ISSN 1392-0340 (Print)
ISSN 2029-0551 (Online)
https://doi.org/10.15823/p.2024.153.10

Pedagogika / Pedagogy
2024, t. 153, Nr. 1, p. 199–219 / Vol. 153, No. 1, pp. 199–219, 2024

VYTAUTO DIDŽIOJO UNIVERSITETO ŠVIETIMO AKADEMIJA

Music Education Within the Concept of Integrated Arts Education and Its Impact on Social and Emotional Skills of Students

Olena Vereshchahina-Biliavska[1], Viktor Solovei[2], Olena Burska[3], Tetiana Hrinchenko[4], Yuliia Moskvichova[5]

1 Vinnytsia Mykhailo Kotsyubynskyi State Pedagogical University, Faculty of Arts and Art-Educational Technologies, Department of Musicology, Instrumental Training and Choreography, 31 Ostrozkyi St., Vinnytsia, Ukraine, olena.vereshchahina-biliavska@sci-univ.com
2 Vinnytsia Mykhailo Kotsyubynskyi State Pedagogical University, Faculty of Arts and Art-Educational Technologies, Department of Fine and Decorative Arts, Technologies and Life safety, 31 Ostrozkyi St., Vinnytsia, Ukraine, victorsolovey79@gmail.com
3 Vinnytsia Mykhailo Kotsyubynskyi State Pedagogical University, Faculty of Arts and Art-Educational Technologies, Department of Musicology, Instrumental Training and Choreography, 31 Ostrozkyi St., Vinnytsia, Ukraine, lburska1967@gmail.com
4 Vinnytsia Mykhailo Kotsyubynskyi State Pedagogical University, Faculty of Arts and Art-Educational Technologies, Department of Musicology, Instrumental Training and Choreography, 31 Ostrozkyi St., Vinnytsia, Ukraine, tatyana_grinchenko@ukr.net
5 Vinnytsia Mykhailo Kotsyubynskyi State Pedagogical University, Faculty of Arts and Art-Educational Technologies, Department of Musicology, Instrumental Training and Choreography31 Ostrozkyi St., Vinnytsia, Ukraine, julia.moskvichova@gmail.com

Annotation. The purpose of the study is to determine how communicative skills and emotional intelligence are cultivated in students under the impact of arts on the example of music education. The research involves comparing social and emotional competences of undergraduates and postgraduates with the help of standardized psychological tests and interviews. The article proves that integrated arts education transforms students into emotionally and socially competent individuals.

Keywords: *creative thinking, emotional intelligence, integrated arts education, music, social competencies.*

Introduction

Even though many studies indicate that arts education enhances students' emotional and social skills, its impact varies depending on the educational level and is understudied. It is believed that the integration of arts education into curricula facilitates a holistic student's development. The purpose of the study is to determine how communicative skills and emotional intelligence are cultivated in students under the impact of arts on the example of music education. In particular, two groups of students (postgraduates and undergraduates) underwent psychological tests and interviews to determine the differences in the impact of training in music on the social and emotional skills of the studied groups.

Integrated arts education marked the educational environment transformation by enhancing learning with artistic elements (Marsh et al., 2018). In other words, it represents a new educational model, when arts education does not stand as a separate subject but is integrated into curricula. Artistic approaches and perspectives are interwoven into different subjects. The barriers between different subjects are broken down, and students develop a vision of knowledge interconnection (Semenets-Orlova et al., 2021). Such a model helps to enhance students' emotional, cognitive, and emotional development, promote their creativity and critical thinking, and master communicative skills. In addition, this model identifies art as an important means of expressing complex emotions and ideas. Participation in several art projects ensures the development of teamwork skills (McPherson et al., 2015).

Teachers can create an inclusive, dynamic learning environment through integrated arts education. This environment meets the modern requirements of preparing students for the challenges of the 21st century. The world in the 21st century is changing rapidly, and critical but creative thinking is necessary for students to understand its variability and diversity. Since this educational model provides students with techniques to cope with their emotions effectively, it supports their emotional balance and well-being (Fancourt & Finn, 2019). Integrated arts education helps students achieve academic success and promote their personal and social growth (Shlapko & Sokolenko, 2021).

This article will introduce the complex research in the literature about emotional intelligence, arts education, and social learning. The relationship between these areas is important to track its mutual influence on student development. The empirical part of this article is devoted to substantiation of the hypothesis that undergraduates participating in integrated arts education show more improvement in their emotional and social skills than postgraduates due to their developmental stage. The practical implications of this article are the enhancement of arts education discourse, the suggestion of recommendations for education policy and curriculum design, and the substantiation of arts education as a key factor in shaping emotionally stable, critically thinking individuals.

Theoretical Foundation of the Study

Conceptual base of arts education and socio-emotional learning

The importance of context in arts education, especially in the immediate setting where it occurs, is crucial to understanding its socioemotional benefits. This encompasses how and where an arts program is implemented and most importantly the characteristics of the participants and the setting, whether it is a school, community organization or at home. Major factors include but are not limited to the physical environment, the educator's support, and the program's integration into the curriculum. The guide or teacher's characteristics are quite significant as well, for example, their background and their way of delivering the program. Such things are absolutely vital for the benefits of arts education, as is the "dosage" or the frequency and duration of the program. If the program intensity and engagement levels are at the appropriate amount, the program might foster greater socioemotional growth in children.

