The International Journal of Indian Psychology
ISSN 2348-5396 (Online) | ISSN: 2349-3429 (Print)
Volume 13, Issue 1, January- March, 2025
DIP: 18.01.047.20251301, DOI: 10.25215/1301.047
https://www.ijip.in

Research Paper

Role of Art Training in Aggression, Depression, Anxiety, Stress, Creative Personality and Creative Self of College and University Students of Kolkata

Ms. Avipsha Chakraborty[1]*, Prof. Subrata Dasgupta[2]

ABSTRACT

The current study sought to determine how art influenced the creative identities of university students, and their aggression-orientation, depression, anxiety, and stress, with a focus on how individuals' creative components can predict the aforementioned negative emotional states. Multistage stratified random sampling was used to choose male and female of 18 to 25 years for the study. Participants were divided into groups based on their gender and type of art training. The subjects' above mentioned variables were evaluated by STAXI-2, DASS-21, CPI, and SSCS and information schedule was screening instrument. Dependent variables revealed significant difference across eight subgroups of participants. Acquired data were analyzed through statistical methods. Findings show, art trained participants experienced less negative states and have developed creative identity than untrained.

Keywords: *Aggression, Depression, Anxiety, Stress, Creative identity, Art-training*

In contemporary society, **Art** continues to be used to promote health and well-being in clinical settings, such as for relaxation, psychotherapy, and personal growth. Several studies revealed art training can affect various variables like aggression, anxiety, self-esteem, depression, self concept, creativity etc. In the present study, few variables among these were studied. The totality of action orientation or impulse towards violent acting out in a specific direction is known as aggression orientation. It is referred to as internalised violence when it is directed towards oneself and externalised aggression when it is directed towards others (Choyonwski, 1995). According to the Diagnostic and Statistical Manual of Mental Disorders (1980), anxiety is a state of apprehension, tension, or uneasiness that stems from the anticipation of danger. David Barlow defines anxiety as "a future-oriented mood state in which one is not ready or prepared to attempt to cope with upcoming negative events". Creative self-efficacy, or CSE, is an individual's assessment of their capacity to generate original and pertinent ideas, come up with creative solutions, and engage in creative behaviours. Creative self-orientation is also known as creative self-efficacy, creative personal identity, and creative self concept (Beghetto and Abbott, 2009). The relevance of creativity for oneself is known as creative personal identity, but the significance of creativity in a particular function that one plays is known as role identity (Tierney and Farmer, 2002;

[1]Research student, Department of Applied Psychology, University of Calcutta, West Bengal, India
[2]Professor, Department of Applied Psychology, University of Calcutta, West Bengal, India
*Corresponding Author

Received: November 04, 2024; Revision Received: January 28, 2025; Accepted: January 31, 2025

© 2025, Chakraborty, A. & Dasgupta, S.; licensee IJIP. This is an Open Access Research distributed under the terms of the Creative Commons Attribution License (www.creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any Medium, provided the original work is properly cited.

Jaussi, Randel, and Dionne, 2007). Creative self-concept is the result of combining these two ideas. A creative personality is characterized by the ability to think imaginatively and generate original ideas. Creative people are often described as visionary, innovative, or imaginative. Research findings suggest that painting therapy worked effectively as a complementary treatment in reducing aggressive behaviours in ID students. (Hashemian and Jarahi, 2014). In recovering from depression, this can be quite helpful. An experimental study was carried out by Kheibari, Anabat, Largany, Shakiba, and Abadi (2014) to investigate the impact of expressive arts therapy on reducing anxiety in orphaned girls residing in family-like facilities in Mashhad, Iran. After administering state-trait anxiety inventory, they found the mean state-trait anxiety score between pre and post-activity in the art making group significantly lower, whereas no difference was observed in the control group. According to their research, creating expressive art for a short while can dramatically lower a person's anxiety level. This could have an impact on art therapy programs that help orphaned children learn coping mechanisms. Zahir Vally and associates (2019) found that creativity can be enhanced with art instruction. The researchers examined whether improvements in neuro-executive functioning, creative output, and creative self-efficacy (CSE) would transpire in 133 participants who completed the 13-week program. Fluency, originality, and elaboration showed significant improvements, and pre-to-post test differences were assessed. The subjects gradually developed a creative identity. Therefore, the current study covered a range of art training methods to investigate the effects of various art instruction types (training in hand painted fine art, digital art, other form of art including music, instruments, drama, recitation etc. and no instruction or training in any form of art.) on the previously described parameters. Especially in Bengali culture, the effects of art education are not as apparent in the Indian context. The present investigation sought to determine the relationship between gender and art education on creative self-expression, aggression, depression, anxiety, and stress.

METHODOLOGY

Objectives

- To determine the role of art training and gender in aggression orientation, depression, anxiety and stress of university students.
- To determine the role of art training and gender in creative self orientation and creative personality of university students.
- To determine the significant relationship between Creative personality and Creative self with aggression-orientation, depression and anxiety and stress of university students.
- To determine the significant predictors of aggression-orientation, depression, anxiety and stress of university students.

Sample

A sample of 240 participants, aged 18 to 25, was chosen for the study, with 120 males and 120 females. This sample was split into eight subgroups based on their type of training. These subgroups were further divided into male and female groups, each with thirty subjects. The groups were - participants trained in hand painting, digital painting, any other type of art (includes Instruments, recitation, music, dance, and drama etc.) and participants with no training in any form of art. (all groups consist 30 males and 30 females)

Sampling technique –

Multistage stratified random sampling is the sampling method chosen for this application. Three zones—the north, south, and central—were created by stratifying the institutes in Kolkata, and a few colleges and universities were chosen for data collecting from each zone. The main or head of the institution gave permission for data collection from their establishments. Students who met the inclusion criteria and granted permission to participate in the current study were chosen at random. The in-completed datasheets were rejected.

