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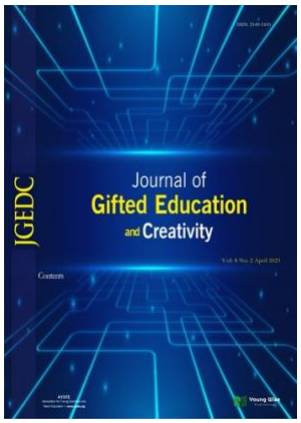

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From Editorial

New era for JGEDC: Measures for quality improvement

Hasan Said Tortop[1],

Young Wise Publishing, Director, London, UK

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Abstract

JGEDC is one of the 15 journals in the field of gifted education and creativity worldwide, which is 9 years old. Measures that can be taken to increase the quality of JGEDC, which has a well-established and large writer staff, are discussed in this article.

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Introduction

Currently, academic journal inflation is striking in developing countries. Every academic wants to be an editor and manage an academic journal. This feature is also related to the "leadership" ability in the field of giftedness. However, at the moment, "entrepreneurship", another talent area, focuses on "how it will be valuable" and "how it will be in demand". He may not be a good academician, a very talented editor, or a very talented "entrepreneur". We can continue this nice and fruitful discussion later. our main topic now is the measures taken to improve the quality of JGEDC;

Strengthening the Editorial Board

Editorial board members in most academic journals generally do not want to take a very active role. This hinders the strengthening of the academic journal. People who believe, trust and work for JGEDC to become a very important academic journal in the future should be on the editorial board. We will work with such academics in the new term.

Author Invitation From Different Countries

The fact that there are authors from different countries indicates that the academic journal is not biased, its desire for internationalization and the desire to be read more. We will send you author invitations.

Strict Review Process

A quality review process will also increase the quality of the academic journal. However, one of the important problems is the difficulty in finding quality reviewers. We will invite you to become a reviewer. We will set up a reviewer team.

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Selection of Current Issues-Special Issues

Academic journals also have important effects on the direction of academics' research. The selection of special issues is important in this respect. We welcome special issue requests from our readers. We will stay in constant communication with you on this matter.

As a result, in 2022, we will present our proposal to Michael Shaughnessy and Todd Kettler (editor), two important academics in this field, in order to take these changes and measures to increase quality. Academicians who want to work to improve the quality of JGEDC can send their CV to editorjgedc@gmail.com.

Best regards
Dr. Hasan Said Tortop
Editor of JGEDC

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Review Article

Creativity: it's components relative to intelligence

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Abstract

In this article, the author discusses and reviews the relevant needed aspects of intelligence relative to creativity, the creative process and the creative product. Further, there are elements of personality which also need to be examined. Some suggestions for future research are described.

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Introduction

Creativity is an elusive construct that has been examined from different perspectives by different theorists. Some have postulated that there is a creative personality, others view it as a process, and still others see it as a conglomeration of different aspects and attributes. This paper will focus primarily on creativity as it relates to intelligence and giftedness, but the paper will examine other relevant salient, tangential variables. Creativity is a construct that has been around for quite some time. It seems to have flourished in the Renaissance, and is often seen in music, art, literature, dance, theatre and other realms. There have been attempts to assess it via the Torrance Tests of Creative Thinking (Torrance,1966, 1974) and Paul Torrance has devoted his life to the study of creativity, writing many books about the creative person, process, and personality as well as different cognitive processes. The Torrance tests attempt to ascertain the amount or degree of elaboration, fluency, flexibility and originality. Trained observers also detect other aspects of one's responses to the prompts given on the Torrance Tests. To assess creativity requires a good deal of training- one cannot just pick up the manual and hope to get valid, reliable results on their first administration. Supervision and feedback is needed. One cannot simply pick up a manual and attempt to procure valid, reliable results.

The Realm of the Intelligence Test- and Intelligence

Intelligence tests have been with us since around 1905 when Binet in Paris attempted to differentiate between those that were thought to benefit from school as opposed to those who could not seemingly benefit from education. At that time pejorative words such as "moron, idiot and imbecile" was used to describe those who apparently were of low intelligence- as measured by those primitive measures of the time. Fast forward about 100 years and today we have a wide variety of intelligence tests, based on different theories- but still attempting to measure, directly or indirectly that elusive concept called " intelligence". Some abhor this concept of intelligence, referring to it instead as

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" cognitive processes" or "cognitive ability". This paper will also examine the realms of convergent, and particularly divergent thinking as they relate to creativity and also flexible thinking, a construct developed by Norbert Jausovec (1994) of Slovenia. In his text, he explores the realms of flexible thinking, flexible strategies and the enhancement of this type of thinking and its relevance.

Intelligence and It's Relationship to Creativity

In this section, we shall examine some realms of intelligence, taken from a recent intelligence test to determine some, but not all of the subtests and how they related to creativity, the creative product and creative process. One very preliminary realm- in most intelligence tests-is that of vocabulary. A well-developed vocabulary reflects a good deal of word knowledge, descriptive ability and both expressive and receptive language skills, as well as written expressive skills. Thus, a high verbal individual has the potential of becoming a great creative writer, poet, playwright, perhaps speech writer and editor. These elements in and of themselves, do not always result in a creative writer. There are other variables that may contribute to the success of a Stephen King, J.K. Rowling or Edgar Alan Poe. These are just examples and we shall not here debate who the most creative writers are or were. Suffice it to say that there are many original, imaginative, creative writers in the realms of science fiction, pulp fiction, fantasy, westerns and just about any realm that one can name.

A secondary realm found in most intelligence tests is comprehension. The individuals who score high on this subtest seem to have a comprehensive grasp and knowledge of the world. They may be high in social emotional intelligence and human interaction. Attention- in the short term and also sustained attention (sometimes inferred from other sources) is again measured directly or indirectly from intelligence measures and is part of that global construct we call "intelligence". Indeed, one cannot solve problems, create new paradigms without some sustained attention. Artists require visual attention- to the painting, to the landscape, to the sea, the clouds, the sky in their attempt to "capture" for posterity what they have seized upon in their reflections. Attention to detail is imperative in scientific investigation. If Fleming did not notice something in some lab or petri dish, where would we be today?

Attention to one part of a masterpiece is imperative as witnessed in the Mona Lisa and her cryptic smile. Perceptual-Motor skills are generally tested in most intelligence tests, although the names vary from Performance to Visual Motor Integration. Certainly, artists and musicians need to have good perceptual skills (to read music, to perform, to improvise) and scientists need good eye hand coordination to conduct repetitive experiments that lead to some new anti-bacteria medication. World Knowledge/General Information are terms often used to describe a broad grasp of the world and global information. As the individual grows, he or she absorbs a good deal of information about the world (history, geography, math, science, literature, art, music) and at some point, calls upon these realms to integrate all of this knowledge into perhaps an interesting short story, play or opera. Multi-disciplinary efforts are fruitful for many and result in a cultural amalgamation worthy of being labeled " creative ".

These individuals have absorbed and retained much information over the course of their education and lives and are better able to utilize this knowledge to form new original and innovative ideas Picture Completion- Attention to small, relevant, important details is critical to creativity- as one attempts to utilize not just the big picture- but to also employ the small details and minor elements of life. Some creative individuals are skilled at minute attention to detail and could perhaps spend years working on some project that will revolutionize their field of endeavor. Others, for lack of this skill remain mired in a quicksand of positive thoughts, but no positive outcome.

Mathematical knowledge is certainly relevant to the mathematician working in the realm of Calculus or Numerical Analysis, but some aspects of mathematical knowledge are relevant and pertinent in other realms in addition. Processing- Some aspects of an intelligence test measure the person's ability to process a good deal of information, quickly and efficiently. The creative individual is processing what they have learned in the past, what they may have been exposed to-vis a vis their education and models and lastly what they envision as the final product- in all its glory. Creative writers are processing words, ideas, characters, personalities, plots, twists and turns as well as dialog all at the same time. War and Peace by Tolstoy is an immense work that obviously required a good deal of thought, planning and persistence before the final draft was submitted to publisher.

Similarities- This subtest evaluates the higher order thinking, the conceptualizations that people form and maintain and their analogical skills and abilities. There is a good deal of insight and mental manipulation occurring in this subtest and this subtest also requires a good deal of extensive knowledge, information and vocabulary skills and abilities. Working Memory- Some intelligence tests specifically test for "working memory"- the ability to hold and manipulate information, facts, data, numbers, whatever and then reconfigure them to solve a problem or arrive at a solution. Thus, there is a combination of attention, short term memory, concentration and mental manipulation at work in this

domain. This may also reflect what is termed " executive functioning" which is the sum total of planning and implementing plans for long range success. The novelist needs to keep each chapter integrated with the characters and the plot to arrive at a logical, sequential and yet meaningful end.

The Sum Total- Even today, some individuals are still preoccupied with the global I.Q. concept and believe that one number can reasonably be expected to tell us everything that we need to know about any one individual. The Wechsler Scales have changed from the Verbal- Performance breakdown to a 4-realm approach- for example with the WAIS-IV, we receive breakdown scores of Verbal, Perceptual Reasoning , Working Memory, and Processing Speed.

Deficiencies, for whatever reason, could interfere with an individual's potential to be creative. We now know more and more about teratogens (nicotine, alcohol, caffeine) that can cause birth defects as well as the lack of certain vitamins, proteins and nutrients, (folic acid for example) that can interfere or retard the growth and development of the organism.

The Threshold Concept

Torrance and others have discussed what has come to be called the " threshold" issue. In this perspective, an I.Q of about 120 to 130 is optimal for great creative inventions, discoveries, and advancements. Obviously, below an I.Q. of 80, the individual is somewhat hampered by a lack of overall intelligence, thinking skills and reasoning skills to be able to contribute much to a new invention or discover. Indeed, many of these individuals are surviving from day to day and week to week and their contributions to any field will probably be nil. Those in the average range of intelligence (say, 90 to 110) will in all probability not be contributing mightily to any respective field, nor will they make a huge impact in either the short run or long term.

Creative Synthesis

Years ago, Silvano Arieti (1976) wrote a book entitled " Creativity The Magic Synthesis" which seemed to indicate that the creative person was able to integrate and synthesize a good number of different variables to arrive at a creative product. Often the creative "product " was a painting. Edward Hopper had his own interpretation of the world as did Maurice Utrillo and Piet Mondrian. Each of these individuals was " creative " in their own right, in their own time, and in their own medium. Musicians can be creative in their own mediums- such as jazz or rock and roll and perhaps even the flamenco guitar. The options for artists are endless. But what exactly is synthesized? This bears examination directly and indirectly, and in ways that we can perhaps understand, and in ways in which comprehension is not clear, exact, specific and precise. Some come up with an entirely new, novel, divergent, creative approach to a field or an issue. They look at things from a quite different perspective. There are those who take the "birds's eye view" if you will- the panoramic view perhaps, and those who take the "worm's eye view" and see from an entirely different perspective- for whatever reason.

Arieti (1976) touched on many of the still relevant topics that we explore and examine today---the creative process, imagery, amorphous cognition primitive and conceptual cognition, and the aesthetic process, most recently explored by Cupchik (2016) in Canada. Arieti (1976) did believe, as did John A. Glover and others, that creativity could be nurtured and cultivated. Shaughnessy (2012) has edited a book on mentoring and also on the nurturing of talent, skills and abilities. In that text, an excellent chapter by John Baer discusses the development of creative thinking and the importance of examining this realm.

Science and Inventions

In the realm of science, from the invention of the wheel to the computer, individuals have utilized their thought processes their education, background knowledge, the impact of others as well as simple " Eureka " moments to come up with new , novel, divergent items- such as the toaster. The reader can provide their own version of a new quite novel invention that has perhaps revolutionized their respective domain (Marie Curie in Medicine and the X-Ray machine). In science, we have a product that may be the result of years of study- take Thomas Edison and the light bulb. Alexander Graham Bell and the telephone is yet another example. These inventions revolutionized their zeitgeist and continue to impact society even today. Yet it took years of study, years of hard work, persistence, motivation and in some cases, pure luck to come up with the telegraph or microwave.

Simmons (1996) has an excellent book entitled " The Scientific 100: A Ranking of the most influential scientists, past and present". This book reviews the creative endeavors of the top 100 scientists from Archimedes to Neils Bohr and beyond. Their discoveries could be considered the result of creative endeavors, creative study of the work of others or the integration of creative scientists that came before them. In order to acknowledge the creative endeavors

of female scientists who changed the world, Swaby (2015) has compiled a brief summary of 52 women who apparently changed science and the world through their various creative endeavors, research and discoveries.

