

## RESEARCH ARTICLE

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# Examining the effects of volunteer piano training on children

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## Abstract

This study investigates the impact of non-professional piano education on children's focus, motivation, anxiety, emotional state, academic performance, time management, social relationships, and communication skills. Using a phenomenological design, The study group of the research consists of students aged 6-15 who are receiving piano education at Erzincan Binali Yıldırım University Continuing Education Center and private institutions offering individual music lessons. The findings revealed significant improvements across various areas. Children showed enhanced focus, better coordination, and clarity of perception. Their motivation increased, with higher self-confidence, reduced stress, and eagerness to learn. Anxiety levels decreased, and emotional well-being improved, with children experiencing greater happiness, pride, and empathy. Academically, there were gains in subjects like mathematics, science, and the arts, while time management skills improved in planning and homework completion. Socially, children demonstrated better communication, leadership, and participation in events. The study concluded that piano education positively influences cognitive, emotional, social, and academic development, recommending the integration of music education into curricula, early music education, and workshops to foster motivation, time management, and social skills. Additionally, further research on cognitive and academic improvements and training for parents and teachers were suggested.

**Keywords:** Piano education, Focus, Motivation, Psychological impact, Communication.

## Introduction

Music education is a vital component of arts education that significantly fosters self-expression, aesthetic development, self-confidence, attention and comprehension skills, and the discovery of creative abilities (Akinönder, 2019). Music education supports individuals' cognitive, affective, and psychomotor development while uncovering and enhancing their musical abilities, thereby contributing to the cultivation of creative, critically thinking, and self-confident individuals (Karataş, 2024). This supports the idea that music education can enhance cognitive abilities related to executive functions in children, thereby contributing to their academic success (Jaschke et al., 2018). Music education involves a complex interplay of physical, mental, emotional, and social factors, with a growing focus on students' self-perception, educational effectiveness, and individual growth (Özmenteş & Özmenteş, 2009). Margiotta (2011) observes that parental support, alongside a child's motivation and effort, fosters an optimal environment for music learning, emphasizing collaboration among parents, teachers, and students. Harris

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(2016) further notes the need to strengthen teacher-parent communication in music education.

Instrumental training is significant for 'fostering students' personal development, enhancing their emotional and skill-based growth, and teaching them to be attentive, patient, and disciplined' (Akkuş, 1996, cited in Huseynova, 2019, p. 2). It has been observed that playing a musical instrument is associated with better performance in mathematics tests, in addition to improved reasoning and processing speed (Bergman Nutley et al., 2014).

Non-professional music education plays a crucial role in the individual's personal development and the enhancement of communication skills with their environment (Akinönder, 2019). The foundation of beginner piano education lies in enabling the learner to perceive music as an art form that connects the sounds comprising music with related emotions and experiences, thereby fostering musical thinking (Ekinçi, 1998). Research indicates that music and piano education support children's overall development across cognitive, emotional, motor, physical, mental, and social domains, while also positively influencing personality traits such as self-confidence, discipline, adaptability, and responsibility (Demirova, 2008).

Factors influencing students' piano performance and achievements during education include technical-physical, psychological, and cognitive elements (Gün & Yıldız, 2013), while Alves-Pinto et al. (2017) found that short-term piano training significantly improved vibration localization in the fingers of individuals with cerebral palsy, though it did not affect simple finger tapping sequences or motor-related brain responses; additionally, piano education engages cognitive, emotional, and psychomotor skills, incorporating aspects such as technical knowledge, musical interpretation, and technical proficiency (Pirlibeylioğlu & Şişman, 2017).

In piano education, teacher proficiency and parental support are crucial for students' progress (Gökbudak, 2003). Social behavior is essential for academic success, while emotional engagement enhances participation (Forsythe, 1977). Social approval can further improve students' development (Kostka, 1984). Research also shows that music education enhances cognitive abilities such as intelligence, spatial skills, memory, and auditory processing (Costa-Giomi, 2014).