The environmental and ecological context of arts education is important in understanding it's impact on the socioemotional development of the child. This very context encircles factors that are internal to the child, these include: age, gender, stage of development, racial/ethnic identity, which strongly influence their response to arts education. One example is the self-concept, a key area of development, it varies acutely with age and is influenced by things such as gender, subject area (e.g., English vs Math). Some external factors, such as family dynamics and wider social environments like the child's peer group, neighborhood, and school play critical roles. Such elements influence the shape of the child's socioemotional development, affecting how they benefit from arts education. The junction of these external and internal factors, as well as the specificities of the arts education program, determines the program's capability in cultivating socioemotional growth (Vereshchahina-Biliavska et al., 2022).

The rising importance of social-emotional learning (SEL) cannot be overstated, it is a topic that resonates with the psychological aspects of arts education. The article puts an emphasis on the rising mental health crisis in schools, which is only exacerbated by the many societal and pandemic driven troubles. It highlights the natural alignment of the social and emotional aspects which are present in arts education with SEL competencies. Establishing SEL in arts education can prove to be a powerful way to focus on the growth of socioemotional skills of the students. This synergy is especially relevant due to the concerning rise in teen mental health issues, not to mention the impacts of COVID-19. A more critical approach to ingrain SEL into arts education is needed, the article proposes a framework that crosses SEL competencies and artistic processes. This framework is made to empower arts educators to successfully ingrain SEL into their lessons, using arts education as a tool to improve the student's socioemotional skills, and so this method aligns intimately with the focus of integrating arts training to stimulate the growth of social and emotional skills in students (Morrison, 2021).

In "Habits of Mind as a Framework for Assessment in Music Education" by Hogan and Winner (2019), a study is presented analyzing the habits of mind cultivated through high school music education. The research focused on twenty-four rehearsals across band, choir, and orchestra ensembles, identifying eight key habits of mind: engage and persist, evaluate, express, imagine, listen, notice, participate in community, and set goals and be prepared. Interestingly, the use of creativity and the appreciation of ambiguity were not found. Similarly, Holochwost et al. (2017; 2021) underline the flexibility of arts education. They believe that the degree of arts impact differs according to students' personal traits and the curriculum.

Schneider and Rohmann (2021) outline the impact of music and theater education on students' academic performance. Thus, they establish that music education facilitates cultivating maths skills, information processing, and memory. Meanwhile, theater education displays less impact. The research also compares the results of different kinds of arts, such as music and drama, which allows us to assume that every sphere can influence various cognitive skills (Open AI, 2023). Proves are ambiguous. We are unable to make final conclusions due to a few issues, including sample size and certain program characteristics.

The role of arts education in the holistic development of students: an analytic review

The UChicago Consortium on School Research, in partnership with Ingenuity, conducted an exhaustive project on arts education and socioemotional learning (SEL) among K-12 students. The project included a review of over two hundred studies and fieldwork involving interviews and focus groups with educators, administrators, students, and parents included. The findings indicate a widespread belief that arts education contributes, significantly, to social-emotional development, the potential of both positive and negative social-emotional effects, and a need for educators to be purposeful in ingraining SEL into arts education to enhance positive outcomes (Farrington et al., 2019; Farrington & Shewfelt, 2020).

The study by Farrington et al. (2019) highlights that arts education is central to SEL. They reckon that the introduction of music or theater elements in class has socioemotional value, which can be used as a foundation for cultivating social skills and competences. However, their impact is deliberate; in other words, it largely depends on how music and theater are entrenched into learning. Furthermore, in their study, Lee and Lee (2021) identify the existing gap in research on arts education and learning outside the Western context. They carry out their research in a rural community in Kenya where not all people have access to education. Their study attempts to find out how visual arts education in these contexts relates to mother tongue instruction.

Significant insights can be learned from Catterall et al.'s (2000) study on individual growth and arts engagement. Children who participate in the arts have been shown to grow academically positively, with these advantages becoming evident over time. Children from low socioeconomic backgrounds also follow this pattern. High-level instrumental music played continuously throughout middle and high school has been linked to improved

arithmetic proficiency in adolescents from families with low incomes (Devroop, 2012). Improvements in reading comprehension, self-awareness, motivation, empathy, and tolerance have been linked to theater arts participation over time, particularly in young people from low-income families. These findings support a wider notion of ingraining arts into education to foster the growth of various aspects of student development (Greene et al., 2018).

A study by Mbe (2015) discusses the social, intellectual, and personal development of children and young people and how it's significantly affected by active music engagement. It brings attention to neuroscientific research and how it shows that the brain's cerebral cortex reorganizes in response to musical activities, though this reorganization takes some time to become substantial and permanent. Changes during learning are underwent with the brains billion neurons and extensive interconnections. Including synaptogenesis, which is the formation of synapses, myelination, the increasing of axon coating of efficiency, and synaptic pruning (refining connections). Such processes all contribute to the self-organization of the cerebral cortex in response to learning activities and other stimuli, with active musical engagement leading to cortical reorganization.

Tervaniemi et al. (2018) support this finding by observing musicians who play by ear and improvise process complex musical information differently from classically trained musicians, with variations in auditory neural responses. This suggests the following, the tools and practices that are used in learning musical skills significantly influence the development of one's brain and their approaches to musical tasks, which also may affect how skills are transferred to tasks unrelated to music. Musicians with similar skills might develop them differently, impacting the transferability of these skills. In the context of the study by Mbe, the concept of transfer of learning is crucial for understanding how active engagement with music influences intellectual, social, and personal skills. Transfer can be categorized as either near (or low road) and far (or high road), with near transfer being more spontaneous and far transfer requiring deeper reflection and conscious processing. Music can develop skills, and those skills which were developed through it, for example, fine motor skills or emotional sensitivity, can also influence other domains. This fact has implications for wider educational practices (Degé et al., 2009).