Motivation and Persistence

The creative person, engaging in the creative process, to produce a creative product has to use their creative personality over time in order to bring their ideas to fruition. They may have been mentored along the way, or they may have worked in isolation. However, they had to have some sort of internal motivation, belief in themselves or in their ideas to bring their creative spark to fruition. Then of course, the painting, poem, play , has to be brought to the public to see if it will stand the test of time. Many artists, inventors and others are not acknowledged or recognized until after their death. The plays of Shakespeare are continually performed in the West End, while the Bard rests in peace.

Emotions

Many creatives, many inventors, many successful discoveries were perhaps due to the affective state of the individual. Much has been written about the depths of depression that some scientists found themselves, and the melancholy experienced by still other painters, writers, authors and poets. Cupchik (2016) has clearly examined the realms of aesthetics and emotion as they relate to creativity and the artistic process. Since emotions are subjective, they are not as easily quantifiable for pure research but nevertheless we are impacted by the affective domain and the emotional realm is often the driving force behind creative endeavors. Many creative people are "driven" to express themselves either via art, music, dance, public performance or writing or just about any other medium. Choice of a medium may reflect early exposure to some domain or perhaps relocation to a cultural center or city. Parents here also play a role when they take their children to a musical concert where the child may hear a French horn or piano concerto or some similar performance.

The Realm of the Environment

Children grow up in a certain environment. Some of these environments are nurturing- parents are scientists themselves, or teachers or musicians and the result is a child that is stimulated, not just in school but in the home environment. Parents often expand the environment of the child by taking the child to the museum, to the local library or historical sites such as Versailles in Paris. Some early experiences impact that child and result in the child becoming a life-long learned with an unquenchable appetite to learn more about some topic or creative endeavor of a genius of times past. A nurturing environment nurtures exploration and investigation and the thought processes that lead to inventions and creativity. Some may make the case that the genetic make-up of the parents is the sole contributing factor to creative endeavors and products-but we have had inventors and most creative people who seem to bloom like a rose in the desert- a description of James Joyce.

Obstacles to Overcome

Currently, education has become somewhat "stalled " due to the Covid crisis and pandemic. Yet there have been other times in our history in which things have been "stalled". In London during World War II, the education of the nation was " stalled " yet the defiant power of the human spirit was not quelled. People recovered, students recovered, and creative endeavors continued. For some inventors and scientists, they have overcome incredible medical and physical challenges to become leaders in their field. Lack of funding remains problematic for many who want to "stand on the shoulders of giants" and continue the research of past generation and come up with new novel developments.

Incubation

A word that has been bandied about. But only superficially researched is the term " incubation" which apparently refers to a certain period of time wherein a person may ponder, examine, mull over, think about some problem or creative endeavor and this time period is apparently necessary for some creative individuals to bring their initial thoughts or ideas to fruition. Why some individuals need this period of incubation to examine their thoughts or perhaps form associations is not clear. Why some creative individuals receive insight and are able almost immediately to come up with an answer or solution or perhaps even some product is also not clear. Recent innovations in SPECT scanning and EEG and MRI's of the brain are allowing us to examine and explore what exactly goes on in the various parts of the brain as the subject attempts to solve problems or come up with a solution or devise some new approach to a problem in a creative manner.

Recent Conceptualizations

Recently, Mauzy and his associates (2003) have conceptualized creativity as " Big C and Little c " reflecting the fact that there are major life changing creative discoveries and inventions and then smaller devices that, while being novel and original and marketable are not paradigm shifters. This is another realm that needs further exploration in the field

of creativity. Specialization has also caused scientists and scholars and researchers to become more highly focused in their endeavours.

Summary and Conclusions

The realm of creativity is still undergoing exploration and examination as well as research. Conferences continue to bring colleagues together either face to face or via Zoom—another creative invention so to speak which fulfills a need. There is a vast literature that touches on creativity, but that literature is scattered although there are a few excellent handbooks (Glover, Ronning & Reynolds, 1989; Sternberg, 1998; Kaufman and Sternberg; 2005) but they need updating and revision and new vistas need to be explored. Specifically, the impact of the World Wide Web on creativity and the creative process. While personality has been tangentially reviewed in the past, more contemporary investigations are needed in this electronic, sophisticated, technological age.

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Research Article

Investigation of musical self-confidence and motivation of music talent students in Science and Art Centers in instrument education

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Abstract

The aim of this study is to examine the musical self-confidence and motivation of students who are accepted to Science and Art Centers (SAC) with their musical talent as a result of instrument training. At this point, the effects of the instrument training given to the students within the scope of the study on the musical self-confidence and motivation levels were investigated. Within the scope of the study, fifty students who received music education in nine SACs constituted the sample of the study. Two main data collection tools were used in the study. The first of these is the "Instrument Performance Self-Efficacy Scale" and the second is the "Individual Instrument Training Motivation Scale". Both scales were carried out in the form of "pretest-posttest" before and after the instrument training, which was carried out with students for a total of forty hours, two hours a week for five months. According to the findings obtained in the study, in SAC students receiving instrument training; It has been determined that the motivation for the performances of the students in individual instrument works has increased, even though they are criticized or disliked by the teachers. In addition, it was observed that students' desire to play an individual instrument increased, while their self-efficacy did not change.

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Introduction

The main purpose of education in all societies from past to present is to transfer and shape the cultural heritage of that society to the generation that is preparing to become a new individual to the society, and to prepare it for the roles it will continue in the future (Çınar, 2002). Since the education process is multifaceted, it is divided into different branches. The main element of multidimensional education is; to observe the differences in the abilities and interests of individuals and to ensure that they receive trainings that support these areas. It is clear that among these trainings, music education has an important place in the life of the individual. Music education is one of the most important fields of education that allows people to interact with each other, to question them from different perspectives, to develop analysis, synthesis and creativity skills, and to reveal the creative characteristics of the individual (Atılgan Bozarslan, 2020: 7).

Music Education

The reflections of education on the art and intellectual community have not only been realized through literary works and intellectual works, but also through works of art enriched with objects of deep manners and knowledge. In this respect, one of the general education disciplines that has been present since the day it started and has survived until today thanks to its influence and potential has been "art education". Art education started in the European continent in the 19th century. It has spread to other countries since the middle of the century, its influence has been felt greatly on societies and has been placed at an important point in the general education system. With the categorization of art,

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the art of music within the phonetic arts and music education, which is among the dimensions of this art; It has an important mission such as developing and enriching the skills related to music as a process of changing, developing, interacting and performing in one's musical characteristics, and acquiring disciplined and regular working habits with the ability to make music together. Personally, it aims to acquire musical culture, learn to benefit from music and develop musical talent. From a social point of view, it ensures that a common music culture is preserved, assimilated, modern music culture is gained, and the common values that people reveal with rules, practices and positive reactions are strengthened through music (Küçüköncü, 2006: 19-20).

Çiçek (2000: 5) is the music education given in schools; It defines it as "education carried out as a whole with the activities of instrument, hearing, pleasure and aesthetic education, based on voice education, and the main purpose of which is to enable children to use their voices correctly". From this point of view, music education can also be defined as "the process of bringing musical behaviour to the person and revealing a musical behaviour change through musical experiences". During this process, the trainings for the targeted purposes are carried out by determining how the main musical information will be given to the children, how long and with which methods they should be given. With a systematic music education, one's interaction with the musical environment becomes more efficient, regular and healthy (Atılgan Bozarslan, 2020: 8-9).

General Music Education

General Music Education; included in formal education. Compulsory at primary and secondary school level; at high school and undergraduate level, to be included in elective courses; aims to provide individuals with the common general art culture necessary for a happy, balanced and healthy life (Uçan, 1996: 31). With the trainings given, it is aimed to improve the quality of music life of people and to gain a common general music culture throughout their education life, as well as to make people more sensitive, conscious and correctly using music and music branches. In general music education given in pre-school and primary school; While trying to gain a basic musical culture, the person is given the opportunity to encounter various musical instruments and to test himself in certain behavioural dimensions of music. Activities that are mostly performed in the form of games in the first years of the individual are gradually transformed into behaviours through certain activities in the following years. Within the framework of secondary school level general music education; While attention is paid to establishing a certain balance between cognitive, affective and psychomotor behaviours, it takes on a more cognitive and affective structure at the high school and undergraduate level (Uçan, 1994: 26).

One of the institutions that provide education to students with musical talent throughout the country is Science and Art Centers (SACs).

Science and Art Centers (SACs)

Science and Art Centers; They are special education institutions opened to provide support education to students who continue their education in formal education institutions and who have been identified as having special talents in one or more of the fields of general mental ability, visual arts or music talent, in order to develop their talents and use their potential at the maximum level (MEB BILSEM Student Diagnostics Guide, 2018: 6).

SACs, which offer an enriched and differentiated education and training program in addition to the education they receive in their own schools, in order to help students with special abilities realize and use their capacities, improve their personal and social awareness levels and contribute to themselves and then to the society they live in. It provides service in more than 180 centers (Böke, 2019: 13).

Curriculum implemented in Science and Art Centers; with the guidance of relevant classroom or branch teachers, in an interdisciplinary structure, integrated with personal learning and supporting students to acquire high-level, cognitive, social and academic skills that may be needed in adulthood such as active problem solving, creativity and decision making. Planning, implementation and evaluation levels in institutions are carried out in a way that allows students to learn by raining and living, to offer solutions to real life problems, to support creativity, to communicate effectively with their environment, to make inventions through scientific research (MEB BILSEM Directive, 2016).

Music Education in Science and Art Centers

Being carried out within the scope of BILSEMs, the Music education program aims to enable students to acquire an aesthetic perspective towards events and the world, to use their existing talents at the highest level, and to raise happier people for the society. In project-based music education, which is based on the principle that each student expresses himself through music in line with his individual abilities, aesthetic anxiety and aesthetic perspective, which are accepted as the basis of art education, come to the fore as the main target acquisitions. Students who come to Science and Art Centers by being determined from the field of music talent participate in trainings on the basis of project-

based individual activity. In the Special Talents Development Program (ÖYGP), there are activities related to basic musical information, musical reading-hearing-writing, individual instrument, individual voice and choir education for students in the field of music talent. Within the scope of this program, it is aimed that students reinforce their musical education with instrument and voice training, and present these acquisitions on special days (MEB BILSEM Directive, 2016).

Motivation

The term "motivation", which is frequently used in daily life, has not been found to have a full meaning in Turkish. The expression "motivation" is derived from the English and French words "motive". The Turkish equivalent of the word "motivation" can be stated as "motivation, motive or behaviour" (Eren, 2017: 19). The expression "Motivation" is included in the Turkish Dictionary of the Turkish Language Association as "starting to act with the influence of an internal or external stimulus that determines the side, potential and priorities of one's action" (Önen and Tüzün, 2005: 20). When motivation is examined in terms of "musical life", it can be explained as "the individual's desire and need to work on his musical life" (Atılgan Bozarslan, 2020: 26).

Musical Motivation

It is known that the music education process is quite different from the processes in other education fields. One of the most important factors that creates this difference is the interpretive and creative characteristics of the student and the educator. Within the scope of music education, the student's ability to grow up as an original interpreter and creator depends on the motivation of the instructor, the source of this motivation and the form of influence in the process, apart from his own abilities (Günal, 1999: 27).

In order for the student to be truly self-motivated, it is necessary to attend the music lesson both physically and mentally and be aware of what is done within the scope of that lesson. In order to keep the student in the course both physically and mentally, it can be asked why the work being done in the course has to be done. Creating a discussion environment for students in this way will increase their participation in the lesson completely, thus helping them to be motivated. Because when children understand the benefits of the activities in the lessons, the topics covered, the meaning and purpose of the activity, they will think that they are doing something for themselves. This will allow children to be more motivated. The presentation of diversity is another factor that increases motivation, because diversity is among the most important tools for motivation. In addition to providing different activities, music also contributes to the diversity to be made in planning. The musical experiences of the students will make them happy. In this way, their motivation for learning will increase. Achieving success increases motivation. A correct and effective education provides all these things (Çilden, 2014: 6).