Piano teachers emphasize the importance of students enjoying their lessons, as emotions significantly impact learning and motivation (Mackworth-Young, 1990). Piano playing requires a diverse skill set, including coordination, focus, and attention, as mastering treble and bass clefs, melodies, rhythms, and polyphonic textures demands high levels of concentration (Huseynova, 2019).

In an experimental study by Li et al. (2021) on children who play the piano, regular lessons were found to strengthen the right lateral profile and left hemisphere of the brain, resulting in higher alpha and beta power; furthermore, maximum attention to the piece being worked on is crucial for success in instrumental training, as focusing on key sections and anticipating challenging parts aids performance, while identifying difficult areas and maintaining focus contribute to successful execution (Kurtuldu, 2012).

Ünal (2006) argues that children from diverse socio-cultural backgrounds require personalized piano education methods that account for their holistic development, aiming to foster emotional expression and musical appreciation. Early piano education should focus on making lessons enjoyable to cultivate a love for music. Bai (2021) highlights that learning piano in China enhances

social status, income opportunities, creativity, and life satisfaction.

This research aims to explore the effects of non-professional piano education on children's cognitive, emotional, social, and academic development, focusing on attention, motivation, anxiety management, emotional state, academic performance, time management, social relationships, and communication skills. Without this research, the literature will lack essential insights, potentially hindering the development of effective educational policies and curricula.

In accordance with the aim of the research, the research problem statement is as follows:

The research problem statement is formulated as follows: "What are the effects of non-professional piano education on children?"

Within the framework of the research problem statement, the sub-problems of the research have been formulated as follows:

- What is the extent of the effect of piano education on children's attention?
- What is the extent of the effect of non-professional piano education on children's motivation?
- What is the effect of piano education on children's anxiety levels?
- What is the impact of piano education on children's emotional states?
- What is the effect of piano education on children's academic performance?
- What is the effect of piano education on children's time management skills?
- What is the extent of the effect of piano education on children's social relationships?
- What is the extent of the effect of piano education on children's ability to communicate with others?

## Method

### Research design

In the research, a phenomenological (or eidetic) design was employed. Qualitative research is a method that emphasizes the perspective of the participants, allows for the researcher's exploration and interpretation, and follows a process oriented towards understanding and meaning. It utilizes qualitative data collection techniques (such as observation, interviews, and document analysis). The aim of qualitative research is to uncover what lies beneath the surface through an in-depth investigation. (Yalçın, 2022).

Phenomenological research, which is based on individuals' experiences and focuses on interpreting social phenomena constructed from lived experiences, is a powerful qualitative research design frequently used in various disciplines, including sociology, psychology, health sciences, and education (Creswell, 2018, p. 77, cited in Çarpar, 2022, p. 695). Phenomenology is a type of qualitative study that 'focuses on phenomena that we are aware of but do not have a deep and detailed understanding of' (Yıldırım & Şimşek, 2013).

In this research, a phenomenological design was used to examine in depth and detail how variables related to attention, anxiety, emotions, academic achievement, motivation, and social relationships in children receiving piano education affect them.

## Research group

The study group consisted of students aged 6-15 who received piano education at Erzincan Binali Yildirim University's Lifelong Learning Center and at institutions offering private music lessons. No sampling method was employed in the research; instead, a census method was used, including all students and their parents who voluntarily agreed to participate in the study.

## Data collection tools

In the research, data collection was carried out using a semi-structured interview form designed based on the perspectives of students' parents regarding the effects of individualized piano education on children. The semi-structured interview form was administered face-to-face to the parents, who were asked to provide written responses to the following questions.

1. Do you believe that piano education is effective in enhancing your child's ability to focus? Please explain.
2. Has piano education had an effect on your child's motivation? Please explain.
3. Has piano education affected your child's level of anxiety? In what way has it impacted their anxiety levels? Please explain.
4. Has piano education generated any emotions in your child? If so, what kind of emotions has it generated? Please explain.
5. Has piano education had an impact on your child's academic performance? If so, in which subjects or areas do you think it has been effective?
6. Has piano education had an impact on your child's ability to manage time effectively? Please explain.
7. Has piano education been effective in managing your child's social relationships? Please explain.
8. Has piano education been effective in your child's ability to communicate with others? Please explain.