The following were the

- **Inclusion criteria**: The sample's age ranges from 18 to 25. The study's participants are students (unmarried or single), with middle-class to upper-class family income, who are presently enrolled in undergraduate or graduate programs at universities in Kolkata. Two forms of hand-painted art that are taken into consideration for this study are fine art and graphic printmaking; digital art forms include graphic design, animation, and digital painting. Instruments, recitation, music, dance, and drama (not stage preparation, painting, or crafts) are examples of other art forms. The parents of the pupils should have completed at least higher secondary school. They will identify as Hindus and have Indian nationality. All of the participants in the sample are of Bengali language origin.
- **Exclusion Criteria** include, individuals who had received training in any other form of art for many years, and individuals who have in receiving training in both hand-painted and digital art or any other form of art were excluded.

Instruments –

Apart from information schedule, four measures were used in this study. All the tools are listed below -

1. **Detailed information schedule to collect familial and personal information.**
2. **The State-Trait Anger Expression Inventory– 2 (STAXI-2)-** This scale was prepared by Spielberger & Reheiser in 1990s. It is a 57-item inventory that measures anger experience, expression, and control, and an anger expression index; that measures the total anger expression. The STAXI-2 includes scales that assess State-Anger, Trait-Anger and Anger Control. It is considered the gold standard for anger assessment as it is extremely reliable and valid (2016).
3. **The Depression Anxiety and Stress Scale– 21 (DASS-21)-** The 21-item Depression, Anxiety, Stress scale (DASS-21) is a brief self-report scale, based on DASS-42, initially developed by Lovibond and Lovibond to cover the full range of core symptoms of emotional distress. DASS-21 measures negative emotional states like depression, anxiety, and stress (within last 7 days). It is a shorter version of DASS-42 (consists 42 items). Cronbach's alpha was used to calculate internal consistency reliability (The overall alpha was 0.961). Construct validity was determined using CFA based on the structure of original DASS-21 scale.
4. **The Creative Personality Inventory (CPI) -** This inventory is made from a definition of creativity by Runco. The inventory is developed by Eko Susanto. After analysis of the original questionnaire, the final version of this inventory measures 6 different factors such as – Curiosity, Flexibility, Useful, Originality, Unique, Confidence. The items are arranged in a 5point Likert type scale ranging from 1-5 (1=very suitable, 2=suitable, 3=slightly proper, 4=not proper, 5=strongly disagree). The scale contains 18 items. According to a 2018 research paper, the creative personality inventory (CPI) has a reliability coefficient of 0.911.

5. **The Short Scale for Creative Self –** It is a standardised instrument developed by Maciej Karwowski in 2011. It is self-report scale, which consists of 11 items indicating creative self-efficacy and creative personal identity. The scale is a 5 point Likert type scale form 'definitely not' to 'definitely yes' indicating 1 to 5 scores. It has a good reliability (alpha=0.904) and exhibit acceptable validity.

Statistical analysis –

The data of the respondents were analysed by using the 20.0 version of statistical package for social sciences (SPSS). Descriptive statistics, Analysis of Variance and linear regression analysis were done.

RESULTS

Table 1: The mean and standard deviation of dimensions of Aggression-Orientation, Depression, Anxiety, Stress, Creative self and Creative personality for the total sample (N=240)

Dependent Variables		**Mean**	**Standard Deviation**
Domains of Aggression	State-anger feeling (S-Ang/F)	7.2917	2.74704
	State anger verbal(S-Ang/V)	6.7792	2.48282
	State-anger physical (S-Ang/P)	6.3958	2.23831
	Anger temperament (T-Ang/T)	7.2458	2.57644
	Angry reactions (T-Ang/R)	8.5668	2.63461
	Anger expression outward (AX-O)	16.6083	3.59542
	Anger expression inward (AX-I)	18.8458	4.11310
	Anger control outward (AC-O)	21.8083	3.82288
	Anger control inward (AC-I)	21.9667	3.86974
Depression		12.7958	6.35336
Anxiety		12.8750	6.97142
Stress		13.9833	6.54423
Creative personality		62.4542	12.67208
Dimensions of Creative self	Creative self efficacy	22.3167	3.63204
	Creative personal identity	20.7458	7.82812
	Creative self concept	42.1917	7.80119

Mean and SD show that for all variables, SD is lesser than mean. Skewness and kurtosis were also assessed. Skewness and kurtosis for all variables ranged from -2 to +2, and -7 to +7, indicating normal data. (Bryne & Hair, 2010)

Table 2: Results of 2x 4 Factorial Analysis of Variance for significance of main effects of Forms of art training, Gender and their interaction effect on Aggression-orientation -