Confidence

"Trust encompasses a relationship based on honesty. Trust; It can be against Allah, the supreme power, against individuals, against itself, and against reality. Faith is accepted as a mystery universe outside of human perception" (Altıntaş, 2015: 1). Self-confidence, on the other hand, starts with trusting oneself and the other person first. A self-confident person has positive ideas about herhimself. She/He recognizes her/himself by accepting her/himself as she/he is (Sevilla, 2019: 23).

Musical Confidence

Since the concept of self-confidence has many stages, has many aspects and is related to the subject, a concept of "musical self-confidence" can be mentioned based on the general definition of self-confidence. Examination of musical self-confidence, as well as revealing an important part of general self-confidence, is valuable in terms of revealing an opinion on the issue of self-confidence of young people in adolescence, which develops quite independently from other areas. As a result that Daniel (2006: 5) also emphasizes, high musical self-confidence is expected to be a balancing element in other subjective disciplines where the person has low self-confidence.

Harter's (1992) work comes first among the studies suggesting that musical self-confidence can be shaped by children. Harter (1992) also revealed that early musical experiences could have a profound impact on children's musical life.

Austin (1990), on the other hand, concluded in his study that the self-confidence model that a student sets for himself directly directs that student's motivation in participating in musical activities and his behaviours in the music lesson. McLendon (1982), on the other hand, in his research data based on individual narratives; found that many adults with low musical self-confidence were not allowed to participate in any musical activity or be involved in the field of music while in primary school.

Based on all these mentioned, the study focused on the musical self-confidence and motivation of the musical talent students who received instrument training at the Science and Art Center.

Problem of Study

In Turkey, the individual voice education process can be started at the university level as "Full Time", as early as the age of eighteen, for reasons such as the completion of the adolescence period and the completion of the voice development process. The "Part Time Choral Singing" departments in the conservatories also provide training to students from the earliest age of sixteen. In addition, since these departments offer part-time education opportunities, individuals who are subject to education also continue their education at the secondary or higher education institution, where they continue their education simultaneously. Similarly, in Fine Arts High Schools, education is given to students between the ages of fifteen and eighteen. In some of these institutions, there is only a "choir lesson", and in some, there is a collective lesson called "voice education lesson", which is one hour in the curriculum of the last grades regarding the higher education entrance exams. However, when it is examined, it is seen that this course does not include an education suitable for its purpose, as it does not allow individual training to be a collective course, and because these trainings are not given by competent educators in the field of voice education, the scope of the course is limited to determining a "work" for the students in the name of higher education entrance exams (Kar, 2012: 3).

On the other hand, it is not correct to say that "there are no studies for any training that will directly affect the talents of individuals with special talents in the field of music". The institution that stands out in terms of developing the talents of individuals with special talents within the scope of music in Turkey; They are Science and Art Centers serving under the Department of Development of Special Talents of the Ministry of National Education, General Directorate of Special Education and Guidance Services (Böke, 2019: 12). The problem of the study is that the musical self-confidence and motivation of the musical talent students studying in these institutions are affected as a result of the instrument training they receive. Accordingly, the sub-problems determined for the study are as follows:

- How is the change in the musical self-confidence of the musical talent students of the Science and Art Centers as a result of the instrument training they receive?

a. What is the change in musical self-confidence according to gender as a result of the instrument training received by the music talent students of the Science and Art Centers?

b. What is the change in musical self-confidence of the music talent students of the Science and Art Centers according to their grade levels as a result of the instrument training they receive?

- What is the change in the musical motivations of the musical talent students of the Science and Art Centers as a result of the instrument training they receive?

a. What is the change in the musical motivation of the music talent students of the Science and Art Centers according to gender as a result of the instrument training they receive?

b. What is the change in the musical motivation of the music talent students of the Science and Art Centers according to their grade levels as a result of the instrument training they receive?

Aim of Study

In this study, it is aimed to examine the changes in musical motivation and self-confidence of musical talent students who receive instrument training in Science and Art Centers as a result of these trainings. In this way, it is also aimed to discuss the efficiency of instrument trainings in the discipline of music in Science and Art Centers and to contribute to increasing the effectiveness of these trainings.

Significance of Study

When the literature is examined, studies on the musical self-confidence and motivation of individuals have been found. However, no study has been found on the level of musical self-confidence and motivation of individuals with musical talent as a result of their instrument training. Likewise, although there are many studies in the literature for the music talent students of the Science and Art Centers, no study has been found on the changes in the musical self-confidence and motivation of these students. This is very important for the originality of the study. In addition, as a result of the study, the efficiency of the instrument training given in Science and Art Centers will be discussed and suggestions will be made to make these trainings more beneficial. This situation is very important in terms of its contribution to the "instrument training" process in the field of Science and Art Center Music.

Limitations

Study;

- Out of one hundred and eighty Science and Art Centers operating throughout Turkey, nine of them operating in Ankara,
- Fifty of the music talent students of the Science and Art Centers,
- The instrument training applied to the determined students within the scope of the study was limited to the five-month period.

Assumptions

In the study;

- Objective answers were given to the scales used to measure students' musical self-confidence and motivation,
- Students regularly attend five-month instrument training,

It is assumed that the teachers who teach instruments in nine different Science and Art Centers carry out their work within the specified program within the required time.

Method

In this section, the method of the research is presented with the relevant titles.

Research Model

In the study, the pretest-posttest control group model, which is one of the real experimental methods, is included. The experimental design determined for the research, the independent variable whose effect on the sample group was examined, was determined as "Research-Based Learning Approach". Some dependent variables were tried to be observed within the sample group (musical self-confidence and musical motivation), and these dependent variables were compared within the framework of the data obtained before and after the instrument training given to the sample group for five months with scale studies.

Sampling

The universe of the research consists of music talent students in more than 180 Science and Art Centers operating throughout Turkey. However, the sample group was determined due to the difficulty of reaching all students and the difficulty of the five-month instrument training to be applied to these students. In the research, 8-18 year olds who are studying in four of the Science and Art Centers in Ankara (Altındağ, Yasemin Karakaya, Keçiören and Yenimahalle Science and Art Center) operating throughout Turkey and in Trabzon, Gaziantep, Bursa, Ordu and Adana Science and Art Centers. Worked with fifty music talent students. At this point, while the sample group was being formed, it was determined by the "random selection" method among the musical talent students who were receiving music education in the Science and Art Centers mentioned above. Tables regarding the frequency and percentages of students based on gender and class are shared in Table 1 and Table 2.

Table 1.

Distribution of Students Participating in the Study by Gender

	Frequency (n)	**Percent (%)**
Female	24	48,0
Male	26	52,0
Total	**50**	**100,0**

Table 2.

Distribution of the Students Participating in the Research by Grade Level

	Frequency (n)	**Percent (%)**
4th Grade	5	10,0
5th Grade	6	12,0
6th Grade	5	10,0
7th Grade	8	16,0
8th Grade	7	14,0
9th Grade	8	16,0

10th Grade	4	8,0
11th Grade	6	12,0
12th Grade	1	5,0
Total	**50**	**100,0**

When Table 1 and Table 2 are examined, it is seen that the students participating in the study show a homogeneous distribution based on both gender and class.

Data Collection Tools

As data collection tools in the study; musical motivation scale and musical self-confidence scale were used.

Musical Self-Confidence Scale

The self-confidence scale of musical talent developed by Özmenteş (2006) consists of twenty items. The scale is composed of positive and negative attitude statements.

Musical Motivation Scale

The Musical Motivation Scale with five dimensions, developed by Asmus (1989) and adapted into Turkish by Otacıoğlu (2009), was used. In the expressions of the five-point, likert-type scale; they are evaluated by asking them to mark one of the ratings between "Not at all important (1)" and "Extremely important (5)". The average score obtained from the dimensions of music-related background, effort, environmental factors and classroom environment, talent factor, music perception and emotions shows the motivation levels of the students for that dimension. Otacıoğlu (2009)determined the reliability coefficient (Cronbach's Alpha) of the scale as 0.963 within the scope of the adaptation studies of the scale into Turkish. The scale consists of a total of thirty-one items.

Individual Instrument Training

Within the scope of the study, a joint planning was made for the individual instrument training to be given to the students by the Music Teachers working in the above-mentioned nine Science and Art Centers. According to this planning, the students were given a total of forty hours of training, two hours a week, for five months, in the instruments they were skilled at. Within the scope of the study, the "Pink Panther" piece was taught to the students, and as a result of the five-month training, all of the students involved in the project performed this piece together.

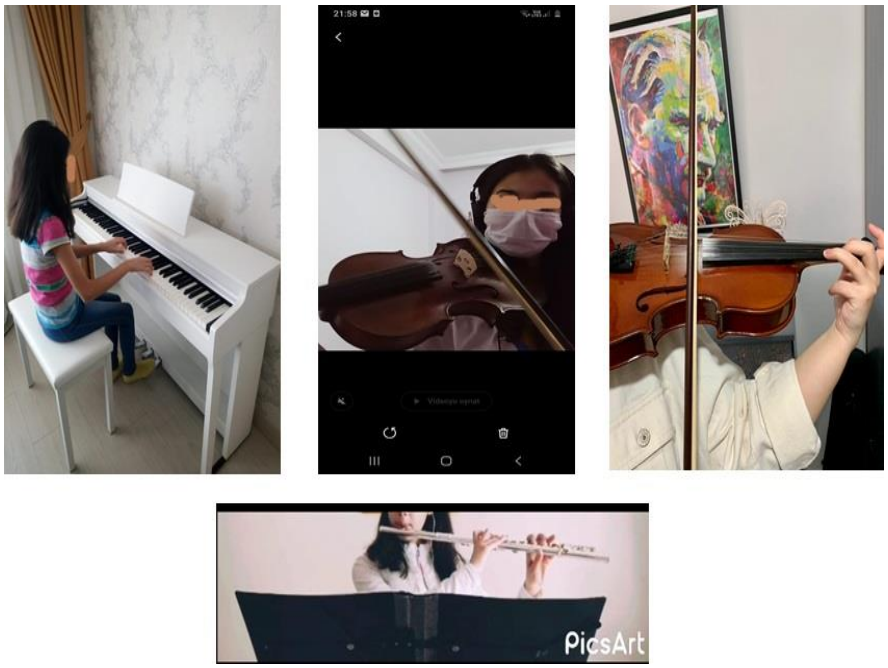

Figure 1.

Frames from the Individual Education Process

Data Collection

The data for the study were applied twice, before and after the five-month instrument training, by the Music teachers working in nine Science and Art Centers.

Analysis of Data

SPSS 25.0 was used to analyze the data obtained in the research. In the evaluation of the scale, scores were made between 1 and 10 for the Musical Self-Confidence scale and between 1 and 5 for the Musical Motivation Scale, and the averages of the students' answers were determined in both the pre-tests and the post-tests. The obtained analysis results are presented in the findings.

Results

As a result of the analyses made for the data obtained in the study, the findings were reached and presented in tables below according to the sub-problems.

Table 3.

Changes in Musical Self-Confidence of Science and Art Center Music Talent Field Students as a Result of Applied Instrument Training by Gender

	Gender	PreTest	Post Test
The Number of Participants	Female	24	24
	Male	26	26
	Total	50	50
Overall Average	Female	5,52	5,85
	Male	6,28	6,61
	General	5,90	6,23
Number of Students Below Average	Female	15	9
	Male	12	14
	Total	27	23

As a result of the analyzes made, important findings were reached about the musical self-confidence levels of the students before and after their instrument training. According to Table 3, the self-confidence levels of both male and female students before their five-month instrument training seem above the average (5,90). However, it was observed that this average increased for both genders after instrument training (6,23). In addition, it is noteworthy that twenty-seven students were below the average before the instrument training, while twenty-three students were below the average after the training.

Table 4.

Changes in Musical Self-Confidence of Science and Art Center Music Talent Field Students According to Grade Levels as a Result of Instrument Training

	Grade	Pre Test	Post Test
The Number of Participants	4	5	5
	5	6	6
	6	5	5
	7	8	8
	8	7	7
	9	8	8
	10	4	4
	11	6	6
	12	1	1
	Total	50	50
Overall Average	4	5,60	6.21
	5	5,73	5,88
	6	5,90	5,93
	7	5,98	6,30
	8	6,00	6,23
	9	5,95	6,33
	10	6,57	6,57
	11	5,70	5,60

	12	5,20	4,66
	General	5,90	6,23
Number of Students Below Average	4	3	3
	5	3	3
	6	3	2
	7	4	3
	8	4	3
	9	4	3
	10	2	2
	11	4	4
	12	0	0
	Total	27	23

When Table 4 is examined, it is observed that the musical self-confidence of the students on the basis of grades increased in the pretest-posttest results of the five-month individual instrument training (5,90-6,23). However, it is noteworthy that their self-confidence has decreased, especially at the secondary education level (11-12th grade).