The responses to the questions obtained through the semi-structured interview form were numbered and ordered sequentially.

## Personal information form

A personal information form consisting of two questions will be used as a data collection tool. The form includes questions about the student's name, gender, age, type of school, grade level, and duration of piano instruction (in months and years).

The interview form was developed with input from an educational sciences expert and three piano education specialists to ensure its relevance. Based on expert feedback, the questions were organized and sequenced. Measures were taken to ensure the study's validity and reliability, as outlined in the table below.

**Table 1** Validity and reliability measures

Validity	Internal Validity	Consultation with Experts Participant Confirmation Direct Quotation
	External Validity	Explanation of the Data Collection Instrument and Process Explanation of Data Analysis

Reliability	Internal Reliability	Selection and Description of the Study Group Preventing Data Loss Using the Interview Form Direct Quotation
	External Reliability	Appropriate Discussion of Data

In the study, measures were taken to prevent data loss by having participants provide written responses to the questions in the semi-structured interview form. This approach was intended to avoid the use of incorrect statements and ensure accuracy in the data collected.

## Data analysis

Content analysis was used in the data analysis. The responses to the questions were reviewed by experts, codes were assigned, and similar codes were grouped together to create themes. To ensure external validity, data collection and analysis methods were clearly outlined, with codes and themes presented in tabular form. Direct quotes from participants, identified as P (Participant), were included in the findings. The results were discussed by comparing them to similar studies in the literature.

## Research ethics

This research adheres to research and publication ethics, with ethical approval granted by the Erzincan Binali Yıldırım University Ethics Committee for Human Research in Education Sciences (Decision date: 29/12/2023, protocol number: 14/23). Participant consent was prioritized, and personal information was kept confidential. Quotations were made in accordance with scientific standards.

## Findings

Table 2 presents descriptive statistics regarding the demographic characteristics of the participants. These statistics include information such as gender distribution, age groups, type of school, and duration of piano education.

**Table 2** Demographic characteristics of the participants

Variables	Category	f
Gender	Male	9
	Female	20
Age	6-8 Years	9
	9-11 Years	14
	12 and above	6
Type of School	1- Primary Education	20
	2- Secondary Education	7
	3- High School	2
Duration of Piano Education	1 years	7
	2 years	16
	3 years	4
	4 and more years	2

When examining the gender distribution of the participants, it is observed that 9 are male and 20 are female. In terms of age groups, 9 participants fall within the 6-8 age group, 14 participants in the 9-11 age group, and 6 participants are 12 years old or older. Regarding the type of school, 20 participants are enrolled in primary education, 7 in secondary education, and 2 in high school. In terms of the duration of piano education, 7 participants have received 1 year of training, 16 participants have received 2 years of training, 4 participants have received 3 years of training, and 2 participants have received 4 or more years of training.

**Table 3** Participants' views on the impact of integrated piano education on attention

Theme	Codes	f	Participant
Attention Focus	Focus	11	p1, p2, p5, p6, p7, p8, p10, p11, p12, p17, p18
	Coordination	4	p2, p4, p9, p10
	Perceptual Awareness	2	p13, p17
	Feeling Good	1	p18, p20
	Being Organized	1	p1
	Organizational Skills	1	p1

In the study, it was found that the piano education received by children contributed to their attention in terms of focus, coordination, perceptual awareness, being organized, organizational skills, and feeling good. Some of the parents' views on how piano education contributes to attention gathering are provided below.

P1- She is more attentive in tasks that require organization and being orderly. These characteristics were already present in my daughter. However, with piano education, this trait, especially her level of attentiveness, has increased further.

P2- She demonstrates more effective coordination in tasks that require attention and are complex.

P4- I believe it has a positive effect, especially on hand and finger coordination.