Dependent Variables	Source	Sum of square	df	F	Sig.
S-Ang/F	Art training method	116.450	3	5.351**	0.001
S-Ang/F	Gender	2.40	1	0.329	0.567
S-Ang/F	Art training method*Gender	19.867	3	0.907	0.439
S-Ang/V	Art training method	8.279	3	0.433	0.722
S-Ang/V	Gender	0.504	1	0.081	0.776
S-Ang/V	Art training method *Gender	19.612	3	1.050	0.371
S-Ang/P	Art training method	14.100	3	0.959	0.413
S-Ang/P	Gender	0.600	1	0.122	0.727
S-Ang/P	Art training method *Gender	51.100	3	3.476*	0.017
T-Ang/T	Art training method	18.779	3	0.975	0.405
T-Ang/T	Gender	1.838	1	0.286	0.593
T-Ang/T	Art training method *Gender	23.512	3	1.221	0.303
T-Ang/R	Art training method	25.817	3	1.287	0.279
T-Ang/R	Gender	40.017	1	5.987*	0.015
T-Ang/R	Art training method *Gender	31.017	3	1.547	0.203
AX-O	Art training method	743.683	3	14.985**	0.000
AX-O	Gender	79.350	1	4.768*	0.030
AX-O	Art training method *Gender	177.150	3	3.548*	0.015
AX-I	Art training method	217.879	3	4.591**	0.004
AX-I	Gender	0.938	1	0.059	0.808
AX-I	Art training method *Gender	48.312	3	1.018	0.385
AC-O	Art training method	523.833	3	8.140**	0.000
AC-O	Gender	2.017	1	0.094	0.759
AC-O	Art training method *Gender	50.283	3	0.781	0.505
AC-I	Art training method	500.683	3	7.589**	0.000
AC-I	Gender	0.417	1	0.019	0.891
AC-I	Art training method *Gender	44.483	3	0.674	0.569

*p< 0.05, **p<0.01

From ANOVA table it is seen that forms of art training have significant effect on S-Ang/F, AX-O, AX-I, AC-O, AC-I. Gender has a significant effect on T-Ang/R and AX-O. There are significant interaction effect between art training method and gender on S-Ang/P and AX-O. Now, multiple comparisons are further done where Art training method was found to have significant effects on the dependent variables as the art training method as independent variable has four levels.

Table 2.1: Results of least significant difference table of S-Ang/F, AX-O, AX-I, AC-O and AC-I as dependent variables and art training method as independent variable with four levels.

LSD

Art training Method (I)	**Art training Method (J)**	**S-Ang/F**	**AX-O**	**AX-I**	**AC-O**	**AC-I**
		Mean difference (I-J)	**Mean difference (I-J)**	**Mean difference (I-J)**	**Mean difference (I-J)**	**Mean difference (I-J)**
Hand-painting	Digital art	-1.9000*	-1.1333	0.233	1.7167*	0.5167
	Other form of art	-0.5000*	0.35	0.15	-0.4833	-1.6667
	No training in any art form	-0.8333	-3.8667*	-2.1833*	3.1333*	2.3500*
Digital art	Hand-painting	1.9000*	1.1333	-0.2333	-1.7167*	-0.5167
	Other form of art	1.4000*	1.4833	-0.0833	-2.2000*	-2.1833*
	No training in any art form	1.0667*	-2.7333*	-2.4167*	1.4167	1.8333*
Other form of art	Hand-painting	0.5	-0.35	-0.15	0.4833	1.6667
	Digital art	-1.4000*	-1.4833	0.0833	2.2000*	2.1833*
	No training in any art form	-0.333	-4.2167*	-2.333*	3.6167*	4.0167*
No training in any art form	Hand painting	8.333	3.8667*	2.1833*	-3.1333*	-2.3500*
	Digital art	-1.0667*	2.7333*	2.4167*	-1.4167	-1.8333*
	Other form of art	0.333	4.2167*	2.333*	-3.6167*	-4.0167*

**p< 0.05, **p<0.01*

This table shows that individuals trained in digital art (M – 8.40) report feeling the most angry in some scenarios, while trainees trained in hand painting (M – 6.50) report feeling the least angry in certain situations. In terms of both controlling and expressing anger, the participants who did not receive art training differed considerably from the trained groups. Individuals who have never had any kind of art instruction are more likely than those who have to vent their anger both internally and outside. (For AX-O, the group that is not trained exhibits the highest mean level of anger (M - 16.6917), while the group that has received hand painting training exhibits the lowest mean level of anger (M - 15.3167) and for AX-I untrained group exhibits the highest levels of anger (M - 20.450), whereas those who received digital painting instruction have the lowest levels of anger (M -17.9833). Both inward and outward anger control is least in the untrained group with the mean of 19.70 (for, AC-O) and 19.90 (for, AC-I) and highest in the participants who are trained in other art forms than painting with the mean of 23.383 (for AC-O) and 23.950 (for AC-I).

Table 3: Results of 2x 4 Factorial Analysis of Variance for significance of main effects of Forms of art training, Gender and their interaction effect on Depression, Anxiety and Stress

DEPENDENT VARIABLES	**SOURCE**	**Sum of square**	**Df**	**F**	**Sig.**
Depression	Art training method	1906.733	3	7.802**	0.000
Depression	Gender	135	1	1.657	0.199
Depression	Art training method *Gender	66.733	3	0.273	0.845
Anxiety	Art training method	2259.250	3	10.658**	0.000
Anxiety	Gender	360.150	1	5.097*	0.025
Anxiety	Art training method *Gender	223.650	3	1.055	0.369
Stress	Art training method	819.517	3	3.824**	0.011
Stress	Gender	79.350	1	1.111	0.293
Stress	Art training method *Gender	117.117	3	0.547	0.651

*p< 0.05, **p<0.01

From ANOVA table it is seen that forms of art training have significant effect on Depression, Anxiety and Stress. Gender has a significant effect on anxiety. Males experience less anxiety (M-11.6500) than females (M-14.1000).

Now, multiple comparisons are further done where Art training method was found to have significant effects on the dependent variables as the art training method as independent variable has four levels.

Table 3.1: Results of least significant difference table of Depression, Anxiety and Stress as dependent variables and art training method as independent variable with four levels.