Table 5.

Changes in Musical Motivation of Science and Art Center Music Talent Field Students as a result of the Instrument Training by Gender

	Gender	**Pre Test**	**Post Test**
The Number of Participants	Female	24	24
	Male	26	26
	Total	50	50
Overall Average	Female	3,38	3,44
	Male	3,02	3,04
	General	3,20	3,24
Number of Students Below Average	Female	11	9
	Male	15	15
	Total	26	24

Looking at Table 5, findings similar to Table 3 were encountered. Accordingly, it was determined that the general average of the musical motivation levels of the students was very close to each other in both the pre-test results and the post-test results (3.20-3.24), whereas the number of students below the average did not change in the post-test for males and generally decreased (26-24).

Table 6.

Changes in Musical Motivation of Science and Art Center Music Talent Field Students According to Grade Levels as a result of Instrument Training

	Grade	**Pre Test**	**Post Test**
The Number of Participants	4	5	5
	5	6	6
	6	5	5
	7	8	8
	8	7	7
	9	8	8
	10	4	4
	11	6	6
	12	1	1
	Total	50	50
Overall Average	4	3,25	3,25
	5	3,4	3,46
	6	3	3,15
	7	3,2	3,2

	8	3,2	3,22
	9	3,25	3,35
	10	3	3
	11	3,22	3,22
	12	3,03	3,03
	General	3,20	3,24
Number of Students Below Average	4	3	3
	5	3	3
	6	3	3
	7	3	2
	8	4	3
	9	4	3
	10	3	2
	11	3	3
	12	1	1
	Total	27	23

When Table 6 is examined, it is observed that the musical motivations of the students on the basis of classes according to their five-month individual instrument training are above the average in the pretest-posttest results (3,20-3,24). However, it is remarkable that the motivations did not change on a general basis as a result of the instrument training, only an increase was observed at the 6th grade level.

Conclusion and Discussion

This section has been prepared in accordance with the sub-headings of the conclusion, discussion and suggestions presented within the framework of the findings and comments obtained from the research.

The results obtained within the scope of the research are shared below according to the sub-objectives of the research.

- It has been determined that the musical talent field students of the Science and Art Centers have increased their musical self-confidence as a result of the instrument training they have received.
- Similarly, while the musical self-confidence of both male and female students in the Music and Art Centers' musical talent field increased, and the number of female students whose musical self-confidence was below the average as a result of instrument training, the same could not be recorded for male students.
- In addition, when the change in musical self-confidence as a result of the instrument training received by the music talent students of the Science and Art Centers is examined on a class basis, no significant change has been recorded.

According to the results obtained by Sevilla (2019) in her master's thesis study, which she prepared within the scope of Music Master's Program at Istanbul Okan University Social Sciences Institute, she could not find any relationship between musical self-confidence and gender. Likewise, no correlation was found between musical self-confidence and age.

Kocaarslan (2009), on the other hand, determined that the musical self-confidence levels of female students are higher than male students in the results of his master's thesis study, which he prepared in Marmara University Institute of Educational Sciences, Fine Arts Education Department, Music Teaching Department.

Austin (1990), in his article published in the Journal of Contributions to Music Education, similarly determined that the musical self-confidence level of female students is higher than that of male students.

There are similarities between the results obtained in this study and the results stated above.

- As a result of the instrument training received by the music talent students of the Science and Art Centers, no significant change was detected in their musical motivations.
- Similarly, no gender-related differences were found in the musical motivations of the musical talent students of the Science and Art Centers as a result of the instrument training they received.
- In addition, as a result of the instrument training received by the music talent students of the Science and Art Centers, no significant difference was found in the musical motivations according to the grade levels. On the other

hand, it was observed that the musical motivation of the secondary school students participating in the study was lower than the students at other education levels participating in the study.

Kocaarslan (2009), on the other hand, determined that the musical motivation levels of female students are higher than male students in the results of his master's thesis study, which he prepared at Marmara University, Institute of Educational Sciences, Fine Arts Education Department, Music Teaching Department.

Atılgan Bozarslan (2020) determined that the musical motivations of the Fine Arts High School students, who constitute the sample group of the study, did not show any change according to gender and class level, in the results of the master's thesis study that he prepared at Marmara University, Institute of Educational Sciences, Department of Fine Arts Education, Department of Music Teaching. .

Bilen (2020) observed that the musical motivation of female students participating in the study is higher than male students in the results of his master's thesis study, which he prepared in Kocaeli University Social Sciences Institute Musicology Department Performance Art.

There are similarities between the results obtained in this study and the results obtained in the studies referred to above.

Apart from these, the following differences were observed in the students as a result of the individual instrument trainings held in nine different Science and Art Centers for five months;

- It has been observed that the students' desire to "create an archive of notes" for their individual instruments has increased.
- An increase has been detected in students' interest in working techniques related to their individual instruments.
- It has been determined that students' belief that they can complete a study or work in line with the plan and program determined within the study period has increased.
- It was observed that while the individual instrument teacher was sampling the piece, the students' belief that they could perform like their teachers increased.
- It was observed that the students' feelings of frustration, anxiety and reluctance decreased while playing their individual instruments.

Recommendations

All these results show how important individual instrument training is for children with musical talents at a young age to increase their musical self-confidence and musical motivation. Advancing age, parallel classes and exam stresses that children face, negatively affect the concentration and motivation towards music, reducing productivity. For this reason, developing these talents of students whose talents are determined in the field of music from an early age will increase their interest, motivation and self-confidence in music, while gaining a working discipline, as stated in the literature. Starting from here;

- It would be beneficial to revise music education programs from early ages in educational institutions and to develop special programs for students who have an interest and talent in the field of music.
- In schools, teachers responsible for music education share the printed publications (magazines, books, etc.) that can support musical literacy in order to increase the talent and interest of students with talent and interest in music, and to keep their musical motivation high, and then spare time for these students to read the music they are interested in. exchange of ideas on their fields can make important contributions.

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Research Article

Perceptions of gifted students, mothers, teachers, principals and educator about school service

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Abstract

Adequate specialized service for gifted children is essential so that each dimension of their cognitive, social and emotional development is met. Unfortunately, there are still schools that are not prepared to deal with the special educational needs of gifted children. This research is justified to reveal how gifted students are being served, if the way that schools offer their service meets the needs of these children. In this sense, this research seeks to investigate the perceptions of gifted students, their mothers, teachers, principals and regular classroom educator regarding school service, teaching strategies and the role of creativity in the education of these children. This article is not limited to the perceptions of students, teachers and families, but also seeks the perception of the management team. This article presents a qualitative and exploratory approach with semi-structured interviews, observations and a questionnaire that were used as data collection instruments with 3 gifted students, 2 mothers, 5 teachers, 2 principals and 1 regular classroom teacher, totaling 13 participants . The perceptions of gifted students, their mothers, teachers, principals and regular classroom educator regarding school attendance make an important alert to the schools surveyed so that the teaching strategies and educational measures being taken are reassessed, since the Most participants expressed dissatisfaction with the care provided to gifted children.

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Introduction

In the current educational context, the gifted child is not identified most of the time, this fact prevents him from entering an enrichment program to develop his/her high abilities. This situation can become even worse when she is finally diagnosed as gifted and does not have access to adequate specialized service for his/her special educational needs (Renzulli, 2003, 2016; Peterson, 2014; Piechowski, 2014; Pfeiffer, 2015, 2016; Kane & Silverman, 2014; Gagné & Gagnier, 2018; Piske, 2013, 2018, 2020; Piske & Kane, 2020; Piske et al. 2020a, 2020b).

It is crucial to know how the specialized service to the gifted occurs, how the teaching strategies are offered to these children and about the development of creativity during the teaching-learning process. Only then will it be possible to identify whether these students are satisfied with the service they receive at schools and whether their classes develop creativity through the teaching strategies of the teaching staff. In this sense, this article seeks to investigate the perceptions of gifted students, their mothers, teachers, principals and regular classroom educator regarding school attendance, teaching strategies and the role of creativity in the education of these children. This article is not limited to the perceptions of students, teachers and families, but also seeks the perception of the management team.

For specialists in the field of giftedness (Gross, 2014, 2016; Peterson, 2014; Piechowski, 2014; Pfeiffer, 2016; Piske & Stoltz, 2018, 2020a, 2020b) there are cases where the gifted child it can be perceived by teachers as a student who

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questions too much, and their questions can be annoying during classes. Your classmates may also feel uncomfortable and interpret your curiosity and interest too much in learning how to show off. Whereas, she is thirsty to develop her high abilities (Winner, 1996; Silverman, 2000), and often wants to help people with her in-depth knowledge in her area (s) of interest. It should be noted that adequate school attendance for gifted children is linked to the development of creativity in this child's education (Renzulli, 2003; Renzulli & Reis, 2017; Besançon & Lubart, 2008; Robinson, 2013; Amabile, 2018; Plucker, Guo & Makel, 2018).

Satisfactory service means presenting creative and innovative teaching that excels in educational practices that instill curiosity and desire to learn (Csikszentmihalyi, 1996, 1998, 1999, 2007; Winebrenner, 2001; Clark, 2002; Renzulli, 2003; Piske & Stoltz, 2018; Thompson & Pfeiffer, 2020). The work with creativity is intrinsically related to teaching strategies, the way teachers prepare their classes and offer them to their students. For this reason, this article also aims to know the participants' perceptions regarding these strategies and how they perceive and define the creativity phenomenon.

How to Work with Gifted Students?

Teaching to gifted children is quite complex and this complexity can unlock a range of possibilities for working with these students who have special educational needs. According to Winebrenner (2001), Kane (2018), Pfeiffer (2016), there are still teachers who have difficulties in dealing with giftedness of their students and who are limited to standardized teaching that, in addition to inhibiting their creativity, it makes them feel bored and frustrated.

Work with gifted people must occur based on their interests, so the teaching team needs to have a thorough knowledge of the areas of knowledge that most call their attention and present varied activities reaching the learning styles of their students, such as: style visual, auditory and kinesthetic (Khan, Arif & Yousuf, 2019).

As for the visual style, students will express skills that relate to the stimuli received visually. The teacher needs to prepare activities with images related to the content that instigates their curiosity and the desire to learn. Activities can be based on children's literature such as fables, videos on the area (s) of interest to students, drawings and paintings, among other possibilities.

In relation to the auditory style, the forwarding of the class should rely on the teacher's creative speech during explanations, videos, music and sounds that attract the attention of students, generating a large repertoire in the search and deepening of knowledge based on oratory and lots of sound with harmony.

Finally, the kinesthetic style needs body movement, dance, theater, games and play activities where students can move around to learn. All learning styles can count on playful work, there are several types of games that work with images, sounds and movement.

It is important for the teaching staff to encourage students to know themselves by identifying their potential and limitations. Teaching based on self-knowledge and knowledge of reality and the world will certainly expand the specific and general skills of both teachers and students. Class referrals must be linked to students' educational needs and must be meaningful according to their abilities.

For teachers to know students' skills, it is crucial that they look back and focus on the theory of Multiple Intelligences by American psychologist Howard Gardner (1995, 2006, 2007, 2011). The author proposes nine dimensions of human intelligence: linguistic intelligence, logical / mathematical intelligence, visual / spatial intelligence, bodily / kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, naturalistic intelligence and existential intelligence.

According to Gardner (1995, 2011) linguistic intelligence encompasses the domain of orality, the ease of expressing oneself, and allows people to express themselves and understand the world through language. Great thinkers and poets are examples of this oral expression ability. Students who identify with playing rhymes, puns, who always have a story to tell, who easily learn other languages.

The author explains that logical / mathematical intelligence is about the ability to deal with a line of reasoning, raise hypotheses, work with symbol manipulation and perform calculations. It allows the analysis of problems with logic; perform mathematical operations and investigate issues in a scientific and accurate manner.

According to Gardner (2006), visual / spatial intelligence, in turn, indicates the ability to recognize spatial patterns and compare with patterns in more confined areas. In this sense, the person has the ability to sharpen perception in relation to shapes and objects, in different angles and positions, also has the domain of elaborating and analyzing plants, maps, sketches, and representing them with precision. The virtual world is perceived in detail by the person with this domain.