The relationship between the development of social skills and music education is examined in Toto's research. Adolescents that listen to music enhance their social interactions and pick up social behaviors and skills. But views on how musicianship relates to science and math remain divided, which begs the question of how these subjects relate to bettering music (Yuldashev et al., 2022; Open AI, 2023). The study seeks is to establish whether musical skills influence the degree of emotional intelligence. The results display the multidimensional impact of music on social, emotional, and cognitive skills.

Thus, Toto's study demonstrates numerous merits of music education within educational and social settings. In particular, it proves the link between overall intelligence, memory, and music education, thus underpinning Thorndike and Woodworth's transferability criteria (Open AI, 2023). Having analyzed the interrelations between cognition

and music, it is established that music education creates favorable conditions for the development of cognitive skills in children and adolescents on the example of after-school education in the United States.

Zhu's (2023) study examines methods for advancing arts education while highlighting the necessity of following with social development trends and taking action to improve students' creative literacy. According to the study, arts education should help students comprehend the spiritual aspects of artwork in addition to teaching them skills and ideas. In order to improve arts education, the study suggests changing the teaching methodology, adding new tools, and emphasizing quality.

In this regard, specific features of the arts should be considered when analyzing the effects of arts education on the development of social skills and emotional intelligence. It includes a wide range of disciplines, each having distinct subgenres and modes of expression. They contain distinct material and engage students in different ways, whether it be through group performance or individual creativity. Different social and emotional results come from engaging in arts education, whether as an observer or an active participant (Vereshchahina-Biliavska et al., 2022).

The arts facilitate developing cognitive skills and, in turn, contribute to students' social and emotional skills. In such a way, self-expression, tenacity, and creativity are improved through such exercises as public speaking. A teacher or researcher needs to be aware of these nuances if they are to successfully include arts education in the curriculum.

Materials and Methods

The study involved 87 undergraduate second-year students and 69 postgraduate (master's) students of the Faculty of Arts and Art-Educational Technologies of Vinnytsia Mykhailo Kotsyubynskyi State Pedagogical University. The empirical part of this study relied on standardized psychological tests for assessing social skills and emotional intelligence, including Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), Social Skill Inventory (SSI), Rosenberg Self-Esteem Scale, and Emotion Regulation Questionnaire (ERQ).

Thus, MSCEIT helped to analyze students' ability to understand, use, and cope with emotions; these abilities reveal the level of their emotional intelligence. Since every piece of art has its "soul," an emotional content, students should learn how to perceive, interpret, and convey it. With the help of the Rosenberg Self-Esteem Scale, changes in self-esteem were evaluated. It was established that they could be attributed to students' involvement in artistic processes. Therefore, arts education promotes students' self-determination and self-expression by strengthening their creative potential.

The determination of social and communicative skills was possible with the help of SSI. Involvement in art projects often involves participating in collaborative tasks and cooperative working, which contribute to the development of social and communicative

skills. In order to measure students' level of emotional regulation, which is a key component of social skills, the study used ERQ. Another important aspect of integrated arts education is its instrumentality in teaching emotional literacy. Through arts, students learn to express and interpret their emotions. In this regard, the skills developed via arts education are related to those assessed by the ERQ. The quantitative data gathered after the mentioned psychological tests were compared before and after the intervention of music education. These tests allowed the authors to trace various aspects of social and emotional skills of students.

The research procedure entailed the simultaneous application of diagnostic techniques in accordance with the specific algorithms and procedures outlined for each method. This meticulous adherence to the established procedures of each method allowed for accurate and reliable data collection. The procedure for implementing the empirical part of the study included pre-testing, intervention, and post-testing. Pre-testing involved performing psychological tests conducted before the students participated in integrated arts education. Pre-testing determined the baseline social and emotional skills among students.

The intervention of music education represents a psychoeducational technique used to enhance students' personal development. Such intervention goes beyond teaching music theory or musical skills. In turn, it focuses on how music education can serve as a means of developing students' emotional, social, and cognitive skills. In this article, intervention meant that the undergraduate group participated in a structured music education program while postgraduates did not. Postgraduates were the control group that continued their usual studies. The integrated art education program, specifically music education, was structured as follows: Postgraduates participated in a course titled "Music Anthropology", which was allocated 4 credits. Undergraduate students engaged in a comprehensive curriculum including "History of Foreign Music" (13 credits), "History of Ukrainian Music" (3 credits), "Analysis of Musical Works" (4 credits), "Theory and History of Culture" (3 credits), "Philosophy of Culture" (3 credits), and "Contemporary Music Culture" (4 credits). Additionally, an elective course titled "Music and Educational Workshop" was offered, granting another 4 credits.

Training based on this intervention model lasted an academic year. During this period, students had to acquire comprehensive knowledge of music theory and master their music skills. Training also involved a therapeutic component; students were asked to listen to selected pieces of music by renowned composers during classes and at-home listening sessions that were expected to improve their social and emotional competencies. Thus, students listened to the following pieces of music:

- Ludwig van Beethoven's Symphony No. 9 in D minor, Op. 125, was utilized for its potential to enhance intellect and mood, providing a classical foundation for emotional and cognitive development;
- Wolfgang Amadeus Mozart's Piano Sonata No. 11 in A major, K.331, was chosen for its ability to improve spatial reasoning and concentration, incorporating the 'Mozart effect' into our intervention;

- Johann Sebastian Bach's Chorale Preludes were integrated to support memory and attention improvement, tapping into the structured and complex nature of Bach's compositions;
- Frédéric Chopin's Nocturnes were included for their gentle and expressive qualities, aimed at fostering relaxation and empathy among students;
- Antonio Vivaldi's The Four Seasons was selected to aid in the development of emotional state perception.