Art training Method (I)	Art training Method (J)	Depression		Anxiety		Stress	
		Mean difference (I-J)	Sig.	Mean difference (I-J)	Sig	Mean difference (I-J)	Sig
Hand-painting	Digital art	-5.5667*	0.001	-7.3667*	0	-1.3667	0.337
	Other form of art	-6.00*	0	-5.7667*	0	-1.3	0.4
	No training in any art form	-7.4667*	0	-7.5667*	0	-4.9667*	0.001
Digital art	Hand painting	5.5667*	0.001	7.3667*	0	1.3667	0.377
	Other form of art	-0.433	0.792	1.6	0.298	0.0667	0.966
	No training in any art form	-1.9	0.249	-0.2	0.896	-3.6000*	0.021
Other form of art	Hand painting	6.00*	0	5.7667*	0	1.300	0.4
	Digital art	0.433	0.792	-1.6	0.298	-0.0667	0.966
	No training in any art	-1.4667	0.373	-1.8	0.242	-3.6667*	0.018
No training in any form of art	Hand painting	7.4667*	0	7.5667*	0	4.9667*	0.001
	Digital art	1.9	0.249	0.2	0.896	3.6000*	0.021
	Other form of art	1.4667	0.373	1.8	0.242	3.6667*	0.18

**p< 0.05, **p<0.01*

This post hoc table shows that individuals who did not receive training in any form of art experience most depression, anxiety and stress (the means are 15.5, 15.26 and 17.10

respectively) whereas hand paintings trainees experience these in least amount (mean of depression – 8.03, mean of anxiety – 7.7, mean of stress – 12.13).

Table 4: Results of 2x 4 Factorial Analysis of Variance for significance of main effects of Forms of art training, Gender and their interaction effect on Creative Personality

Dependent Variables	Source	Sum of square	df	F	Sig.
Creative Personality	Art training method	28497.471	3	71.767	0.554
Creative Personality	Gender	11.608	1	0.117**	0.001
Creative Personality	Art training method *Gender	2.752	3	0.009**	0.000

*p< 0.05, **p<0.01

From ANOVA table it is seen that gender, and the interaction between art training and gender have a significant effect on creative personality. Males develop more creative personality (M-62.6667) than females (M-62.2417).

Table 5: Results of 2x 4 Factorial Analysis of Variance for significance of main effects of Forms of art training, Gender and their interaction effect on Creative Self domains

Dependent Variables	Source	Sum of square	df	F	Sig.
Creative Self Efficacy	Art training method	2306.046	3	67.784**	0.000
Creative Self Efficacy	Gender	0.104	1	0.009	0.924
Creative Self Efficacy	Art training method *Gender	184.513	3	5.424**	0.001
Creative Personal Identity	Art training method	2250.213	3	94.075**	0.000
Creative Personal Identity	Gender	0.104	1	0.013	0.909
Creative Personal Identity	Art training method *Gender	215.413	3	9.006**	0.000
Creative Self Concept	Art training method	9055.446	3	94.963**	0.000
Creative Self Concept	Gender	2.204	1	0.069	0.793
Creative Self Concept	Art training method *Gender	750.546	3	7.871**	0.000

*p< 0.05, **p<0.01

From ANOVA table it is seen that forms of art training and the interaction effect between art training method and gender on all the domains of creative self.

Now, multiple comparisons are further done as the art training method as independent variable has four levels.

Table 5.1: Results of least significant difference table of Creative Self Efficacy, Creative Personal Identity and Creative Self Concept as dependent variables and art training method as independent variable with four levels.

Art training Method (I)	**Art training Method (J)**	**Creative Self Efficacy**		**Creative Personal Identity**		**Creative Self Concept**	
		Mean difference (I-J)	**Sig.**	**Mean difference (I-J)**	**Sig**	**Mean difference (I-J)**	**Sig**
Hand-painting	Digital art	3.5333*	0	2.8167*	0	6.450*	0
	Other form of art	1.9167*	0.002	2.3500*	0	4.3667*	0
	No training in any art form	8.5167*	0	8.3500*	0	16.7333*	0
Digital art	Hand painting	-3.5333*	0	-2.8167*	0	-6.4500*	0
	Other form of art	-1.6167*	0.009	-0.4667	0.366	-2.0833*	0.044
	No training in any art form	4.9833*	0	5.5333*	0	10.2833*	0
Other form of art	Hand painting	-1.9167*	0.002	-2.3500*	0	-4.3667*	0
	Digital art	1.6167*	0.009	0.4667	0.366	2.0833*	0.044
	No training in any art	6.6000*	0	6.000*	0	12.3667*	0
No training in any form of art	Hand painting	-8.5167*	0	-8.3500*	0	-16.7333*	0
	Digital art	-4.9833*	0	-5.5333*	0	-10.2833*	0
	Other form of art	-6.6000*	0	-6.000*	0	-12.3667*	0

**p< 0.05, **p<0.01*

This post hoc table show that individuals who did not receive training in any form of art develop least creative self efficacy, creative personal identity and creative self concept (the means are 17.5, 15.15 and 32.53 respectively) whereas hand paintings trainees develop these

in highest amount (mean of creative self efficacy – 25.7, creative personal identity – 23.5, mean of creative self concept – 49.26).