P5- I believe it is effective in terms of focus.

P6- With piano training, this issue, which was previously quite prominent, has significantly diminished, and particularly, there has been an increased awareness regarding the need to focus on tasks.

P7- I believe it has been very beneficial in terms of attention and motivation. The ability to focus on the notes, to dedicate full attention while playing, and to remain unaffected by distracting sounds is an indication of its positive impact.

P8- I believe it has been effective in helping him/her focus while doing homework.

P9- I believe the eye-hand coordination is very good. It has significantly contributed to academic success.

P10- Because it has increased her concentration, it has also helped her to focus better in her academic life.

P11- By attempting to complete the assigned tasks during the lesson time, she increased the duration of her study sessions at the desk. As a result, her concentration span has improved.

P12- I believe that it is effective in areas requiring concentration, such as completing homework, reading books, and solving problems.

P13- In his academic life, he can listen to his teacher for longer periods without distraction in school, courses, and similar settings. He can also read books for longer periods with better comprehension.

P14- In some areas, his attention has improved. I can also observe that his musical ear has developed.

P17- The clarity of perception provided by its impact on brain development has facilitated his ability to learn new things more easily.

P18- It has been very helpful in improving his attention. We enrolled our child in piano lessons specifically to address attention deficit issues.

P20- It has contributed to him feeling better about himself.

**Table 4** Participants' views on the impact of active piano education on motivation

Theme	Codes	f	Participant
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Motivation	Self-confidence	12	p1, p2, p3, p5, p6, p15, p16, p19, p20, p21, p23, p25
	Happiness	4	p12, p17, p20, p23
	Reduction in stress	3	p3, p15, p17
	Learning new things	2	p9, p18

The study identified that the piano education received by children contributes to their motivation in terms of self-confidence, reduction in stress, happiness and learning new things. Some of the perspectives of the parents of the children participating in the study regarding the impact of piano education on motivation are provided below.

P1- After receiving piano education, he now has greater self-confidence. As he practices new exercises and progresses to subsequent pieces, his commitment to the instrument has increased. I believe that these experiences and exercises have also positively influenced his motivation in other areas.

P2- Being able to play the piano significantly motivates him both in his own environment and in more crowded settings.

P3- We observed that engaging with the piano during times of exam stress reduced his stress levels and positively affected his motivation.

P5- His self-confidence increases as he plays the piano pieces.

P6- Becoming aware of his own talent and learning new things has significantly increased his motivation. Completing a piece and moving on to a new one, or learning something new about the piano keys and similar aspects, especially boosts his intrinsic motivation and deepens his interest in the piano. Even in situations where he feels he has little talent due to negative peer influence, the thought of 'I am good at piano' motivates him and helps him cope with these negative thoughts more easily.

P9- She comes to lessons with much more enthusiasm, especially when she is able to play meaningful pieces.

P12- It's clear that she is happier on piano days compared to other courses.

P15- The contribution of piano education to the reduction of emotional negativity helps to increase his motivation levels.

P16- As she succeeds, her self-confidence and motivation increase

P17- I can clearly observe that he becomes calmer and enjoys himself more when he engages with music.

P18- When I see him succeed in playing pieces, he also excels in other areas.

P19- She has become a self-confident child.

P20- Music has made him happier and provided better motivation.

P21- He has become a self-confident individual.

P23- Being able to play a musical instrument at which he has been successful has been effective in terms of self-confidence and motivation. As he progressed, he became pleased with the improvements he observed in himself. His interest in music has increased.

P25- His self-confident behavior is due to his awareness of his abilities.

**Table 5** Participants' views on the impact of targeted piano education on anxiety

Theme	Codes	f	Participant
Anxiety	Reduction in Fear	2	p6, p7
	Calming	2	p1, p3
	Relaxation	1	p1
	Anger Control	1	p3
	Reduction in Stress	1	p10
	Reduction in Worry	1	p25

The study found that parents reported positive contributions of piano instruction to their children's anxiety levels, including reductions in fear, calming effects, relaxation, anger control, stress reduction, and worry reduction. Some of the views of the parents regarding the impact of piano instruction on anxiety are presented below.