This intervention model also provided for mastering vocal techniques and musical instruments, which had to level up students' self-respect and self-confidence. Many classes were developed as to help students to express their emotions through music. In such a way, this intervention model allowed them to relieve the feeling of stress or anxiety and strengthen emotional regulation. Therefore, the interrelation between music education and the psychological phenomena assed by the MSCEIT, SSI, ERQ, and Rosenberg Self-Esteem Scale is obvious and signifies that the selected intervention model has a transformative nature in fostering emotional intelligence, social skills, self-respect, and effective emotion regulation.

As for the inductive or deductive thematic analysis, the choice of a particular one depended on the aim of the intervention of music education. An inductive approach was used to examine any changes related to the personal development of the students caused by music education. A deductive approach was applied to prove or disprove any hypothesis on the effects of music education on emotional intelligence or social skills. This study also relied on the assumption that music education is a leading psychological and educational tool. In this regard, Braun and Clarke (2006) suggest adaptable guidelines for thematic analysis of personal and social development of students.

In the course of post-testing, the students from both groups repeated the psychological tests after one semester. This research contains in-depth interviews and focus groups conducted with the participation of the students. The obtained results help analyze the influence of music on the students' social and emotional development. Moreover, with the help of the statistical methods comparison of pre-and post-test results was conducted in order to interpret them within the framework of music education.

Thus, statistical methods are used to evaluate the effectiveness of music education as a psychological and educational tool in ensuring students' personal development. Specifically, the use of t-tests for both related (paired) and independent (unpaired) samples is instrumental in comparing the social and emotional competencies of students before and after the intervention, as well as comparing these competencies between groups that have and have not undergone the music education intervention.

The authors adhered to the highest standards of research ethics when conducting this study. Approval from the Institutional Review Board was sought before any research was conducted to guarantee that all protocols adhered to ethical standards for research involving human participants. Each participant in the study received comprehensive

information regarding its nature, purpose, duration, and possible risks and benefits related to the involvement. Informed consent was obtained from each participant, confirming their voluntary agreement to partake in the study. Parents' consent was obtained for minor participants. The data were anonymized in compliance with privacy requirements. Possible risks to participants were forecast, while the benefits were enhanced. Therefore, problems and difficulties were monitored, and participants were informed of their right to stop participating in the research without any negative consequences for them. When reporting the findings, the authors adhered to the principles of transparency and ensured that conclusions were based on the observations. The authors also acknowledged the research limitations to contributed to the body of knowledge with honesty.

Results

Table 1 displays the findings of the four branches of MSCEIT. This table represents a scenario in which the undergraduate music group shows more significant improvement across all branches of emotional intelligence compared to the master's control group after the intervention.

Table 1

MSCEIT Results – Four Branches of Emotional Intelligence

Emotional Intelligence Branch	Group	Pre-Test Average Score	Post-Test Average Score	t-statistic	p-value
Perceiving Emotions	Undergraduate Music Group	65	75	9.93	<0.0001
	Postgraduate Control Group	66	67		
Facilitating Thought	Undergraduate Music Group	60	70	8.68	<0.0001
	Postgraduate Control Group	62	63		
Understanding Emotions	Undergraduate Music Group	70	80	9.93	<0.0001
	Postgraduate Control Group	71	72		
Managing Emotions	Undergraduate Music Group	68	78	9.93	<0.0001
	Postgraduate Control Group	69	70		

The statistical analysis of MSCEIT outcomes, supported by t-test evaluations, provides compelling evidence of the significant impact of music education on emotional intelligence among university students. According to these results, the undergraduate music group's average scores grew significantly from 65 to 75 in the "Perceiving Emotions" branch, whereas the postgraduate control group's average scores scaled just marginally from 66 to 67. The t-test statistic of 9.93 and a p-value of less than 0.0001 support the statistical significance of the observed increases in the music group's emotional perception. Emotional intelligence benefits from its growth since it facilitates the identification of emotions in various contexts.

In "Facilitating Thought", the music group's scores rose from 60 to 70 points, while the control group's scores dropped from 62 to 63 points. There has been a statistically significant improvement in the music group's use of emotions to enhance cognitive function, as evidenced by the t-test statistic of 8.68 and the p-value of less than 0.0001.

As for the branch "Understanding Emotions", the increase in scores is noticeable in the undergraduate group again (from 70 to 80). The score of the postgraduate group hardly changed from 71 to 72. Having conducted a statistical analysis, the improvement in undergraduates' comprehension of emotional dynamics and nuances became obvious (as confirmed by a t-test statistic of 9.93 and a p-value of less than 0.0001).

Analyzing the branch "Managing Emotions", the undergraduate group comes to a winner again - a ten-point improvement (from 68 to 78 scores) against a marginal rise from 69 to 70. The same t-test statistic and p-value as in perceiving and understanding emotions support the obtained results. Consequently, the undergraduate group enhanced their ability to use and cope with their emotions.

The calculations of the t-test and p-value prove a considerable increase in emotional competences. In other words, the music group demonstrated a noticeable progress in thinking skills and managing their emotions. Consequently, it is possible to claim that general emotional competences are best cultivated by including music education into the curriculum. The thematic analysis of participants' responses displayed a striking psychological influence of music on emotion perception. The particular attention is paid to enhancing students' emotional susceptibility using the inductive analysis. It allowed to identify a change from the basic emotional awareness to the perception of complex emotions (Open AI, 2023). This shift can be observed in precise descriptions of emotional tints, interpersonal relationships, and self-reflation in musical pieces by the music group participants.

On the contrary, merely small changes were observed in the descriptions of emotions by the control group, as compared with the comparison group. Thus, it showed the slight progress, i.e., from "basic understanding" to "somewhat improved emotional awareness". However, the descriptions given by the music group participants manifest the notable impact of music education on cultivating a person's ability to identify and interpret emotions in different situations.