Table 6: Table showing results for Pearson's product moment correlations of creative personality and creative self concept with Aggression-Orientation domains, depression, anxiety and stress –

	Correlation Coefficients	**Correlation Coefficients**
	Creative personality	**Creative self concept**
S-Ang/F	-0.28**	-0.219**
S-Ang/V	-0.27**	-0.265**
S-Ang/P	-0.25**	-0.197**
T-Ang/T	-0.25**	-0.209**
T-Ang/R	-0.17**	-0.132**
AX-O	-0.42**	-0.385**
AX-I	-0.16**	-0.182**
AC-O	0.36**	0.397
AC-I	-0.82**	-0.11
Depression	-0.436**	-0.365**
Anxiety	-0.525**	-0.399**
Stress	-0.105	-0.380**

*p< 0.05, **p<0.01

From table 4 it can be said that there are negative correlation between creative personality and S-Ang/F, S-Ang/V, S-Ang/P, T-Ang/T, T-Ang/R, AX-O, AX-I, depression and anxiety; and positive correlation between creative personality and AC-O. There are negative correlation between creative self concept and S-Ang/F, S-Ang/V, S-Ang/P, T-Ang/T, T-Ang/R, AX-O, AX-I, depression and anxiety; and positive correlation between creative self concept and AC-O.

Table 7: Table showing Multiple Regression Analysis including the R square and Adjusted R square of creative personality and creative self concept as predictor variables and aggression-orientation, depression, anxiety and stress as a criterion variables for the total sample.

Model	**Predictor Variable**	**Criterion Variable**	**R**	**R square**	**Adjusted R square**	**F**	**Sig.**
1.1	Creative personality	S-Ang/F	0.326	0.106	0.102	28.207	0.000
2.1	Creative personality	S-Ang/V	0.275	0.075	0.072	19.433	0.000
3.1	Creative Personality	S-Ang/P	0.275	0.066	0.062	16.867	0.000
4.1	Creative Personality	T-Ang/T	0.259	0.067	0.063	17.084	0.000
5.1	Creative Personality	T-Ang/R	0.188	0.035	0.031	8.733	0.003
6.1	Creative Personality	AX-O	0.419	0.176	0.172	50.731	0.000

Model	Predictor Variable	Criterion Variable	R	R square	Adjusted R square	F	Sig.
6.2	Creative Self Concept	AX-O	0.449	0.202	0.195	7.764	0.006
7.1	Creative Personality	AX-I	0.131	0.017	0.013	4.17	0.042
8.1	Creative Personality	AC-O	0.380	0.145	0.141	40.287	0.000
8.2	Creative Self Concept	AC-O	0.437	0.191	0.184	13.515	0.000
9.1	Creative Personality	AC-I	0.289	0.079	0.075	20.464	0.000
9.2	Creative Self Concept	AC-I	0.339	0.115	0.107	9.500	0.002
10.1	Creative Personality	Depression	0.405	0.164	0.160	46.683	0.000
11.1	Creative Personality	Anxiety	0.485	0.236	0.232	73.366	0.000
12.2	Creative Self Concept	Stress	0.418	0.175	0.168	4.575	0.030

From Table 5, it can be said that ; 10.2% of the variance in S-Ang/F, 7.2% in case of S-Ang/V, 6.2% in S-Ang/P, 6.3% in T-Ang/T, 3.1% in T-ang/R, 17.2% in AX-O, 1.3% in AX-I, 14.1% in AC-O, 7.5% in AC-I, 16% in depression and 23.2% in anxiety can be predicted by creative personality. 19.5% of the variance in AX-O, 18.4% in AC-O, 10.7% in AC-I and 16.8% in stress can be predicted by creative self concept.

DISCUSSION

The study's goals were to determine how art training affected stress, anxiety, depression, aggression-oriented behaviour, creative personalities, and creative selves. According to the current study's findings, art instruction significantly affects S-Ang/F, AX-O, AX-I, AC-O, AC-I, stress, depression, anxiety, and creative self-efficacy as well as creative self-identity and creative self-concept. Individuals trained in digital art experience higher levels of rage (S-Ang/F) than those trained in other artistic mediums, such as hand painting, or even in no artistic medium at all. This could be due to the continual worry and pressure they feel within themselves. While those pursuing traditional hand-painted art training are somewhat involved with their passion, which may give them immense pleasure and a feeling of satisfaction, which may lessen their feeling of anxiety related to finding and getting a job in the near future, those pursuing degrees that are more akin to occupational studies (digital art) may feel constant pressure to find a proper job just after completing the degree. They do not, therefore, experience the same degree or intensity of worry as trainees in digital art. Furthermore, students studying digital art may become agitated due to their prolonged screen time. Extended and excessive screen time can lead to physiological problems including anxiety, frustration, and anger in digital art learners. However, early art exposure

is believed to improve a range of cognitive and personality attributes that align with kids' development of their self-concept. (Trusty & Oliva, 1994). Most people agree that creativity is a positive cognitive ability (Lüdeke et al., 2020; Cheng et al., 2021). Since they have not had any form of art education since childhood, the untrained group lacks both the cognitive ability to think and interpret as well as the belief to manage the frustrating circumstance from numerous angles. This makes it easier for them to vent their rage than it is for other groups. By overcoming the sense of isolation, creative pursuits help to lessen the symptoms of depression. Due to their training methods, hand painting students tend to improve their self-concept the most. This leads to higher self-esteem, feelings of fulfilment and contentment, and less depression symptoms. It also stimulates the creation of dopamine, a natural antidepressant that calms the human mind and brain. According to research, the dopaminergic (DA) system influences creativity. Dopamine dysregulation is hypothesised to be responsible for several basic depression symptoms, such as anhedonia and psychomotor disturbance (Belujon and Grace, 2017; Di Chiara et al., 1999; Dunlop and Nemeroff, 2007; Nestler and Carlezon, 2006; Nutt, 2006). Hand painting students can blend their original and novel ideas more easily and freely, boosting their creativity. This creativity stimulates dopamine (happy hormone) flow in the brain, resulting in internalised happiness within the individual and gradually alleviating depression. Studies have found a relationship between nervous amygdale and low dopamine levels (Schnabel, 2008). Cortisol levels must be balanced for good overall health. Extended periods of high cortisol can exacerbate anxiety, deplete energy, and cause a variety of other health issues. (2017; Cortisol levels and anxiety). Results showed that acute stress has a deleterious effect on creative performance and that cortisol levels and cognitive flexibility play a mediating role in the relationship between individual and creativity. Engaging in artistic endeavours can act as a form of self-care, instilling a sense of worth and self-respect, which can significantly lower stress. Because the untrained group lacks training, they are less likely to notice and interpret things in novel ways. Furthermore, due to a lack of work done with the aid of creativity, their central nervous system is trained to execute work in patent rather than creative ways, resulting in a less creative self-concept. Hand painting trainees are more likely to develop a creative personality than other art trainee groups, who are limited in their ability to express their original thoughts, and untrained groups, who are not trained to express themselves creatively.