P1- The piano exercises and tonal training have a calming and soothing effect. Therefore, I believe that being able to think differently about such a polyphonic instrument and approach life more positively can reduce anxiety levels. I have also observed a decrease in my daughter's anxiety level as a result.

P3- We have observed that when she plays the piano during moments of anger, it helps her to suppress her anger.

P6- Initially, the child had significant anxiety and fears of failure in piano education. This was particularly evident in a tendency to either avoid starting or to give up early. However, with the progress of the education, there was a noticeable reduction in these anxieties, and the child learned that they needed to attempt things first in order to achieve success.

P7- I can say that playing the piano (especially when transitioning to new pieces) initially increases anxiety (fear of not being able to perform), but once the child succeeds, it boosts their confidence, thereby helping to reduce their anxiety (in all areas).

P10- Piano education had positive effects on anxiety. It reduced stress levels.

P25- Due to the restoration of self-confidence, the individual moved away from anxious behaviors.

**Table 6** Participants' views on the emotional aspects of targeted piano education

Theme	Codes	f	Participant
Emotion	Happiness	8	p1, p2, p5, p6, p7, p15, p16, p29
	Sense of Achievement	3	p3, p16, p29
	Positive Thinking	2	p1, p15
	Pride	1	p6
	Feeling Toward Animals	1	p14
	Love for Nature	1	p14
	Empathy	1	p18

The study found that the piano education received by children had positive contributions to their emotional states in terms of happiness, positive thinking, sense of achievement, pride, feelings toward animals, love for nature, and empathy. Some of the parents' views on the impact of piano education on their children's emotional states are provided below.

P1- My daughter shares that she feels happier after piano lessons. She is calmer and more positive after the lessons. Generally, she is more joyful.

P2- She frequently expresses that she feels happy while playing the piano.

P3- We believe that the feeling of accomplishing something has developed her sense of self-confidence.

P5- It has fostered a sense of happiness.

P6- It particularly evokes feelings such as pride in oneself, managing negative emotions, knowing how to recover from mistakes, emotional regulation, happiness upon success, and curiosity and excitement about subsequent activities.

P7- I would like to emphasize that piano education helps the child to be happier and more confident.

P14- I can say that the child has become more sensitive and more attentive towards nature and animals.

P15- We have observed that the child has moved away from pessimistic and negative



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emotions and thoughts, and has developed a greater capacity for positive emotions and thoughts, resulting in increased happiness.

P16- The child experiences happiness, feels a sense of accomplishment, and has developed greater self-confidence.

P18- The child has developed a strong sense of empathy.

P29- Certainly, the piano training has fostered a sense of happiness and achievement. The child begins playing the piano with joy and feels happy when seeing their own progress.

**Table 7** Participant perspectives on the impact of piano education on academic achievement

Theme	Codes	f	Participant
Academic Achievement	Mathematics	10	p1, p3, p8, p9, p15, p17, p18, p19, p26, p28
	Music	4	p1, p2, p7, p12
	Foreign Language	3	p2, p3, p7
	Science	1	p1
	Visual Arts	1	p1

The research found that the piano education children received had a positive impact on their academic performance in subjects such as mathematics, music, foreign language, science, and visual arts. Below are some of the views of the parents of the participating children regarding the effects of piano education on academic success.

P1- My daughter's level of achievement in subjects that require skills has improved. Her performance in music, visual arts, science, and mathematics has increased over the past two years.

P2- Music lessons are very effective. Additionally, we believe they are beneficial for learning foreign languages.

P3- We believe it is effective in mathematics and English courses.

P7- I can say that the contributions to focus have been beneficial in every subject, with the greatest impact on success in music classes. I can also assert that reading musical notes has been beneficial in general reading, particularly in terms of focus and comprehension.

P8- I believe it has an impact on mathematics.

