonomy	Between Groups	657.81	1	657.81	19.57	.000
	Within Groups	7731.98	230	33.62		
	Total	8389.79	231			
Environmental Mastery	Between Groups	5.88	1	5.88	.21	.647
	Within Groups	6419.57	230	27.91		
	Total	6425.44	231			
Personal Growth	Between Groups	119.92	1	119.92	3.69	.056
	Within Groups	7479.65	230	32.52		
	Total	7599.57	231			
Positive Relations	Between Groups	51.17	1	51.17	1.22	.270
	Within Groups	9624.26	230	41.85		
	Total	9675.43	231			
Purpose in Life	Between Groups	84.42	1	84.42	2.19	.141
	Within Groups	8885.43	230	38.63		
	Total	8969.85	231			
Self-Acceptance	Between Groups	14.55	1	14.55	.41	.523
	Within Groups	8194.48	230	35.63		
	Total	8209.03	231			
Depression	Between Groups	4019.43	1	4019.43	56.51	.000
	Within Groups	16360.92	230	71.13		
	Total	20380.35	231			
Anxiety	Between Groups	8591.67	1	8591.67	115.39	.000
	Within Groups	17124.67	230	74.46		
	Total	25716.35	231			
Stress	Between Groups	4325.98	1	4325.98	62.02	.000
	Within Groups	16043.40	230	69.75		
	Total	20369.38	231			

Results (Table 2) show that stream of study (Music / Non-Music) has decisive impact on participating tertiary-level students' extents of autonomy ( $F=19.57$ ; sig .000), depression ( $F=56.51$ ; sig .000), anxiety ( $F=115.39$ ; sig .000) and stress ( $F=62.02$ ; sig .000). So the 1<sup>st</sup>, 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> hypotheses are supported. Observation of mean values (Table 1) point out that participating students of music tend to be superior in autonomy but on the average suffer more from depression, anxiety and stress as compared with their counterparts from other disciplines. These findings resonate with those of previous investigations [5, 12, 13, 19]. Paradoxically enough, students of music feel more independent and self-determined but experience negative emotions like depression, anxiety and stress to a greater extent. It is plausible that students of music exercised their autonomy when they went against the flow and chose the unconventional discipline of music at tertiary-level. It is also plausible that the uncertainties of a career in music are now making them more prone to depression, anxiety and stress [4, 5]. It is also likely that they are feeling the negative emotions more keenly because their training in music is making them respond with greater depth of emotions to stimuli which would not affect students of non-artistic disciplines so much [8, 10]. For the rest of the dependent variables (viz. environmental mastery, personal growth, positive relations, purpose in life and self-acceptance), stream of study apparently has feeble effect. Consequently, the 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> hypotheses are rejected. In these respects the participating tertiary students of music seem no different from their peers in other disciplines. These results echo those of prior researches [9, 15, 18].

## 6. Conclusion

Stream of study (Music / Non-Music) evidently has strong influence on participating tertiary students' extents of autonomy, depression, anxiety and stress. Participating students of music tend to be superior in autonomy but on the average suffer more from depression, anxiety and stress as

compared with their counterparts from other disciplines. So it should not be assumed that students of music are immune to mental health problems. Music students' mental health does require special attention as they have chosen a career which is unconventional, demanding and routinely evokes powerful emotions. Institutions must provide counseling and guidance services tailored to meet the specific needs of students of music.

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