Gender has a significant effect on T-Ang/R, AX-O, anxiety and creative personality. The male hormone testosterone plays an important influence in hostility. Also, society accepts male aggression over female aggression, which reinforces male aggression in both private and public settings. Moffitt (1993) suggests that women are more likely to delay the onset of aggressive behaviour than men. Eagly and Steffen (1986) found that men are more prone than women to use physical aggression. Developmental differences in cerebral blood flow have been implicated for underlying sex differences in anxiety (Kaczkurkin et al., 2016). Socialisation strategies encourage and increase anxiety-related processes in humans while also mitigating gender differences (McLean and Anderson, 2009). Research indicates that females are more concerned than males (Hosseini & Khazalib, 2013; Pigott, 1999; Scheibe & Albus, 1992). The current study found that male students have a more creative personality (mean of 62.6667) than female students (mean of 62.2417). These can be attributed to social standards that allow guys to express their thoughts more freely, which helps in developing a creative personality. There are ample evidences of societal expectations regarding gender-related behaviour. According to a number of studies, the prevailing cultural perception is that girls should behave in a manly manner and boys should act effeminately to avoid

receiving unfavourable feedback from others (Antill, 1987; Feinman, 1981; Leonard & Clements, in preparation; Sandnabba & Ahlberg, 1999). Early-life events in one's environment have a big impact on how one's personality develops. There is evidence of gender differences in creative achievement, particularly at the highest levels, as there have been more geniuses and distinguished men than women in the sciences, arts, literature, music, and technological development (Eccles, 1985; Eysenck, 1995; Maccoby and Jacklin, 1974; Reiss, 1999). The current study discovered that aggression control has a positive relationship with creative personality and creative self, while sadness, stress, anxiety, and aggressiveness orientation had a negative relationship with creative personality and creative self. According to research, creativity can reduce anger. The rationale for this is that people can respond creatively to interpersonal difficulties instead of "fighting" them (Mouchiroud & Bernoussi, 2008). High levels of creative self-efficacy, creative personal identity, creative self-concept, and creative personality are associated with a decreased risk of depression. Aggression-orientation, depression, anxiety, and stress can all be somewhat predicted by creative personalities and self-concepts. Creative identity, or creative self-concept, aids cognitive growth, making an individual more susceptible to anger-provoking situations. Salvia and Kimbrel (2010) found that measures of anxiety and depression predicted little variance in creativity, which confirmed the current study's findings.

Art training influences the dependent variables. Creative personality and creative self are associated with aggression, sadness, anxiety, and stress, and can predict these four factors to some extent.

CONCLUSION

The current study's findings demonstrate that art training can greatly benefit individual mental health and well-being, and that practicing art dramatically reduces aggression, depression, anxiety, and stress. As a result of this study, appropriate intervention strategies such as child development (both at home and in schools and colleges), art therapy, community health, rehabilitation psychology, industrial psychology, and so on can be implemented to create a better society and, eventually, a developed country.

REFERENCES

Aaron, R. E., Rinehart, K. & Ceballos, N. (2011). Arts-based interventions to reduce anxiety levels among college students. *Arts & Health, 3,* 27-38. doi:10.1080/17533015.2010 .481290.

Abramson L. Y., Hankin B. L. (2002). Measuring cognitive vulnerability to depression in adolescence: reliability, validity, and gender differences. *National Library of Medicine: National centre for biotechnology information.* doi: 10.1207/S15374424J CCP3104_8

Adu-Agyem, J. & Enti, M. (2009). Learning: The role of aesthetics in education. *Journal of Science and Technology. 29.* (1), 160-168.

Alavinezhad, R., Mousavi, M., & Sohrabi, N. (2014). Effects of Art Therapy on Anger and Self-Esteem in Aggressive Children. *Procedia-Social and Behavioral Sciences, 113,* 111-117.

Alban, D., & Alban, P. (n.d.). *Serotonin Deficiency: Signs, Symptoms, Solutions*. Retrieved from https://bebrainfit.com/serotonin-deficiency/

Ali, F.A., Ejei, J., Mohammad-Karim, K. & Hamid, T. (2007). Relationship between Self-Concept, Self-esteem, Anxiety, Depression and Academic Achievement in Adolescents. *Journal of Applied Sciences, 7,* 995-1000.

Aristotle. (2001). *The basic works of Aristotle*. (R. McKeon, Ed.). New York, NY: Modern Library.

Bandura, A. (1997) *Self-efficacy: The exercise of control*. New York, NY: Freeman

Baron, R.A. (1977) *Human aggression.* New York, NY: Plenum Press.