P9- I definitely believe it has been effective in academic achievement. In particular, her success in mathematics has improved.

P12- I believe it has contributed to her performance in music class.

P15- Learning focus through piano training has particularly enhanced her performance in numerical subjects. In verbal subjects, we observed its impact on the improvement of reading skills.

P17- It positively affected her mathematics skills.

P18- He has made progress in mathematics, which is also noted by her classroom teacher.

P19- We have observed that it has been particularly beneficial in mathematics.

P26- Academically, I believe that piano training has particularly contributed to success in mathematics.

P28- It has been particularly effective in the subject of mathematics.

**Table 8** The views of participants on the time management aspects of self-directed piano education

Theme	Codes	f	Participant
Time Management	Effective Use of Time	7	p1, p6, p10, p15, p16, p20, p25
	Organized Study	5	p11, p12, p15, p18, p21
	School Preparation	1	p13
	Homework Completion	1	p13

The research findings indicate that piano education has a positive impact on children's time management skills, including effective use of time, organized study, school preparation, and homework completion. Some of the views of parents participating in the study regarding the effects of piano education on time management are presented below.

P1- I believe that the ability to use time effectively is closely related to becoming more organized through piano education. Over the past two years, I have observed that my daughter has become more organized and has used her time more efficiently as a result of her piano lessons.

P6- It has increased awareness of time management, particularly regarding the need to work intermittently for success and not to procrastinate tasks. Specifically, it has taught her to understand the difference between daily practice and last-minute intensive study, and to adjust her time plan accordingly.

P10- Yes, it has. She has learned to use her time more efficiently.

P11- I believe it has been effective in terms of her ability to work in a planned manner in her daily life.

P12- Yes, I believe she has become more systematic in her approach to studying.

P13- Yes, it has positively contributed to her homework completion, school preparation, and similar activities by improving her time management skills.

P15- Seeing firsthand that consistent practice leads to success has taught her the necessity of planned work, discipline, and consequently, the efficient use of time. As a result, it has made a positive contribution to her time management skills.

P16- By developing a sense of responsibility, she makes an effort to complete her tasks on time.

P18- He currently pays attention to working in a planned manner while studying for his lessons.

P20- It has enabled him to use his time more effectively.

P21- She has become more organized.

P25- He decides for himself how to allocate time to different subjects and activities. We have definitely observed its benefits.

**Table 9** Participants' views on the social relationship aspects of self-directed piano education

Theme	Codes	f	Participant
Social Relationships	Self-expression	4	p14, p15, p16, p26
	Participation in social activities	3	p2, p5, p23
	Concert	2	p3, p9
	Leadership abilities	1	p8
	Social status	1	p10

The research findings indicate that the piano education received by children positively contributes to their social relationships in terms of self-expression, participation in social activities, concerts, leadership abilities, and social status. Some of the views of the parents of participating children regarding the impact of piano education on social relationships are outlined below.

P2- In social interactions, my child is often invited to social gatherings because of their piano playing. Additionally, their teachers at school know them well due to this skill.

P3- We observed that during concerts and school events, their interactions with unfamiliar people became more comfortable, and their excitement levels were lower. While they were once more reserved, they have now transitioned into a more active role.

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P5- Playing the piano has made it easier for them to bond with their peers, as it drew the attention of their friends.

P8- My child's social relationships have always been good, but whereas they used to be more of a follower, they have now transitioned into a position where they can also take on leadership roles.

P9- Performing in a concert was an especially positive and enriching experience for them.

P10- As they perform pieces, listeners often ask for encores, which enhances their social status and elevates their standing.

P14- It has positively influenced both their choice of social activity clubs in the school environment and their friendships.

P15- Yes, it had positive effects. It helped her express herself better within her group of friends. Instead of trying to join a group, she became someone who forms her own group.

P16- Due to her somewhat shy temperament, piano education has been effective in helping her express herself and behave more comfortably in her relationships.

P23- I believe it has been very effective. It has contributed to her popularity among peers and has enabled her to be more active in events.