When referring to body / kinesthetic intelligence, Gardner (2006), points to the ability of motor coordination with precision, can work with various objects using the motricity of the fingers and engage in activities that require full use of the body. To clarify, it is possible to exemplify through professions such as: actors, artisans, dancers, athletes, musicians, among others.

Musical intelligence is explained by the author as the ability to create and produce sounds and rhythms, play instruments and compose music with ease. The person who has this ability has the domain of distinguishing melodies, sounds, rhythm, frequency, timbre and intensity in a precise way.

For Gardner (2006), interpersonal intelligence is the ability to interact with people, to know how to deal well with interpersonal relationships with balance and harmony. Have the capacity for empathy and otherness. Understand the feelings of others, their emotional states, motivations, intentions, temperaments and attitudes.

On the other hand, intrapersonal intelligence is the ability to be in tune with one's feelings, to act with prudence, wisdom, intuition and intrinsic motivation, people like this act with self-confidence. They are people who have autonomy and independence to perform tasks.

As for naturalistic intelligence, the person with this ability is closely linked to nature and the environment. It dominates the classification of species that make up flora and fauna. His sensitivity is shown by the recognition of the diversity of the animal and plant world and of everything related to terrestrial life.

When encompassing other forms of intelligence, Gardner reports on the vision of being as an integral being. However, still under study to compose the other dimensions of human intelligence, existential intelligence can be defined as the capacity for reflection and understanding about the existence of life. Great philosophers and thinkers are examples of this dimension of intelligence.

Certainly Gardner, when creating his theory, gave us a great contribution to understand the skills we have and to understand the different forms of intelligence that surround us in the people around us. It should be noted that meaningful and creative teaching is based on the principle of adapting educational practices to the abilities that students have. If work is not related to the area of interest and abilities, it may not deliver the expected result and will not be effective. Many specialists (Winebrenner, 2001; Clark, 2002; Gross, 2014, 2016; Peterson, 2014; Kane, 2016, 2018; Pfeiffer, 2016; Piechowski, 2014; Piske & Stoltz, 2018) point out that there are several behaviors of gifted students that can signal your lack of interest in the teaching offered. It is possible to observe some of the following behaviors:

- Unfinished work can be the result of varied interests and an inability to narrow a topic. The wrong way of teaching can also reveal to students the feeling that they already know about a specific topic and do not feel the need for practice.
- Sensitivity to other people's attitudes and perceptions can make gifted children perfectionists or fear failure. These feelings can lead to unfinished work, procrastination, or failure to perform school tasks.
- Carrying out a task without much dedication is often a sign of lack of interest from the gifted students in the proposed subject. Gifted children may question the suitability of classroom activities for their needs, but they will work diligently and well on topics of high interest. Everything can be successful from the interest of these children.
- Gifted behavioral problems can result from boredom or the feeling that classroom work is too easy or below your expectations.
- Emotional outbursts or periods of gifted abstinence can occur due to their highly sensitive nature, their sensitivity can be heightened in relation to various everyday situations.
- Unsuccessful group work can generate negative feelings for the gifted students, that they will be in charge of the group's work. There are many cases where gifted children prefer to perform their tasks alone due to feelings that their ideas may be misinterpreted or not appreciated by the group.

These are some of the situations that demonstrate the difficulties of gifted students in their interpersonal relationships or during their school life. For this reason, it is essential that the teaching team reflects and reframes its work from the area (s) of interest of its students, researching and always looking for new teaching strategies to serve the gifted students in a creative and engaging way.

The Invisibility of the Gifted at School

Invisible gifted students tend to be disadvantaged for social and cultural reasons. For Merrotsy (2013), there are cases in which gifted people are subject to performance inhibitors, which are powerful factors for not participating in school, not being involved in learning and not standing out in areas with regard to academic talent.

They may have low self-confidence in the educational system and their teachers, they may face the fear of failure, fight in the search for self-identity and are subject to enormous social pressures, such as the forced choice dilemma. Dealing with their own educational needs requires self-awareness of their potential and limitations, consciously or unconsciously, they can even mask their skills and often prefer to look like typical or ordinary students, not standing out in any way to avoid confrontations or frustrations, or to maintain their friendships, in this bias, some of them can reach an academic level well below the expected.

The lack of support for the gifted can explain their invisibility at school. Especially when the child finds himself lost in the midst of prejudices and confrontations, and the lack of importance that is attributed to his high potential.

Ashman & Merrotsy (2011) explain that there are several reasons that contribute to the development of gifted low-income, and these are related to school, the social environment, the social and cultural context and issues related to the search for identity. The authors point out that, first, within a school, giftedness may not be identified, not recognized and not valued; school circumstances, school structure and organization can be inflexible; the classroom environment can be rigid; and there may be a general lack of resources. Second, the child can live in an environment that presents an anti-gifted posture and an anti-intellectual atmosphere, with different beliefs and value systems, steeped in prejudices. Third, the child may not have cultural capital, such as beliefs, values and language, or social capital, for example, social relationships and networks, social norms and values and trust, may live in poverty or isolation and may have no choice. Ashman & Merrotsy (2011), point out that the child may not have confidence, be afraid of failure, be struggling in the search for self-identity, have low self-efficacy, be subject to the dilemma of forced choice or have a psychopathology. Two of these concepts, in particular, low self-sufficiency and the dilemma of forced choice, appear to be consistently present in gifted students who fail to develop academically.

In the Brazilian educational context, enrichment programs for gifted children have been gradually increasing, laws that guarantee the functioning of these programs are taken up by institutions interested in serving these children, however, in general, "with regard to actions, special education, has still been much more in charge of philanthropic, assistance and segregationist entities and institutions "(Heredero, 2010, p.194).

For the authors Pérez & Freitas (2011), the invisibility of gifted students by the population, including teachers, is basically explained by the lack of information on the area of giftedness and on the legislation that confirms the However, "the phenomenon of high skills is still permeated by many myths and elitist conceptions that provoke contradictory reactions, which range from fascination to antagonism" (Chagas, 2007, p.15).

According to Martins & Alencar (2011), to work in the area of giftedness it is essential that the teaching team has access to specific training, which should include in their pedagogical proposal theories on the theme, information on typical behaviors of gifted and internships for observation and conducting in institutions that offer special care to these students. The authors explain that in relation to the desirable training of a teacher of gifted students, it is important that there is continuing education, the undergraduate curriculum adapted to the theme and postgraduate studies in the area. The authors also emphasize the need for a pedagogical and curricular proposal that includes the desirable characteristics of these teachers, on the part of educational institutions that offer specific training so that the teaching team can work in the area of giftedness. It is important that, in this training, theories on the topic are included, information on typical behaviors of students with giftedness and, if possible, internships for observation and conducting in institutions that offer special quality care to these students. Only then will the invisibility of the gifted be unveiled and the proper care for these students will reveal the erroneous ideas that society and many education professionals have when they think that the gifted students need not be attended and that their skills are already sufficient for them to develop alone. On the contrary, there is no progress in educating the gifted without meeting their special educational needs (NEEs).

If high abilities during the teaching-learning process are not recognized and valued by the school, educational opportunities and experiences necessary for optimal development are unlikely to be offered, which for many students results in poor performance, boredom and frustration.

Ashman & Merrotsy (2011), explain that if there is such an elusive gifted personality, the question of identifying the invisible gifted is in fact problematic. The authors argue that the proper identification of high potential, appropriate recognition and appropriate educational intervention will result in educational participation and academic engagement and will bring enormous benefits to affective development. These are the first steps for the invisible gifted student to

succeed in school. For this, it is necessary for the school to break the paradigm of offering standardized teaching and promote work that includes educational measures aimed at the high skills of its students that remain neglected.

Method

This research seeks to investigate the perceptions of gifted students, their mothers, teachers, principals and regular classroom educator regarding school attendance, teaching strategies and the role of creativity in the education of gifted students.

This article presents a qualitative and exploratory approach with semi-structured interviews, observations and a questionnaire that were used as data collection instruments with 3 gifted students, 2 mothers, 5 teachers, 2 principals and 1 regular classroom teacher, totaling 13 participants.

As for the qualitative approach, Creswel (2007) considers it as a type of investigation focused on the qualitative aspects of a given question. In the case of this research, it is possible to highlight the subjective part of the problem when attending to the gifted child, his feelings and emotions, which often do not have material and personal resources for this service to occur properly.

Regarding semi-structured interviews, Creswel (2009) explains that these interviews are part of a more spontaneous method, in which the researcher asks some predetermined questions, the other research questions do not necessarily have to be planned in advance. The questions were focused on the care that gifted students receive at school.

In the descriptive observations, the attitudes and actions of gifted children involved in this research were considered, as well as how to act and speak in order to verify their satisfaction in the school space.

And finally, the questionnaire was used as an information collection instrument, to see if the school meets the special needs of gifted children. There was a question to mark x and three open questions, giving the participants the opportunity to write their answers regarding the care the children receive, the teaching strategies offered, and the importance of creativity in the education of gifted people.

Each instrument used sought to investigate school attendance to the special educational needs of gifted children, teaching strategies aimed at these children and the importance of creativity during the teaching-learning process.

Data Collection Procedure

This research was carried out in the public school system of a municipality in the state of Paraná in 2015 and 2016. The research was carried out in two public schools. School names will not be released for ethical reasons. Each school will be named as: school A and school B.

As for school A, 1 gifted student, 1 mother, 4 teachers, 1 educator and 1 director participated. At school B, 2 students, 1 mother, 1 teacher and 1 director participated. Each participant had their name changed to preserve their anonymity. The criteria for participating in the survey were the availability of time and acceptance because everyone contributed voluntarily.

To access these contexts, a research project was initially filed for approval by the head of the office of the Municipal Secretary of Education and the person in charge of the Coordination for Assistance to Special Needs.

After authorization to start the research, contact was made with the schools surveyed that had been listed by the person in charge of Coordination for Assistance to Special Needs. The choice of schools where this research took place was made by the criterion of acceptance by the management teams of each of these teaching units. The principals of these schools were in agreement with this research and aware of the data collection procedures.

Contacts with the surveyed schools were carried out on the spot and by telephone. After the permission of the management teams to receive the researcher in the researched contexts, the researcher presented her project and the authorization document so that the directors could become aware of it and sign it. He also presented the terms of consent for all participants to sign, after the researcher's explanation of the research. This study started only after all participants signed the consent terms.

All instruments were applied in one of the regular teaching rooms of schools A and B. Participants were invited to participate in the interviews with an approximate duration of 30 minutes and to complete a questionnaire about school attendance to the needs of gifted children, about strategies of teaching in the teaching-learning process of these children and on the importance of creativity in teaching, since creativity can be considered by many scholars an essential aspect in the education of gifted (Amabile, 2018; Plucker, Guo & Makel, 2018; Kane, 2016; Kane & Silverman, 2014; Piske, 2013, 2018; Piske et al. 2020).

Observations were made during the application of the questionnaire and the interview and aimed to understand how the social and emotional interactions of gifted children at school occur.

Profile of the Participants

When introducing the participants, care was taken to preserve their anonymity by modifying their names so that none of them were identified, in accordance with ethical research principles.

As for school A, there is the gifted student who will be called Geraldo, 9 years old, attends the 5th year of elementary school, has giftedness in the academic area.

Geraldo, the student's mother, Lúcia, is 29 years old, married, has completed high school. Regarding the profile of the 4 teachers at school A, professor Augusto is 35 years old, professor Marcela is 27 years old, professor Ana is 29 years old and professor Márcia is 33 years old. All teachers are married and have a higher education degree in Pedagogy. About the profile of the educator Neide, she is 37 years old and the director Joelma, she is 42 years old, both have worked at this school for more than 5 years. The total number of participants in school A is eight people.

In the context of school B, there are 2 students, Valmir and Renato, Luíza who is the mother of student Renato, teacher Eva who teaches to Renato and principal Aurélia. Valmir's mother and teacher chose not to participate in this research. The students are 10 years old, attend the 5th year of elementary school, have giftedness in the academic area.

Luíza, Renato's mother, is 28 years old and has a college degree. Renato's teacher, Eva, is 28 years old, and director Aurélia is 35 years old. Both have worked in the municipal education system for over 10 years.

It is important to note that all teachers who participated in this research will be able to teach gifted students in regular classrooms in the future, including students who took part in this study, even if they have no training in the area of giftedness. For this reason, it is essential to know the perception of these teachers in relation to the school attendance offered to these children, as well as about their teaching strategies.