Bar-Sela G., Atid L., Danos S., Epalbaum R. (2007). Art therapy improved depression and influenced fatigue levels in cancer patients on chemotherapy.doi.org/10.1002/pon.1175

Baumeister, R., Campbell, J.D., Krueger, J. & Vohs, K. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles?. *Psychological Science, 4,* 1-44.

Belujon P. (2017). Dopamine system Dysregualtion in Major depressive Disorders. *International journal of neuropsychopharmacology.*

Beyer, S. (1990). Gender differences in the accuracy of self-evaluations of performance. *Journal of Personality and Social Psychology, 59,* 960-970.

Bjo¨rkqvist, K., Lagerspetz, K. M. J., &Kaukiainen, A. (1992). Do girls manipulate and boys fight? Developmental trends in regard to direct and indirect aggression. *Aggressive Behavior, 18,* 117 – 127.

Bjorkqvist, K. (2017). Gender differences in aggression. *Current Opinion in Psychology, 19,* 39–42. doi: 10.1016/j.copsyc.2017.03.030.

Bjorkqvist, K., &Nicmcli, P. (1992). New trends in the study of female aggression. In K. Bjorkqvist & P. Nienrelli (Eds.), *Of mice and women: Aspects of female aggression.* San Diego, CA: Academic Press.

Britner, S. L., & Pajares, F. (2006). Sources of science self-efficacy beliefs of middle school. *Journal of Studies in Education, 43*(5), 485-499.

Britner, S. L., & Pajares, F. (2006). Sources of science self-efficacy beliefs of middle school. *Journal of Studies in Education, 43*(5), 485-499.

Bush, J. (1997). *The Handbook of School Art Therapy: Introducing Art Therapy into a School System.* Springfield, IL: Charles C. Thomas.

Buss D. M., Duntley J. D. (2006) The evaluation of aggression. https://www.researchgate.net/publication/232584104_The_Evolution_of_Aggression

Button, E.J., Sonuga-Barke, E.J.S., Davies J., & Thompson, M. (1996). A prospective study of self-esteem in the prediction of eating problems in adolescent schoolgirls: Questionnaire findings. *British Journal of Clinical Psychology, 35,* 193–203.

Caldwell L. (2005). Leisure and health: Why is leisure therapeutic? British Journal of Guidance and Counselling.

Campbell, A., Sapochnik, M. &Muncer, S. (1997). Sex differences in aggression: Does social representation mediate form of aggression?. *The British journal of social psychology, 36,* 161-71. doi:10.1111/j.2044-8309.1997.tb01125.x.

Catterall, J. S. (2009). *Doing Well and Doing Good by Doing Art: The Effects of Education in the Visual and Performing Arts on the Achievements and Values of Young Adults*. Los Angeles/ London: Imagination Group/ IGroup Books.

Catterall, J., Chapleau, R. (1999). Involvement in the arts and human development: General involvement and intensive involvement in music and theatre arts. In E. Fiske (Ed.), (pp.1-18). Washington, D.C.: Arts Education Partnership and President‘s Committee on the Arts and Humanities.

Chatterjee H. and Noble G. (2013). Museums, health and wellbeing. (London:Ashgate Publishing), 2013. doi: 10.1111/cura.12089.

Clarke, E., Nicola, D., & Stephanie, P. (2010). Music and Mind in Everyday Life. New York, NY: Oxford University Press Inc.

Cortisol Levels and Anxiety – The Ultimate Guide. (2017, May 6). Retrieved from https://anxietyexit.com/cortisol-levels-anxiety

Dean J. Keshavan M. (2017). The neurobiology of depression: an integrated view. *Asian* Journal *of Psychiactry*. doi: 10.1016/j.ajp.2017.01.025

Ferrari PF, van Erp AMM, Tornatzky W, Miczek KA. (2003). Accumbal dopamine and serotonin in anticipation of the next aggressive episode in rats. Eur J Neurosci 17: 371-378.

Feshbach S., "Aggression". In P.H. Mussen (Ed.) (1970), Carmichael's manual of child psychology, (vol.2). New York: Wiley

Haidu F.A., Vlaicu C. Psychological Theories of Aggression. Critical Perspective. Journal of Education, Society & Multiculturalism, 61-72.

Lazarus RS, Folkman S. Stress, appraisal, and coping. In: Lazarus RS, Folkman S, editors. *Health Psychology*: a handbook. New York, NY: Springer Publishing Company (1984).

Lindblad, F., Hogmark, A. & Theorell, T. (2007) Music intervention for 5th and 6th graders? Effects on development and cortisol secretion. *Stress and Health, 23*, 9–14.

Linnoila V.M. (1992). Aggression, suicidality and serotonin. *Journal of Clinical Psychiatry, 53*, 46–51.

Lippin, R.A. & Micozzi, M.S. (2006). Arts therapy. In M.S. Micozzi editor. *Fundamentals of Complementary and Integrative Medicine.* (pp. 332–350). St Louis, Missouri: Saunders Elsevier.

Lupien, S.J., McEwen, B. S., Gunnar, M.R. &Heim,C.(2009).Effects of stress throughout the lifespan on the brain, behaviour and cognition. *Nature Reviews Neuroscience, 10*, 434–445.

Malizia AL. (2000). What do brain imaging studies tell us about anxiety disorders? J Psychopharmacol 13: 372-378.doi:10.1177/026988119901300418

Markus, H. &Oyserman, D. (1989). Gender and Thought: The Role of the Self-Concept. *Gender and Thought: Psychological Perspectives*, 100-127. doi:10.1007/978-1-4612-3588-0_6.