P26- I believe it has been very beneficial in terms of self-expression and confidence.

**Table 10** Perceptions of participants regarding the role of piano education in communication theory

Theme	Codes	f	Participant
Communication	Building a social network	5	p3, p4, p13, p16, p29
	Playing the piano	2	p2, p6
	Music	2	p4, p28

The study found that the piano education received by children positively contributes to their communication skills in terms of building a social network, playing the piano and engagement with music. Some of the views of the parents of the participating children regarding the impact of piano education on communication skills are provided below.

P2- Other peers are consistently interested in maintaining contact with him due to this talent. They are also inclined to pursue piano playing.

P3- Due to his introverted nature, he previously struggled with communication. However, after receiving piano education, he has reached a level where he can express himself much more effectively.

P4- I believe that engaging in discussions about music education with peers has had a positive impact on him.

P6- Participation in mini concerts and public performances, along with the ability to manage emotions despite people's gazes and to use body language more effectively, has positively influenced communication skills. These experiences have contributed to greater ease in engaging in more extensive organizational activities across different environments.

P13- When meeting new people, the individual often discusses piano, art, and similar courses, which helps to capture interest and sustain conversations in social settings. This has been a positive contribution.

P16- The individual has made new friends and improved their ability to communicate effectively.

P28- The individual is able to communicate more effectively about music.

P29- The individual uses the piano as a common topic for socializing with peers, which also facilitates communication.

## Conclusion, discussion, and recommendations

Regarding the first sub-problem, the results indicate that piano education has a positive effect on children's ability to focus in various aspects, including organization, coordination, focus, perceptual clarity, and overall well-being.

In line with this research finding, the study by Huseynova et al. (2019) demonstrated positive effects of piano education on attention skills in children aged 7-12. In their study, Hallam and Prince (2000) asked teachers to describe what they believed were the benefits of learning to play a musical instrument. They found that the most frequently mentioned benefits were related not to the development of musical skills but to social skills, enjoyment of music, teamwork, a sense of achievement, self-confidence, and self-discipline. Additionally, among other skills, concentration, physical coordination, creativity, and listening abilities were noted.

According to Liu and JiRiGeLa (2023), music education not only enhances children's abilities in mathematics and reading but also strengthens concentration and memory, thereby creating positive effects in other areas of learning.

Piano education enhances children's focus, supporting cognitive development and attention control, which benefits academic performance and daily attention management. Additionally, amateur piano lessons positively impact children's self-confidence, reduce stress, boost motivation for learning, and increase overall well-being. In parallel with the findings of this research, Comeau and Huta (2015) reported in their article that the process of piano education has both positive and negative effects on children's motivation.

Franceschi (2022) found that many piano students discontinue music education in primary school, with few high school students pursuing music academy programs in piano. The study showed that piano performance is influenced by personal, motivational, and familial factors. Older students receive greater parental support, leading to higher motivation and self-efficacy, and confirming that intrinsic motivation grows with age.

Thus, piano education enhances children's motivation, strengthens musical achievements, and boosts self-confidence. It fosters goal-setting, self-discipline, and perseverance, which together positively influence overall motivation.

Regarding the third sub-problem, it has been observed that amateur piano education has a positive effect on reducing fear, calming, relaxation, anger management, stress reduction, and decreasing anxiety in children. In line with this finding, Chappell (1999) stated that piano education activates all brain functions, deepens students' musical understanding, enhances physical relaxation, increases motivation, and reduces anxiety and tension during performance.

Accordingly, piano education appears to be effective in reducing children's anxiety levels. It can be said that playing the piano enhances emotional relaxation and stress management skills, lowering children's anxiety levels and improving their overall emotional well-being.

Regarding the fourth sub-problem, it has been observed that amateur piano education has a positive effect on children's emotional states, fostering happiness, positive thinking, a sense of achievement, pride, feelings towards animals, a love for nature, and empathy.