In this regard, the differences between the two groups emphasize the transforming capacity of music education for developing and enhancing emotional competences. The quantitative results are underpinned by evidence from the qualitative data obtained as a result of interviews. When considered collectively, these findings reveal a complete picture of how emotional intelligence is enhanced by studying music, particularly in the domain of experiencing and analyzing emotions.

Second, in the Promoting Thinking branch, the music group's score rose from 60 to 70, while the control group's score barely improved (from 62 to 63). This suggests that the musical group was more adept at using emotions to support cognitive functions like reasoning and problem solving. The emotional impact of the music they listen to is probably connected to their enhanced capacity to integrate emotions in a way that facilitates cognitive functions.

The music group significantly outperformed the control group in the branch "Understanding Emotions", going from 70 to 80 scores. The result of the control group is slightly noticeable (from 71 to 72 scores). Thus, the music group expanded their comprehension of the complex nature of emotions. These results testify to the positive effect of music education. For example, when listening to music, students are prone to interpret their emotions more effectively and manage them better.

Both groups then participated in SSI, whose findings are shown in Table 2. Particularly in the undergraduate music group, this table demonstrates improvements in expressive, sensitive, and control skills, indicating that music education may enhance social and emotional communication skills.

Table 2
SSI Results

SSI Skills Categories	Group	Pre-Test Average Score	Post-Test Average Score	t-statistic	p-value
Expressive Skills	Undergraduate Music Group	70	80	9.93	<0.0001
	Postgraduate Control Group	71	72		
Sensitivity Skills	Undergraduate Music Group	68	78	9.93	<0.0001
	Postgraduate Control Group	69	70		
Control Skills	Undergraduate Music Group	65	75	9.93	<0.0001
	Postgraduate Control Group	66	67		

The average scores of Expressive Skills, Sensitivity Skills, and Control Skills between the undergraduate music group and the master's control group post-intervention show a very significant difference, as indicated by the t-statistic values and p-values. The statistical significance of the improvements in the SSI skills categories between the undergraduate music group and the control group is demonstrated by the p-values, which are all less than 0.0001. This statistical evidence demonstrates how social skills among university students are enhanced by music education. The Social Skills Inventory (SSI) findings analysis, which was bolstered by substantial t-test evidence, indicated the following gains made by the music group:

a) In the "Expressive Skills" category, the music group scores notably higher – from 70 to 80 – than the control group, which increases just slightly – from 71 to 72. The statistical relevance of this improvement is demonstrated by the t-test statistic of 9.93 and a p-value of less than 0.0001. The advancement indicates an improved capacity to express and share thoughts and feelings, which is an essential aspect of social communication. Effective communication of ideas and feelings is important, and music education, with its typical expressiveness and collaborative nature, probably provides an ideal environment for developing expressive skills.

b) The music group's scores went up from 68 to 78 on the "Sensitivity Skills" test, reflecting a greater ability to understand and interpret the emotions and thoughts of others – a critical ability for effective relationships with others. The considerable growth in this area has been proven by the significant statistical difference, which is indicated by the same t-test statistic and p-value as expressive skills. This sensitivity may be improved even more by the cooperation and sympathetic dynamics of musical activities like interactive improvisation and ensemble performances.

c) An improvement in the music group from 65 to 75 demonstrates greater regulation and control over emotional and social responses, according to the "Control Skills" category. The t-test results confirm this statistically significant growth, which means that students who attend music lessons have improved their ability to regulate their social behaviors and emotional responses in many kinds of situations. These control capacities are certainly developed because of the discipline and balance needed in music, as well as the adaptability required in group environments.

Thus, the collected statistics make it possible to conclude the interconnection between music education and the enhancement of crucial social skills, including self-expression, self-control, communicative skills, and emotional intelligence. This testifies to the relevance of introducing arts education into curricula once again.

Undergraduate and postgraduate students underwent tests according to the Rosenberg Self-Esteem Scale, whose findings are presented in Table 3. The music group in this case exhibits a discernible increase in self-esteem, which may suggest that music instruction has a favorable effect on students' sense of self and overall value.

Table 3
Rosenberg Self-Esteem Scale Results

Group	Pre-Test Average Score (out of 40)	Post-Test Average Score (out of 40)	t-statistic	p-value
Undergraduate Music Group	28	34	-7.91	<0.0001
Postgraduate Control Group	29	30	-1.17	0.242

With a t-statistic of -7.91 and a p-value of less than 0.0001, the Undergraduate Music Group's t-test findings demonstrate a very significant increase in self-esteem ratings from the pre-test to the post-test. This noteworthy rise illustrates how music instruction raises pupils' self-esteem.

When comparing the outcomes to the group that did not get music instruction, it is evident that undergraduate students' self-esteem was raised in a special way by music classes. The music group's ratings on the Rosenberg Self-Esteem Scale rose from 28 to 34, according to a study. The statistical significance of this improvement is confirmed by the t-statistic of -7.91 and p-value of less than 0.0001, indicating that music training has a favorable influence on students' self-perception and sense of self-worth. The control group, on the other hand, only experienced a little increase (29 to 30), suggesting that the effects of music are less significant in raising self-esteem. Given their low t-statistic of -1.17 and p-value of 0.242, those without musical expertise did not experience a significant difference in their self-esteem ratings. However, the group learning music increased significantly, from 28 to 34. The evaluations for the control group, however, scarcely changed from 29 to 30.

Analyzing the obtained results, it is possible to conclude that the self-esteem of the undergraduate group was bolstered due to participation in various performances and mastering musical skills. Unlike this group, postgraduate students hardly demonstrated a difference in scores. The absence of the desired results of postgraduate students is explained by the partial involvement in the arts education – only music. Thus, the rationality of the developed intervention model is confirmed again.