It is noteworthy that the families and teachers of gifted students were invited to participate in this research, but not all had the time available.

Data Analysis

After data collection, a thorough and repeated reading of all the material collected was carried out for the categorical realization of the results. According to Bardin (2011), the antecedents of content analysis refer to interpretative practices such as hermeneutics and rhetoric during the research process. We tried to list the psychological structures based on the participants' responses. According to Amado (2017), the application of the content analysis technique is a useful tool for interpreting the perceptions of social actors.

For the analysis, the participants' experiences and contexts were considered (Weiner, 2011; Oliveira, 2012; Minayo, 2013). According to Weiner (2011), Minayo, (2013), it is important to realize how the participants contribute meaning to the elements of their context. In this research, the elements highlighted were: school attendance, teaching strategies and the development of gifted students' creativity.

According to Weiner (2011), Oliveira (2012) to make the object a scientific construct it is crucial to invest in the accumulated national and international knowledge, dialoguing with or around it. Based on national and international studies of this research, a dialogue was sought between participants and specialists in the area of giftedness so that the design of the research is not based only on common sense, but to give the tone of a scientific discussion. A constant search was sought between the theoretical framework and the first influxes of reality, especially with regard to the school service received by gifted students, which does not always occur properly.

The step by step of this research is based on stages: the approval of the research by the municipal secretary of a Brazilian municipality; the contact with the contexts that depended on the acceptance of the direction of the researched public schools; the researcher's visit to the field to present the project; the meeting with the participants to present the research and sign the consent terms; the material collected; analysis and results. In this sense, there was an analytical and systematic path, to make objectification based on opinions, beliefs, values, representations, relationships and human and social actions possible from the perspective of actors in intersubjectivity (Weiner, 2011; Oliveira, 2012; Minayo, 2013).

The following categories were carried out after reading all the collected material and respond to how school attendance occurs, possibilities of teaching strategies, definition and importance of creativity during the teaching-learning process of gifted people from the perceptions of each participant of this research.

In the analysis of this study, the answers obtained in the interviews, observations and in the questionnaire were compared, based on the responses of the participants of the two schools, A and B.

The results of this research point to the participants 'dissatisfaction, feelings of discontent and the need for advances in gifted education. First, the participants' perceptions of school attendance to the needs of gifted children will be presented, then the perceptions of these participants stand out. about teaching strategies in the teaching-

learning process and, finally, the participants' perceptions about the importance of creativity in the teaching of gifted people will be presented.

As this research is voluntary, there are questions that some participants chose not to answer, even though they were explained in detail by the researcher in case of questioning or doubt. Any discomfort was avoided, preserving a climate of harmony and respect.

Results

In relation to school attendance to the needs of gifted children, the speeches of the participants emphasized that schools, in general, do not offer adequate attendance to these students. Of the 13 participants, seven believe that the school does not meet educational needs, three responded that the school does not and for three participants the service is satisfactory. Here are some speeches from the participants:

> *"The school serves little" (Student Geraldo, school A).*
>
> *"In view of the difficulty in the aspect of relationships that the child presents, at school I do not see the concern to include this child" (Lúcia, mother of student Geraldo, school A).*
>
> *"The school does not attend because there is no curriculum specifically for gifted students, as it is not always that there are students with this profile" (Teacher Augusto, school A).*
>
> *"The current school is unfortunately unable to meet the special needs that gifted students have" (Teacher Marcela, school A).*
>
> *"The school meets the needs because it performs challenging and appropriate activities, as far as possible, due to having cases of children with other special needs in the classroom" (Teacher Ana, school A).*
>
> *"Due to the number of students in the classroom and the content to be contemplated, there is a lack of opportunity to be able to arouse new interests in these students as well as appropriate moments and different materials" (Teacher Márcia, school A).*
>
> *"The school serves schooling at the basic, regular level of education. For these (gifted) students there is a need for specific assistance in the areas of high skills or giftedness" (educator Neide, school A).*
>
> *"We provide guidance to professionals for referral of cases with ADP (Psychoeducational Diagnostic Assessment), in the classroom, through different planning, with different materials" (Principal Joelma, school A).*
>
> *"I think they don't give the matter so much importance" (Student Valmir, school B).*
>
> *"Answer, because the teachers help the student to develop more" (Student Renato, school B).*
>
> *"The school does little work. There were projects in which my son would participate, but I lack direction and psychological support to improve my son's development" (Luíza, mother of student Renato, school B).*
>
> *"We still need to advance in relation to the use of technology and expand the training of professionals who serve these (gifted) students. This work requires the participation of the state, the school and the family" (Teacher Eva, school B).*
>
> *"Unfortunately, the school's physical and human structure is not sufficient to meet the differences as a whole. More investment by the State is needed, financially, as well as in public policies" (Principal Aurélia, school B).*

The lack of contentment on the part of the majority of the participants reveals that an inclusive school goes beyond offering a place to the gifted student. Successful inclusion needs to guarantee not only access, but permanence and academic success, necessarily implying adequate support to the needs of students (Mendes, Vilaronga & Zerbato, 2014). But then, what would an inclusive school be?

> *An inclusive orientation school is defined as one in which each and every student has their place in the classroom, integrated with living with diverse age pairs, seen as individuals as they are, without having to present a pre- determined to define which group of colleagues they should belong to. To follow this guidance, it is up to the school institution to learn how to deal with the diversity of students, accepting them as human beings, citizens, members of society and the community. Implicitly, this concept assumes an attitudinal and effective commitment by the school to offer each child what he/she needs to develop and improve, either individually, in groups or subgroups, at school or in the community. In this line of thought, actions that would result in submitting entire classes of students to the same pedagogical treatment would not be accepted, in principle [...] (Guenther & França-Freitas, 2014, p. 167).*

As for teaching strategies in the gifted learning process, participants, in general, believe that teaching mediation reflects the student's development in a meaningful way by preparing activities that address the needs and interests of this child. The strategies mentioned are quite varied, below, it is possible to highlight some of them that could be used by the teaching team from the interviewees' statements:

> *"Some strategies would be: projects, robotics, deepening in mathematics, Portuguese, geography, history, arts, etc." (Student Valmir, school B).*
>
> *"Hardware and software, Informatics, robotics" (Renato Student, school B).*
>
> *"After identifying the skills, I believe that the strengths should be analyzed and work on them persistently, for greater development of the child. There must be room and specific studies, very well prepared teachers would also contribute a lot in the formation of the gifted student" (Luíza, mother of a gifted student, school B).*
>
> *"We know that each student has a better learning style, some are more visual, others are more auditory. Thus, teaching strategies should be as varied as possible. These students should be encouraged to contribute to classes through their experiments, research and discoveries "(Teacher Eva, school B).*
>
> *"I believe that looking for challenging strategies, especially in areas where this student has greater ability" (Principal Aurélia, school B).*
>
> *"Activities where the child can expose his ideas without limits, without direction, where he can create without worrying whether he is in the context or whether it is correct or wrong" (Lúcia, mother of student Geraldo, school A).*
>
> *"It is necessary to know the student well, his characteristics and needs in order to develop an action plan specific to him. I believe that exchange activities and relationship dynamics, as many gifted children have difficulties in relate to their peers "(Teacher Ana, school A).*
>
> *"I believe that activities that arouse the child's interest and creativity should be offered. Activities that require reasoning and reflections about problem situations" (Teacher Márcia, school A).*
>
> *"More targeted classes would be needed in your area of giftedness with specific materials, increasingly stimulating your skills" (Teacher Marcela, school A).*
>
> *"I find important activities more focused on logical reasoning, which require a lot of thinking. More advanced individual activities for students with special needs" (Teacher Augusto, school A).*

> *"In addition to regular education, each specific student will benefit from a methodology or strategy depending on the need and area of giftedness. Strategies that address a greater number of sensory channels facilitate the learning of all students" (educator Neide, school A) .*

> *"In resource rooms, students receive specific assistance according to the area of prominence, but in a regular room, teachers explore all areas of knowledge with activities that span all learning styles, offering something more in the case of students with high skills (Principal Joelma, school A).*

According to the National Association for Gifted Children, "National Association for Gifted Children" (NAGC) (2020), a world reference in the gifted education, strategies for teaching the gifted should include a good curriculum and instructions for these students, it is practically impossible to develop the talent of a highly capable student with a bland curriculum and instruction. Like all students, talented students need rich learning experiences. That is, they need learning experiences organized by the main concepts and principles of a discipline, and not by facts.

It is important to create teaching strategies that meet the individual needs of gifted students. Highly able students often learn more quickly than others of their age. As a result, they typically need a faster pace of instruction than many of their colleagues. The activities offered to these students must necessarily be linked to their area (s) of interest. These strategies should propose a higher degree of difficulty than for many students their age. That is, a higher degree of difficulty requires more skills - more refined skills - applied to a higher level of sophistication.

Strategies for teaching gifted children require full support from the teacher at all times. Gifted students succeed without much effort and learn more easily. So, when a teacher presents a challenging task, students may feel threatened. In this bias, it can be seen that they probably did not learn to study hard, take risks and make an effort, it is up to the teacher of gifted students to understand this situation and, therefore, needs to invite, persuade and insist on risk, but in a way that supports the success and motivate your students.

Regarding the definition and importance of Creativity in the education of gifted children, the participants adopted several concepts to define it. From the understanding of the interviewees, this attribute can be related to an intrinsic skill, imagination, innovation, invention, the expression of "divergent" thinking, among other issues. All participants recognize the importance of this attribute in the education of gifted people, emphasizing that creativity generates the motivation to learn, freedom of expression, the skills to innovate, the autonomy to invent what is imagined, overcoming the obstacles imposed by teaching standardized. The following are the interviewees' reports:

> *"Creativity is related to activities where the child can expose his ideas without limits, without direction. Where he can create without worrying whether he is in the context or whether it is correct or wrong" (Lúcia, mother of student Geraldo, school A) .*

> *"It is creating activities, whether concrete or abstract, that benefit and arouse the interest of the gifted student. It is important to motivate him to always seek information more and more, in his field of knowledge" (Teacher Augusto, school A).*

> *"Creativity is using your skills to create and innovate. All of this must be taken into account when we work with gifted students, as they often present very creative resolutions for different situations" (Teacher Marcela, school A).*

> *"Creativity is the differentiated ability to solve challenging situations. Creativity is of paramount importance in the education of gifted people, because only then will it be possible to develop quality work and with the perspective of achieving the best results"*
> *(Teacher Ana, school A).*

> *"Creativity is within everyone. It is up to the environment in which the person is and the experiences lived for him to be awakened. It is essential that creativity is awakened in education, including gifted ones" (Teacher Márcia, school A).*

> *"I believe that the teacher who takes care of gifted children needs creativity to meet the student's needs. In addition, he needs to facilitate and stimulate the student's creativity. Creativity is the ability to create and innovate, to do differently what already exists and to create new things "(educator Neide, school A).*
>
> *"Creativity is the expression of thoughts, it needs a lot of encouragement, materials for the composition of ideas, information about different techniques, opportunities to expose your thoughts. Letting any student create his ideas is to allow him to grow as a being in formation. The students gifted people need opportunities to demonstrate their creativity "(Principal Joelma, school A).*
>
> *"I think the limit of creativity is imagination. It is important for the future of the gifted child" (Student Valmir, school B).*
>
> *"Creativity is when you see one thing and start to imagine another. It means a lot. Without creativity, there would be practically no gifted" (Student Renato, school B).*
>
> *"It is to develop easily, to solve clearly. Demonstration of ease to perform tasks. It is necessary to work intensively to develop this creativity, bringing extremely positive results to the goals of the gifted student" (Luíza, mother of student Renato, school B).*
>
> *"It is the capacity for creation, imagination of something innovative. Another way of seeing the world. Usually, the gifted are very creative and need space in the school environment to expose all their creativity" (Teacher Eva, school B).*
>
> *"Creativity is the ability to overcome challenges, to create strategies to overcome obstacles. This attribute is fundamental for the development not only of students with high skills, but of all students" (Principal Aurélia, school B).*

The definition attributed to creativity by participants is in line with the most current research on this phenomenon (Csikszentmihalyi, 1996, 1998, 1999, 2007; Renzulli, 2016; Sternberg, 2016; Plucker, Guo & Makel, 2018; Kettler, Lamb & Mullet, 2018; Thompson & Pfeiffer, 2020; Piske & Stoltz, 2020a), all recognize that creativity provides several benefits for the education of gifted students, among them: intrinsic motivation, autonomy, divergent thinking, freedom of expression, courage to face new challenges. To foster creativity in the classroom, there are new and current suggestions that Thompson & Pfeiffer (2020) list below:

- Cultivate a psychologically safe, ridiculous space and create a rewarding environment for unusual questions, answers and creations. In addition, try to limit formal and rigorous assessment procedures to purely creative activities.
- Ensure that the physical space of the classroom is safe, comfortable, interesting and stimulating. Consider outdoor activities.
- Emphasize freedom during exercises focused on the imagination, allowing students to daydream, play, move and determine their own design parameters, hoping to develop their passion for specific activities.
- Protect and prioritize time for creativity in the classroom. Perhaps even more important, think of ways to incorporate creativity-creating strategies into your curriculum and lesson plans.
- Make expectations of creativity explicit. Students do not always understand when and to what extent it is desirable to use their imagination.
- Explain about innovation-based work. Students need to understand that true achievement often stems from prolonged effort, in addition to trial and error.
- Provide many examples and models of artistic and creative works. Don't forget to include yourself as an excellent and accessible model of creative attitudes and products.
- Incorporate well-designed group work to help students develop ideas collectively. Successful groups usually have guidance and monitoring from a teacher and also involve some sort of individual processing time.