Mastandrea S., Fagioli S., Baisi V., (2019). Art and Psychological Well-Being: Linking the Brain to the Aesthetic Emotion. Volume 10 - 2019 doi.org/10.3389/fpsyg.2019.00739

Matud, M.P. (2004). Gender differences in stress and coping styles. *Personality and Individual Differences, 37*, 1401–1415.

Mazure, C.M., & Maciejewski, P.K. (2003). The interplay of stress, gender and cognitive style in depressive onset. *Archives of Women's Mental Health, 6,* 5–8.

McKinney, C.H., Tims, F.C., Kumar, A.M. & Kumar, M. (1997). The Effect of Selected Classical Music and Spontaneous Imagery on Plasma Beta-Endorphin. *Journal of Behavioral Medicine, 20,* 85-99. Retrieved from https://dx.doi.org/10.1023/A:1025543330939

McLean C.P., Anderson E.R. (2009). Brave men and timid women? A review of the gender differences in fear and anxiety. *Clinical psychology review.* doi: 10.1016/j.cpr.2009.05.003

Merriam-Webster's collegiate dictionary (11th ed.) (2003). Springfield, MA: Merriam-Webster Incorporated.

Micu, A. (2017). Aggression and catharsis in the work of the painter Francis Bacon. *4th International Multidisciplinary Scientific Conference on Social Sciences and Arts SGEM2017, March 28-31, 1*, 309-316 doi:10.5593/SGEMSOCIAL2017/HB61/S15.39

Miczek, K, A., DeBold, J.F., & Van Erp, A.M. (1994) Neuropharmacological characteristics of individual differences in alcohol effects on aggression in rodents and primates. *Behavioral Pharmacology, 5*,407–421.

Murphy, D.L., Moya, P.R., Fox, M.A., Rubenstein, L.M., Wendland, J.R., & Timpano, K.R., (2013). Anxiety and affective disorder comorbidity related to serotonin and other neurotransmitter systems: obsessive– compulsive disorder as an example of overlapping clinical and genetic heterogeneity. *Philosophical Transactions of The Royal Society B Biological Sciences, 368*, 20120435.

Neumann, I.D., Veenema, A.H., Beiderbeck, D.I. (2010). *Aggression and anxiety: social context and neurobiological links. Frontiers Behavioural Neuroscience 4*, 12.

Nilsson, U. (2008). The anxiety- and pain-reducing effects of music interventions: a systematic review. *AORN Journal,* 87, 780–807. doi: 10.1016/j.aorn.2007.09.013

Nutt D. Potakar J. Hood S. Argyropoulus S. (2006) Generalized anxiety disorder: A comorbid disease. *European Neuropsychopharmacology Volume 16, Supplement 2*, Pages S109-S118. doi.org/10.1016/j.euroneuro.2006.04.003

O'Callaghan, C.C. (1996). Pain, music creativity and music therapy in palliative care. *Am J Hosp Palliat Care. 13*, 43–49.

Ohlan S. (2023). Relationship between perceived stress and creativity in adolescents. The International journal of Indian psychology. doi: 10.25215/1103.187

Orth, U., Robins, R.W., & Roberts, B.W. (2008). Low self-esteem prospectively predicts depression in adolescence and young adulthood. *Journal of Personality and Social Psychology, 95*, 695–708.

Pizzagalli D. A., Roberts A.C. (2022). Prefrontal cortex and depression. *National Library of Medicine: National centre for biotechnology information.* doi: 10.1038/s41386-021-01101-7

Samuel S. (1976), Kim theLorenzian Theory of Aggression and Peace Research: A Critique, Journal of Peace Research, Vol. 13, No. 4 pp. 253-276.

Smeijsters H., Clven G. (2006). The treatment of aggression using arts therapies in forensic psychiatry: Results of a qualitative inquiry.doi:10.1016/j.aip.2005.07.001

Stenberg R. J., Lubert T.L. (1991). Short selling investing theories of creativity? A reply to Runco. *Creativity research journal, 4*, 220-202

Sulieman I. F., (2022). Self-Efficacy of Employees in Libyan Educational Institutions: Foundations and Determinants.

Susanto E., Novitasari Y., Ilfiandra, Yusuf S. (2018) Development of Creative Personality Inventory:A hypothetical concept. *International Journal of Innovation, Creativity and Change. Volume 4, Issue 2*.

Tang M., Hu W., Zhang H. (2017). Creative Self-Efficacy from the Chinese Perspective: Review of Studies in Mainland China, Hong Kong, Taiwan, and Singapore. In book: The creative self: Effect of beliefs, self-efficacy, mindset, and identity (pp.237-257) Chapter: 13. Publisher: Elsevier. doi:10.1016/B978-0-12-809790-8.00013-3

Tierney P., Farmer F. M., (2002). Creative Self-Efficacy: Its Potential Antecedents and Relationship to Creative Performance. *Academy of Management Journal* 45(6):1137-1148. doi:10.2307/3069429

Titus J. E., Sinacore A. L., (2013, February). Art-making and well-being in healthy young adult women. The arts in psychotherapy, Vol. 40. 29-36.

Valley Z., Salloum L., Shazly S E., AlQedra D. (2018). Examining the effects of creativity training on creative production, creative self-efficacy, and neuro-executive functioni ng.

Yeh Y. (2017) Research development of creativity. doi: 10.1016/B978-0-12-809324-5.06266-0

Acknowledgment
The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest
The author(s) declared no conflict of interest.

How to cite this article: Chakraborty, A. & Dasgupta, S. (2025). Role of Art Training in Aggression, Depression, Anxiety, Stress, Creative Personality and Creative Self of College and University Students of Kolkata. *International Journal of Indian Psychology*, *13*(1),492-509. DIP:18.01.047.20251301, DOI:10.25215/1301.047