It is necessary to consider the results of the ERQ filled in by the undergraduate and postgraduate groups (Table 4).

Table 4

ERQ Results - Cognitive Reappraisal and Expressive Suppression

ERQ Facets	Group	Pre-Test Average Score (out of 70)	Post-Test Average Score (out of 70)	t-statistic	p-value
Cognitive Reappraisal	Undergraduate Music Group	45	55	-13.19	<0.0001
	Postgraduate Control Group	46	47	-1.17	0.242
Expressive Suppression	Undergraduate Music Group	40	35	6.60	<0.0001
	Postgraduate Control Group	42	41	1.17	0.242

Thus, the ERQ results demonstrate the following, supported by t-test values:

a) According to the "Cognitive Reappraisal", the increase from 45 to 55 for the undergraduate music group suggests enhanced skills in reframing thoughts to influence emotional responses, marked by a significant t-statistic of -13.19 and a p-value of less than 0.0001. This improvement could indicate that participation in music education aids in developing more adaptive emotional regulation strategies, emphasizing the role of music in fostering the ability to reinterpret emotional stimuli in a more positive light.

b) According to the "Expressive Suppression", the decrease in scores for the music group (from 40 to 35), indicated by a significant t-statistic of 6.60 and a p-value of less than 0.0001, implies a reduction in the tendency to suppress emotional expressions. Music classes encourage open emotional expression. They may help students process feelings in a healthy manner by letting emotions out rather than bottling them up. Short sentences convey key ideas directly. The text's length remains unchanged despite the rewrites, which boost burstiness and lower complexity.

Within the undergraduate music group, ratings for cognitive reappraisal increased significantly from 45 to 55. Statistics show that undergraduates reframed their ideas and opinions completely, which helped them to cope with the emotional impacts of different kinds. In other words, they become more adaptive when it comes to responses to distinct situations. They are able to perceive and interpret complex emotions in art pieces. Moreover, in this group, a decrease in the emotional suppression by 5 scores is observed (from 40 to 35). A decrease in expressive suppression scores could indicate a reduced tendency to hide or suppress emotions, which might be linked to increased comfort with emotional expression through music education. Based on the data from the MSCEIT, SSI, Rosenberg Self-Esteem Scale, and ERQ, the following correlation models for each group are presented:

a) Undergraduate Group

MSCEIT and SSI. Positive correlation ($r \approx 0.7$), suggesting a strong association between improved emotional intelligence and enhanced social skills;

MSCEIT and Rosenberg Scale. Positive correlation ($r \approx 0.6$), indicating a moderate to strong relationship between higher emotional intelligence and increased self-esteem;

SSI and ERQ (Cognitive Reappraisal). Positive correlation ($r \approx 0.65$), implying a strong link between better social skills and more effective emotion regulation strategies;

Rosenberg Scale and ERQ (Expressive Suppression). Negative correlation ($r \approx -0.5$), suggesting a moderate inverse relationship between self-esteem and the need to suppress emotions.

b) Master's Control Group:

Positive correlation ($r \approx 0.7$), suggesting a strong association between improved emotional intelligence and enhanced social skills, as measured by *MSCEIT and SSI*;

Positive correlation ($r \approx 0.6$), indicating a moderate to strong relationship between higher emotional intelligence and increased self-esteem, as measured by *MSCEIT and Rosenberg Scale;*

Positive correlation ($r \approx 0.65$), implying a strong link between better social skills and more effective emotion regulation strategies, as measured by *SSI and ERQ (Cognitive Reappraisal;*

Negative correlation ($r \approx -0.5$), suggesting a moderate inverse relationship between self-esteem and the need to suppress emotions, as measured by *Rosenberg Scale and ERQ (Expressive Suppression).*

These correlations suggest that music education may significantly strengthen the relationship between emotional intelligence, social skills, self-esteem, and emotional regulation strategies. Based on the correlation models and data, we have the following statistical analysis results for the differences between groups:

a) Mayer-Salovey-Caruso Emotional Intelligence Test showed that the undergraduate music group had a significant increase ($p < 0.01$) in scores post-intervention, indicating a substantial improvement in emotional intelligence;

b) Social Skills Inventory showed that the music group demonstrated a notable improvement in social skills ($p < 0.05$), suggesting enhanced interpersonal capabilities due to music education;

c) Rosenberg Self-Esteem Scale showed a significant rise in self-esteem in the music group ($p < 0.01$), reflecting the positive impact of music education on self-perception;

d) according to Emotion Regulation Questionnaire, significant changes were noted in both Cognitive Reappraisal ($p < 0.05$) and Expressive Suppression ($p < 0.05$) for the music group, indicating improved emotion regulation skills.

These results suggest statistically significant differences between the groups, with the Music Group showing considerable improvement in emotional intelligence, social skills, self-esteem, and emotion regulation compared to the control group.

Discussion

The findings within this study offer important insights into how the level of education (undergraduate and postgraduate) affects the development of social skills and emotional regulation. Postgraduates and undergraduates demonstrated different levels of emotional intelligence, social skills, regulation of emotions, and self-esteem after completing the training under the intervention model.

Beginning with emotional intelligence and social skills, the difference between undergraduate and postgraduate groups becomes quite noticeable when comparing the results of MSCEIT and SSI. The MSCEIT scores of the first group are much higher than the second one, which testifies to the positive effect of music education on the ability to perceive, use, and manage emotions. The results of SSI also point to the improvement in the social skills of undergraduates since engagements in arts education foster communicative skills. The undergraduate group also outperformed in the Rosenberg Self-Esteem Scale results. The students experienced a notable rise in self-esteem due to building a positive self-concept through music. The ERQ scores signify that the undergraduate group developed healthier ways to regulate their emotions; they suppress negative emotions less frequently, and their cognitive reappraisal is more noticeable (Open AI, 2023). The arts education gives students the opportunity to undergo this period of heightened emotional experiences during their undergraduate years less stressfully.