Saarikallio and Erkkilä (2007) emphasize in their research that music plays a significant role in regulating adolescents' moods and helps them manage stress, anxiety, and emotional distress

through various musical activities. The study suggests that learning to play an instrument can enhance the benefits of music in mood regulation, assisting children in coping with negative emotional states and improving their overall emotional well-being.

Accordingly, piano education appears to have a positive effect on children's emotional states and contributes to their emotional development. It can be said that playing the piano enhances children's emotional expression and emotional regulation skills.

Regarding the fifth sub-problem, it has been concluded that amateur piano education positively contributes to children's academic performance in subjects such as mathematics, music, foreign languages, science, and visual arts.

Azevedo et al. (2020) conducted a systematic literature review revealing an inconsistent relationship between music education and academic performance, particularly in mathematics, with no consensus on its overall advantages; however, the review emphasized the cognitive benefits of music education, noting that even brief exposure can positively impact cognitive functions and that children receiving music education show improvements in spatial-temporal skills compared to those with alternative or no instruction. Said and Abramides (2020) found that children exposed to music education showed notable improvements in academic skills, particularly in arithmetic, reading, and writing, with the length of exposure being a key factor in their academic development.

Hallam (2010) argues that the positive impact of music on personal and social development in children and adolescents depends on the extent to which the experience is enjoyable and rewarding, as this influences the overall quality of the education. Costa-Giomi (1999) found that piano education positively impacts children's cognitive abilities, musical skills, motor proficiency, self-confidence, and academic performance. Schellenberg (2004) found that children receiving music education, particularly piano and voice training, experienced significant improvements in IQ scores and academic achievement, enhancing their overall cognitive abilities and school performance. Zafranias (2004) found that piano education significantly improved preschool children's hand movements, spatial memory, and arithmetic skills.

Piano education significantly improves children's academic performance and cognitive abilities, benefiting skills in reading, writing, mathematics, and problem-solving and supporting overall cognitive and school achievement. Amateur piano education also enhances time management, fostering systematic work, school readiness, and efficient task completion, which aids in planning, prioritization, and personal development.

Regarding the seventh sub-problem, it has been concluded that amateur piano education has a positive impact on children's social relationships, including their ability to express themselves, participate in concerts and social events, and take on leadership roles. Liu and Bin Ismail (2022) highlighted that peer interactions during piano practice significantly influence children's psychological, social, moral, and cognitive development, while Rabinowitch et al. (2012) found that group music activities foster empathy and enhance social-emotional skills. Piano education positively impacts children's social development by enhancing empathy, group interaction, and social connections, helping them build stronger social skills and engage in more effective social interactions.

Regarding the eighth sub-problem, it has been found that amateur piano education positively

affects children's ability to create social environments, work systematically, and communicate regarding music.

Interactions among peers significantly influence children's psychological, social, moral, and social-cognitive development, and while limited peer interaction presents challenges for parents in encouraging communication, learning piano can enhance these interactions; as noted by Fan (2019), peer communication involves psychological and behavioral interactions during shared activities, and Cheong-Clinch (2009) found that music effectively supports therapeutic goals like boosting self-esteem, fostering peer relationships, and improving language skills. Piano education enhances children's communication skills and overall social development by improving their social interactions, thereby positively influencing their social abilities and communication capacities.

This research underscores the broad benefits of piano education for children, enhancing attention, cognitive development, and academic success, while boosting motivation, self-confidence, and emotional regulation. Piano lessons also reduce anxiety, improve stress management, and foster social skills, empathy, and group interactions, thereby contributing significantly to children's cognitive, emotional, social, and academic growth.

This research suggests promoting piano education to support children's cognitive, emotional, and social development. Integrating piano lessons into school curricula and encouraging early music education at home can enhance attention, self-discipline, and stress management. Given its positive effects on academic achievement, self-confidence, motivation, and social skills, further investment in piano education is recommended.

These recommendations aim to fully leverage the positive effects of piano education on children's academic and personal development and can support the shaping of educational policies and practices according to these effects.

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