It is up to the teacher to adapt the school space and his classes according to the needs of his gifted students. This requires creative and engaging work where he can promote activities that arouse his students' curiosity and willingness to learn. For this, it is important for the teacher to ask questions in the classroom and find out about his areas of interest. From then on, he can prepare and deepen his knowledge through courses, training and specializations according to educational needs. of gifted children. Kane (2016) highlights important characteristics of the research literature on effective teachers of gifted students. These characteristics can be categorized in terms of personal and social issues; the issue of teaching strategies; and the intellectual-cognitive issue.

According to the author, the personal / social characteristic of the gifted teacher is important so that he/she can identify and know the cognitive, social and emotional needs of the gifted; possess a sense of humor; be excited; be culturally responsive.

As for teaching strategies / approaches, the gifted teacher needs to have skills to differentiate the curriculum from gifted students; employ strategies that encourage higher-level thinking; encourage students to be independent learners; provide student-centered learning opportunities; creating a learning environment that does not threaten different ideas; be well organized.

The intellectual-cognitive characteristic of the teacher who works with gifted people, must have in-depth knowledge of the subject of interest to their students; have broad interests, usually literary and cultural; having above average intelligence preferably; be a lifelong learner, think creatively; and possess excellent communication skills.

Conclusion

The perceptions of gifted students, their mothers, teachers, principals and regular classroom educator regarding school attendance make an important alert to the schools surveyed so that the teaching strategies and educational measures being taken are reassessed, since the Most participants expressed dissatisfaction with the care provided to gifted children.

If the attendance in these schools is not recognized as satisfactory by the participants, it is essential that the management team, principals and educators, refer these students to enrichment programs to develop their high skills according to their area(s) of interest. Otherwise, these children may have different difficulties. They will probably be frustrated by standardized teaching that does not encourage creativity, on the contrary, it only reinforces what they have already learned. It is possible that they feel lonely for not interacting with their peers, this fact can cause social and emotional difficulties. In addition, they will not develop their high potential because they are inserted in a context that requires teacher training in the area of giftedness to understand how it would be possible to develop teaching appropriate to their special educational needs.

Inadequate care relies on the need for teaching strategies that focus on the development of creativity through practices based on innovation. According to Thompson & Pfeiffer (2020), the teaching team can create an environment responsive to the needs of gifted students and their creativity, cultivating a psychologically safe school space, free from reprimand and barriers that impede the development of the creative potential. The teacher can create a rewarding environment of unusual questions, answers and creations. You can limit formal and rigorous assessment procedures to purely creative activities, ensure that the classroom's physical space is safe, comfortable, interesting and stimulating, incorporate well-designed group work to help gifted students develop ideas with their peers for this, successful groups need guidance and monitoring from a teacher who gives them collective and individual support whenever necessary.

In addition, teaching strategies may be based on Howard Gardner's theory (1995, 2006, 2007, 2011). This theory allows for teacher reflection beyond self, the desire to teach and exercise educational practices that are often random. It is possible that many teachers do not teach reflecting on their skills and abilities of their students, for this it is necessary to self-knowledge, self-analyze and analyze the results obtained that are being put into practice. The multiple intelligences make us realize our potentials and limitations, advances and regressions, make us reflect on who we are and how we act, and give us a basis for evolution.

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Research Article

A new-generation parental attitude affecting gifted adolescents' psychological resilience: helicopter parenting[1]

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Abstract

This study was conducted with adolescents aged 12-18 who continue their education in Science and Art Education Centers. The effects of the helicopter parenting attitude perceived by the adolescents on their psychological resilience levels were investigated. This research is in relational screening model. The general universe of the research comprises gifted adolescents aged 12-18 years (N=533) who study at Science and Art Education Centers covering all regions of Turkey (Marmara, Aegean, Mediterranean, Southeastern Anatolia, Eastern Anatolia, Central Anatolia and Black Sea regions). The official approval of the Ministry of National Education Special Education and Guidance Services Presidency and the approval of the Ethics Committee were obtained. Data collection tools were applied to adolescents in Science and Art Education Centers institutions across Turkey. In the research procedure, the data have been collected via "Personal Information Form"; "Helicopter Parenting Scale" and the "Child and Youth Psychological Resilience Scale". The significant relationship between the mean scores obtained from the scales was analyzed with the correlation test. Binary variables; independent groups were analyzed by t-test; One-factor analysis of variance was used in the comparison of more than two groups. When the age and psychological resilience of the study group are examined; a negative relationship was found between father's age and helicopter parenting. A significant correlation was found between perceived helicopter parenting attitude and psychological resilience. The psychological resilience levels of adolescents whose parents live together are higher than those whose parents live separately.

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Introduction

The number of studies on parental attitudes towards gifted children with superior intelligence and the coping methods of such children is increasing day by day. Gifted children come up with different psycho-social reactions compared to children with normal development (Liebenberg, Ungar & LeBlanc, 2013). Mothers and fathers may affect the psychological reactions of these children positively or negatively by reacting differently from their normally developing children and often end up acting overprotectively (Okray, 2016).

The ability of gifted children to cope with crisis situations is also attributed to the concept of resilience. Once a problem arises, the reactions to giving up after being exhausted or how to solve the problems by rearranging the relations with the environment are related to the concept of resilience (Markstrom, Marshall & Tryon 2000). Thus, the notion of resilience plays an important role in how individuals respond when encountered with stressors. Psychological resilience refers to the ability to quickly recover from physical and mental illnesses, changes or bad situations in life, the ability to heal oneself, as well as the capability to return to one's former self after sadness and tension. Skills and traits that enable them to function at their best despite stress and disaster are as follows: Flexibility

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(Ramirez, 2007) stands for the capacity to adapt positively in difficult life situations (Lightsey, 2006), stress resilience (Markstrom, Marshall & Tryon 2000), mastery capacity (Mandleco and Peery 2000; Tusaie and Dyer 2004). Psychological resilience is the ability of an individual to adapt to the change in his/her life in the process that occurs as a result of the interaction of risk factors and protective factors when faced with a negative situation (Karaırmak, 2006); it also includes the ability to use several protective factors, such as personal and social resources and perceived level of family harmony, to maintain mental well-being in the face of stress and adversity (Davydov, Stewart, Ritchie & Chaudieu, 2010; Luthar, Cicchetti & Becker, 2000).

Some studies that reveal that gifted children are individuals who are self-confident, determined, problem-solving, and develop strategies to cope with adverse environmental conditions in addition to their superior intelligence (Alexopoulou et al. 2019). On the other hand, superior intelligence is not the sole condition for resilience. Cognitive ability plays a supportive role in problem solving and decision making processes (Kitano & Lewis, 2005). It is evident that giftedness affects the psychological well-being of individuals (Neihart, 1999).

A child with a diagnosis of "special talent and/or giftedness" needs to have certain boundaries, discipline, unconditional acceptance by their parents, and taking responsibilities. Directing gifted children to merely success-oriented study and being overprotective negatively affects their curiosity or motivation towards their skills of investigation and discovery (Okray, 2016). If parents adopt an attitude such as providing the gifted children the opportunity to research and experiment, the children can solve problems in crisis situations; they can adapt to new changes or bad situations by finding out solutions; they can heal themselves against problems and have the ability to recover after stress (Seligman & Csikszentmihalyi, 2000; Sternberg, 2005).

Generally, every parent exhibits the love and discipline components to their children as they have observed, learnt and experienced formerly. Helicopter parenting attitudes, which are described as an overprotective and intrusive behavior, are a child-rearing approach brought about by the marginal ends of the love and discipline components (Yılmaz, 2019). These behavioral patterns significantly tend to affect the psychological resilience of children (Okray, 2016).

Problem of Study

In addition to investigating the mental health of gifted children, it is important to know the factors that increase development and competence, the factors that cause stress and the protective aspects in coping with them. Due to the disadvantages of adolescence and giftedness, it is necessary to support the adaptation processes of gifted children. Experts working with gifted children or the ones with superior intelligence should be knowledgeable about the family environment that influences the psychological resilience of these children. In the light of this data, the statement of the research problem has been determined as "Does the helicopter parenting attitude perceived by gifted children have an effect on their psychological resilience levels?"

Method

Research Model

This study has been designed as the relational screening model to identify the effects of helicopter parenting attitudes perceived by adolescents in the 12-18 age group who continue their education at BİLSEM (Science and Arts Centers for the Gifted Children) on their psychological resilience levels. Among the general screening model types, relational screening model aims to determine the presence and/or degree of co-variance between two or more variables (Fraenkel & Wallen, 2009). The dependent variable of the study is helicopter parenting attitude and psychological resilience levels perceived by gifted adolescents; whereas the independent variables are gender, age, number of siblings, parents' being alive or dead and marital status, educational and occupational backgrounds of parents, and the income status of the family.

Sample

Covering all regions of Turkey (Marmara, Aegean, Mediterranean, Southeastern Anatolia, Eastern Anatolia, Central Anatolia and Black Sea regions), the general universe of this research comprises 12-18- year-old adolescent students diagnosed with superior intelligence or giftedness and continue their education in Science and Art Centers-BİLSEM (N=533). According to the official data of the Ministry of National Education, Special Education and Guidance Services Presidency, the number of adolescents aged 12-18 years studying at BİLSEM is 15,871. In the calculation of the sample, the study group was determined by utilizing the suggested formulas by using the literature (Brasher & Brant, 2007; Giraudeau, Ravaud & Donner, 2008). The sample group of the study included 12-18-year-old adolescents

($\bar{x}$ = 19.62±1.73), 55% female and 45% male (N=533). 40.9% of mothers and 46.3% of fathers in the study group were undergraduate graduates. 45% of mothers did not work. 31.5% of fathers were self-employed.

Data Collection

First of all, we have reviewed the literature on resilience and helicopter parenting attitude, and the research on the subject and the scales based on this theory were examined respectively. As a result of the examinations, we have determined that we could use the "Helicopter Parenting Scale" (Okray, 2016), which covers overprotective parental attitudes and helicopter parenting behaviors during adolescence, and the "Child and Youth Psychological Resilience Scale" (Arslan, 2015), which measures psychological resilience in adolescents.

To determine the sample group, we have identified the official data of the Ministry of National Education Special Education and Guidance Services Presidency and revealed that the number of 12-18 year old adolescents studying at BİLSEM (Science and Arts Centers for the Gifted Children) throughout the country was 15,871. Ethics committee approval (KTO Karatay University Ethics Committee, approval dated 11.03.2021 and numbered 2021/014) was obtained, and then an official application was submitted to the Ministry of National Education and approval for the research was provided in the end. A pilot study was conducted by the researcher by applying data collection tools to 11 adolescents. Permission slips were sent to all BİLSEM (Science and Arts Centers for the Gifted Children) institutions throughout the country; we have reached a total of 533 gifted adolescents who filled out the forms on a voluntary basis. After the applications were implemented, all the answers were examined and analyzed respectively.

Data Collection Tools

Personal Data Form

To reach some personal data about the participants, demographic characteristics were determined via this form.