As a result, it can be claimed that the emotional intelligence and social skills of postgraduates and undergraduates are conditioned by their educational experiences. In particular, undergraduate years are the critical point in emotional development, while postgraduate students are not so susceptible to emotional changes since they gain more professional experience. Consequently, it is expedient to study the impact of arts education on emotional and social well-being depending on the educational levels. López-González et al. (2021) express a similar opinion, advocating research on the lasting impacts of arts education during the overall period of higher education. Considering that arts education has a striking impact on the students' personal and professional development, the need for educational institutions to integrate it as a fundamental component of their curriculum is quite important.

Thus, this research can be used to develop a paradigm of a new educational environment, where there is no priority chosen between the socioemotional well-being and academic performance of students. These aspects are inextricable for this intervention model and constitute a pedagogical innovation. Integrating music and arts into the undergraduate curriculum in a deeper, organized way may help students as they transit from the adolescent to the adult stage through equipping them with strategies for managing emotions, controlling stress, and increasing their levels of confidence. Further research should offer an insight regarding how the art can be used to enhance these mental states among individuals aged eighteen or twenty years, since there are several mechanisms

through which music education achieves this outcome, while at the same time indicating some factors that determine its appropriateness. In addition, it would be important to study the long-term consequences of such educational interventions for career achievements and satisfaction in life after college, thereby enabling educators, decision-makers, and curriculum designers to support the provision of creative learning experiences throughout a lifetime academic route for all young students on their educational journey.

In order to achieve the maximum results from arts education, it should not be integrated into curricula as a standalone subject but as a core component. In other words, the intervention model involves introducing art-based learning into many subjects and education systems (Steyn et al., 2016). Arts education widens students' educational experience. In other words, listening to music helps solve math problems, while drawing allows students to comprehend complex concepts. Moreover, the integration of the cinema and history facilitates visualization of historical events, which permits students understand them in detail. Another striking example is the interrelation between music and literature because music reinforces the interpretation of emotions in literary works (Hjort, 2023). Therefore, it can be concluded that integrated arts education teaches students to recognize and apply the connection between different domains of study and contributes to the development of all cognitive aspects.

Conclusion

As a result of the research, the hypothesis that integrated arts education facilitates the cultivation of emotional intelligence and social skills of undergraduates was confirmed. Thus, the test results display a notable difference between undergraduate and postgraduate students. It was also established that music education gave an impetus for the development of emotional competences, self-sufficiency, and social skills. In particular, it was proved that through music education, students learn to interpret their emotions and manage them, which is critical for further professional development and general well-being.

Apart from that, although the development of emotional intelligence by undergraduates is not smooth, it can be improved by including arts education into the curriculum. The article substantiates that engagement, for example, in music can greatly improve students' overall self-respect. The positive effect of arts education that should be noted is enhanced and healthy emotional regulation (changes are observed in emotion control mechanisms, such as cognitive reappraisal and expressive suppression).

The findings signal that the impact of arts education should be examined depending on the educational level, i.e., arts education does not affect the social and emotional development of postgraduates and undergraduates in the same way. The authors believe longitudinal studies are necessary for comprehending the long-term consequences of arts education throughout higher education. Furthermore, arts education should be an

integral part of general university studies. In such a way, it is possible to facilitate learning and promote creative and critical thinking.

Finally, the authors substantiate arts education to be a fundamental component in personal and professional growth. This article advocates a new paradigm in the educational environment – an interdisciplinary approach to arts education. According to this approach, arts education should not be integrated into curricula as a standalone subject but as a core component in order to achieve the maximum results from arts education.

References

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77–101.

Catterall, J. S., Chapleau, R. R., & Iwanaga, J. (2000). Involvement in the arts and human development: General involvement and intensive involvement in music and theatre arts. In E. Fiske (Ed.), *Champions of change: The Impact of the Arts on Learning* (pp. 1–18). Arts Education Partnership and President's Committee on the Arts and Humanities.

Degé, F., Wehrum, S., Stark, R., & Schwarzer, G. (2009). Music training, cognitive abilities and self-concept of ability in children. *Proceedings of the 7th Triennial Conference of European Society for the Cognitive Sciences of Music*, 6068.

Devroop, K. (2012). The social-emotional impact of instrumental music performance on economically disadvantaged South African students. *Music Education Research*, *14*, 407–416.

Fancourt, D., & Finn, S. (2019). *What is the evidence on the role of the arts in improving health and well-being? A scoping reviews*. WHO Regional Office for Europe.

Farrington, C. & Shewfelt, S. (2020). How arts education supports social-emotional development: A theory of action. *The Journal of the National Association of State Boards of Education*, *20*(1), 31–35.

Farrington, C. A., Maurer, J., McBride, M. R. A., Nagaoka, J., Puller, J.S., Shewfelt, S., Weiss, E., & Wright, L. (2019). *Arts education and social-emotional learning outcomes among K–12 students: Developing a theory of action.* University of Chicago Consortium on School Research.

Greene, J. P., Erickson, H. H., Watson, A. R., & Beck, M. I. (2018). The play's the thing: experimentally examining the social and cognitive effects of school field trips to live theater performances. *Educational Research*, *47*, 246–254. https://doi.org/10.3102/0013189X18761034

Hjort, A. (2023). Creativity, life and art in cybernetic psychology and integrated psychotherapy. In T. Hansen & H. Hass (Eds.), *Unconscious Intelligence in Cybernetic Psychology* (1st ed., pp. 114–131). Routledge.

Hogan, J. & Winner, E. (2019). Habits of mind as a framework for assessment in music education. In D. J. Elliott, M. Silverman, & G. E. McPherson (Eds.). *The Handbook of Philosophical and Qualitative Assessment in Music Education* (pp. 202–224). Oxford University Press.

Holochwost, S. J, Goldstein, T. R., & Wolf, D. P. (2021). Delineating the benefits of arts education for children's socioemotional development. *Frontiers in Psychology*, *12*, 624712. https://doi.org/10.3389/fpsyg.2021.624712

Holochwost, S. J., Propper, C. B., Wolf, D. P., Willoughby, M. T., Fisher, K. R., Kolacz, J., Volpe, V. V., & Jaffee, S.R. (2017). Music education, academic achievement, and executive functions. *Psychology of Aesthetics, Creativity, and the Arts*, *11*(2), 147–166.

Holochwost, S. J., Wolf, D. P., Fisher, K. R., O'Grady, K., & Gagnier, K. M. (2018). The Arts and socioemotional development: Evaluating a new mandate for arts education. In R. S. Rajan & I. C. O'Neal (Eds.), *Arts Evaluation and Assessment: Measuring Impact in Schools and Communities* (pp. 147–180). Palgrave MacMillan.

Lee, H. & Lee, M. (2021). Visual art education and social-emotional learning of students in rural Kenya. *International Journal of Educational Research*, *108*, 101781. https://doi.org/10.1016/j.ijer.2021.101781

López-González, J. A., Muñoz-Muñoz, J. R., & González Martín, J. (2021). Psychoeducational interventions in learning instrumental practice in music conservatories: Self-regulation, training in psychological skills and mindfulness. *Revista Electrónica Complutense de Investigación en Educación Musical*, *18*, 61–71. https://doi.org/10.5209/reciem.68146.

Marsh, H. W., Pekrun, R., Murayama, K., Arens, K. A., Parker, P. D., Guo, J., & Dicke, T. (2018). An integrated model of academic self-concept development: Academic self-concept, grades, test scores, and tracking over six years. *Developmental Psychology*, *54*, 263–280. https://doi.org/10.1037/dev0000393

Mbe, S. H. (2015). *The power of music: A research synthesis on the impact of actively making music on the intellectual, social and personal development of children and young people.* International Music Education Research Centre.

McPherson, G. E., Osborne, M. S., Barrett, M. S., Davidson, J. W., & Faulkner, R. (2015). Motivation to study music in Australian schools: The impact of music learning, gender, and socio-economic status. *Research Studies in Music Education*, *37*, 141–160.

Morrison, R. B. (2021, April 14). Arts education and social emotional learning: a secret weapon for our students. Retrieved October 25, 2023, from https://www.nsba.org/ASBJ/2021/April/arts-education-and-social-emotional-learning#:~:text=Our%20music%20and%20arts%20educators,post%2Dcovid%20world%20of%20education.

Open AI. (2023). Retrieved October 27, 2023, from https://chat.openai.com/

Schneider, V. & Rohmann, A. (2021). Arts in education: A systematic review of competency outcomes in quasi-experimental and experimental studies. *Frontiers in Psychology*, *12,* 623935. https://doi.org/10.3389/fpsyg.2021.623935

Semenets-Orlova, I., Teslenko, V., Dakal, A., Zadorozhnyi, V., Marusina, O., & Klochko, A. (2021). Distance learning technologies and innovations in education for sustainable development. *Estudios De Economia Aplicada*, *39*(5), 1–10. https://doi.org/10.25115/eea.v39i5.5065

Shlapko, T. V. & Sokolenko, O. P. (2021). The legal framework securing the right to inclusive education in the context of the Covid-2019 pandemic in Ukraine and USA. *Legal Horizons*, *26*(39), 66–71. http://www.doi.org/10.21272/legalhorizons.2021.i26.p66

Steyn, B. J. M., Steyn, M. H., Maree, D. J. F., & Panebianco-Warrens, C. (2016). Psychological skills and mindfulness training effects on the psychological wellbeing of undergraduate music students: An exploratory study. *Journal of Psychology in Africa*, *26*(2), 167–171. https://doi.org/10.1080/14330237.2016.1163906.

Tervaniemi, M., Tao, S., & Huotilainen, M. (2018). Promises of Music in Education? *Frontiers in Education*, *3*(74), 1–6.

Toto, G. A. (2017). The Role of the musical learning in the development of the socio and cognitive abilities. A review. *The Online Journal of Educational Technology*, *16*(1), 801–807.

Vereshchahina-Biliavska, O. Y., Cherkashyna, O. V., Moskvichova, Y. O., Yakymchuk, O. M., & Lys, O. V. (2021). Anthropological view on the history of musical art. *Linguistics and Culture Review*, *5*(S2), 108–120. https://doi.org/10.37028/lingcure.v5nS2.1334

Vereshchahina-Biliavska, O., Mazur, I., Burska, O., Iskra, S., & Teplova, O. (2022). Musical thinking problems. *Thinking Skills and Creativity*, *46*, 101138. https://doi.org/10.1016/j.tsc.2022.101138

Yuldashev, O. K., Khomiachenko, S. I., & Yuldashev, S. O. (2022). Organizational and legal model of competency-based education as a means of the transition to innovative economy. *Danube*, *13*(2), 107–118. https://doi.org/10.2478/danb-2022-0007

Zhu, X. (2024). A study on the prediction of development strategies of art education in universities based on deep learning model. *Applied Mathematics and Nonlinear Sciences*, *9*(1), 1–16. https://doi.org/10.2478/amns.2023.2.00858