The Helicopter Parenting Scale

The Helicopter Parenting Scale was developed by LeMoyne and Buchanan (2011). Later, the scale was adapted into Turkish by Okray (2016); and its validity and reliability tests were conducted consecutively. Participants were asked about their level of agreement with statements about their experiences while growing up with their parents. The lowest score was assigned as 7 points and the highest 35 points in the scale. Higher scores represent higher helicopter parenting levels perceived by participants. The Cronbach Alpha determined for this study was 0.72.

Child and Youth Resilience Scale

The scale is used to identify the psychometric characteristics of high school students. The short version of the scale was created by Liebenberg, Ungar, and LeBlanc (2013), and primarily, it was made up of a 12-item construct. The scale was adapted into Turkish by Arslan (2015). The scale, which has a five-point Likert type, is ranked among "Describes me completely (5)" and "Does not describe me at all (1)". A minimum of 12 points and a maximum of 60 points can be obtained from the scale. A high score indicates a high level of psychological resilience. Cronbach Alpha value in this study has been detected as .91.

Data Analysis

First of all, we tested whether the scores obtained from the scales were normally distributed among the groups. When the kurtosis and skewness values (Skewness and Kurtosis) showed normal distribution, the correlation test was performed. Independent groups t-test was applied when the distribution between groups was found to be normal. One-factor analysis of variance (One-Way ANOVA) was applied to compare more than two groups. The Mann-Withney U-test was used when the groups were not normally distributed, and the Kruskal Wallis H test was performed to compare multiple groups.

Results

Scores related to perceived helicopter parenting attitude and psychological resilience values are presented in Table 1.

Table 1.

The Highest-Lowest Value Scores, Mean and Standard Deviation Scores, and Skewness- Kurtosis Scores of Perceived Helicopter Parenting Attitude and Psychological Resilience Levels

Variables	N	Minimum	Maximum	$\bar{x}$	S	Skewness	Kurtosis
Perceived Helicopter Parenting Attitude	533	1,00	5,00	3,03	,72	-,144	-,251
Psychological Resilience	533	1,83	5,00	3,89	,57	-,349	-,146

Pearson Correlation analysis was used to measure the relationship between "the ages of their parents" and "perceived helicopter parenting attitude and psychological resilience" in the study group. There was a negative and significant relationship found between the father's age and helicopter parenting. Correlation test was performed to analyze the negative and significant relationship between perceived helicopter parenting attitude and psychological resilience, and the findings are given in Table 2.

Table 2.

The Relationship between the Ages of the Children and Parents in the Study Group and the Perceived Helicopter Parenting Attitude and the Psychological Resilience of the Adolescents

Variables	1	2	3	4
Adolescent's age	1			
Mother's age	,352***	1		
Father's age	,277***	,735***	1	
Perceived Helicopter Parenting Attitude	,033	-,084	-,119**	1
Psychological Resilience	-,229***	-,082	-,024	-,431***

***$p < .001$, **$p < .01$

Linear regression analysis was conducted to investigate the effect of helicopter parenting attitude perceived by the adolescents in the study group regarding the level of resilience. We revealed that the perceived helicopter parenting level affected the resilience level negatively and significantly ($\beta = -.431$, $p<.001$). In other words, as the perceived helicopter parenting level increased, resilience decreased respectively. On the contrary, as the perceived helicopter parenting level decreased, the level of resilience increased too. The relevant findings are presented in Table 3.

Table 3.

The Findings of the Regression Analysis Regarding the Effect of Helicopter Parenting Attitude Perceived by the Study Group on the Level of Resilience

	R	R^2	B	Error	*F*	β
Constant	,431	,186	4,892	,094	121,191***	-,431***
Model			-,330	,030		

***$p < ,001$

The graphical representation of the results revealed is shown in Figure 1

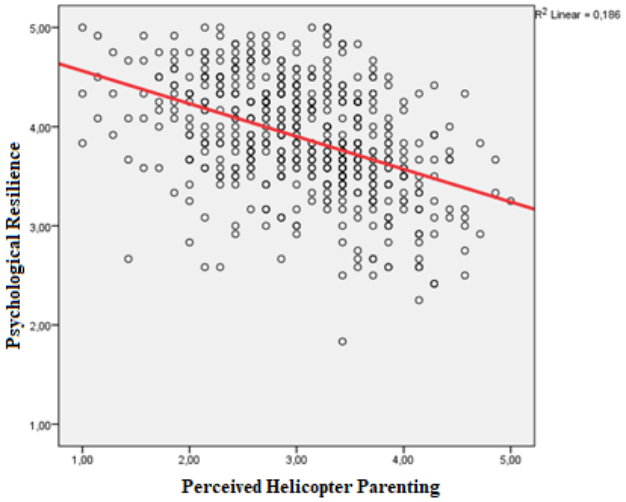

Figure 1.

The Results of the Regression Analysis Regarding the Effect of Helicopter Parenting Attitude Perceived by the Study Group on the Level of Resilience

As seen in Figure 1, the marked red line illustrates the averages of the scores in the figure. Each spot indicates each individual, and the helicopter parenting perceived by each individual represents the dimension of psychological resilience. The red line is moving down, which refers to the fact as individuals' perceived helicopter parenting increases, their level of resilience decreases correspondingly.

Discussion

The effects of helicopter parenting attitude perceived by gifted adolescents on resilience levels have been discussed by reviewing the studies conducted in the relevant literature based on the findings of the Helicopter Parenting Scale, Child and Adolescent Resilience Scale and various demographic characteristics. Since there is little research found on the helicopter parenting perception of gifted adolescents, studies on the effects of other parenting attitudes, normally developing adolescents and their psychological resilience, and parental attitudes on adolescents' mental health have also been included accordingly.

Helicopter parenting is a concept that expresses parental attitudes that focus on their children's behaviors, overprotect them, interfere and supervise them too much, and often do things for their children that they can actually realize on their own (Yılmaz & Büyükcebeci, 2019). There is evidence pointing out that the negative effects of helicopter behavior will occur mostly during adolescence and adulthood (Loukas, 2009; Nelson, 2010; Stafford et al. 2016). Such negative effects can enhance the risk factors of psychological resilience and neutralize the protective factors. In the current study; a negative and significant relationship has been found between perceived helicopter parenting and psychological resilience. The results we have reached indicate that perceived helicopter parenting level predicts psychological resilience negatively and significantly ($\beta = -.431$, $p < .001$).

There is increasing data showing that overprotective parenting is associated with weaker self-efficacy, less problem-solving capacities, and lower interpersonal sensitivity (Schiffrin et al. 2014; Reed et al. 2016; Scharf et al. 2017). These characteristics tend to increase the risk factors of psychological resilience.

Children with helicopter parenting mothers and fathers have higher levels of depression, neurotic tendencies, higher anxiety and risky behaviors, dependency on others, ineffective coping skills, emotional disorganization, lower autonomy, less competence, and decreased satisfaction with life, resulting in lower academic and social life satisfaction; hence, some studies reveal that it is related to compliance levels (Odenweller et al. 2014; Darlow et al. 2017; Kwon et al. 2017; Schiffrin et al. 2019; Cui et al. 2019) as well.

When the studies conducted in Turkey on helicopter parenting attitudes are reviewed; Okray (2016), a study that analyzed the psychological well-being, basic psychological needs, and depression level of first and second year undergraduate students of the Helicopter Parent Scale, adapted into Turkish for validity and reliability, concluded that as the helicopter parenting perceptions of the participants increased, they exhibited more depressive characteristics and less autonomy. The results are in line with our current study.

The results of Mueller's (2009) research reveal that social support at home and at school can play a remarkable role in reducing problems such as depression and increasing psychological resilience for both gifted and non-talented

adolescents. Another study examining the variation of psychological resilience scores of children studying at BİLSEM according to their parents' attitudes has determined that the psychological resilience of children who perceive their parental attitudes as democratic is significantly higher than those who perceive their parental attitudes as indifferent, oppressive-authoritarian and overprotective (Yıldırım, 2019).

The findings in our study shows that there is no significant difference in perceived helicopter parenting attitudes depending on gender and other variables (age, number of siblings, parent relationship status, mother and father's education levels, family economic status). The relevant literature have exhibited similar results with the findings of our study. We have found out that helicopter parenting attitude perceived by adolescents does not vary according to gender, and both genders perceive it in a similar framework (Leung & Shek, 2019; Taymaz, 2019; Lapsekili Uysal, 2020; Alpsoy, 2021).

In our study that there is no significant difference detected in psychological resilience levels between female and male gifted adolescents, depending on gender and other variables (mother and father's education levels, family economic status). Investigating the social adaptation of gifted children, another study has determined that the mean scores of social relations, family relations, social adaptation, anti-social tendencies and social norms of the gifted children participating in the study do not differ according to the gender variable (Öğretici, 2017). The research by Şahin (2018), examining the social skills of gifted children such as school social behaviors, family and peer relations, has revealed that there is no difference according to the gender variable. In another study conducted by Yörük (2019), which investigated the psychological resilience of gifted adolescents, the resilience appears to have differed according to the gender and age variable, but do not differ according to other variables; In Azboy's (2020) study, gender factor does not seem to vary according to the education level of the parents; Yıldırım's (2019) study has found that the education level of the parents and the income level of the family do not vary, but the total psychological resilience score of boys has been found to be significantly different.

In our study, among the age and psychological resilience factors there are negative and significant relationships revealed between father's age and helicopter parenting. As one grows older, the attitudes of parents towards their children may change. Studies indicate that mothers and fathers mostly exhibit overprotective and strict attitudes at a young age (Ertuna, 2016).

Analyzing the changes in emotional resilience of gifted girls, the study by Kline and Short (1991) has concluded that there is a significant decrease in the self-esteem aspect of these children throughout their school development. They have also observed that as emotional vulnerability increases, inner courage and self-confidence decrease in children until the twelfth grade. In another study involving gifted children, the psychological resilience of 7th grade children has been found to be significantly lower than that of 5th grade children (Yıldırım, 2019). Thus, the study is in line with our research based on the issue that as age increases, psychological resilience decreases correspondingly. In our study, a significant difference has been found in psychological resilience levels depending on the relationship between parents ($\chi^2(2) = 6.64$, $p < .05$). Three separate Mann-Whitney U analyzes have been conducted to examine the rationale of the difference. The results point out that the psychological resilience levels of adolescents whose parents live together are significantly higher than those whose parents live separately ($z(521) = -2.14$, $p < .05$). Parallel with our findings, some studies have determined that the psychological resilience is higher among the adolescents living with the whole family (Baltacı & Karataş, 2015; Özcan, 2005; Şahin, 2018).

Recommendations

Recommendations for Families

- Families should be made aware of the negative consequences of the overprotective attitude of the families from childhood, the increased behavioral addiction of adolescents and the negative consequences of risk-taking, which is one of the characteristics of adolescence.
- Both parents and children should be informed about the harms and effects of helicopter parenting.
- It was determined that the fathers of law enforcement officers exhibited more helicopter parenting behavior among the children participating in the study and the psychological resilience of the children of these professionals was lower. Based on the current findings: awareness studies and psychoeducation programs can be organized for those working in stressful professions to reduce their negative attitudes towards themselves and their families.

- Educational activities and psychoeducational programs can be organized for the solution of the problems encountered during adolescence, taking into account the psychological resilience, risk and protective factors of adolescents at all age levels.
- Programs with frequent interaction between school administrators and families should be increased, focusing on gifted children; Emphasis should be placed on the role of flexibility in shaping the quality of life of each gifted child and the effectiveness in society of a highly interactive network between school, family and students.

Recommendations for Further Studies

- Efforts are needed for how to develop and develop in parents' self-awareness, correctness and demand from interior space.
- Parenting similarities in different cultures (helicopter), small and small practices are ingenious.
- To develop special education teaching development with helicopter parent.
- Cross-sectional research can be conducted on overprotective families and their children (for example, gifted children and their families can be followed up to adulthood).
- Awareness and psychoeducation programs can be organized to increase the psychological resilience of both family and gifted children, taking into account the possible risk and protective factors. Because resilience has effects that improve social and academic results, develop children's abilities and give them a new vision.

Limitations of the Study

- The research is limited to the 2021-2022 academic year.
- The research is limited to the information obtained from adolescents aged 12-18 years registered with the Science and Art Center across the country.
- Although the results of the research include gifted adolescents with different socio-demographic variables studying at BİLSEM in many different provinces of Turkey, the results cannot be generalized.

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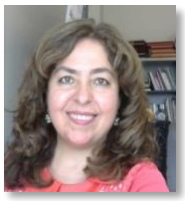

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