



Is Academic Acceleration a Good Idea for a Gifted Child?

Julia Koifman*

Kinneret Academic College, Israel

ABSTRACT

Gifted children are a dream of many parents, who want them to perform on the stage, paint the most beautiful pictures, and be the best at math or science, and many more. They are proud of their kids for getting excellent grades and completing the matriculation exams when their peers are still in junior high school. Furthermore, they want their children to graduate from the university by eighteen. However, they often need to be aware of the problems young prodigies may face and cause to others. For instance, such kids find studying in a regular classroom boring and refuse to do tasks for average students because they are too easy. Their teachers are happy to have students with high cognitive abilities and try to provide them with tasks for older students and motivate them to skip one or two grades. It works well for some gifted children but often causes problems for others. This article concerns giftedness as neurodiversity and how to nurture, teach, and monitor such kids.

Keywords: Giftedness; Neurodiversity; Special education; ASD; Learning difficulties; Cognitive abilities

INTRODUCTION

The research claims that giftedness is a sort of neurodiversity, as well as an Autism Spectrum Disorder (ASD), mental retardation, dyslexia, dysgraphia, attention deficit Hyperactivity Disorder (ADHD), and many other Learning Difficulties (LD). Parents can notice signs of giftedness when their kids are two or three years old and they do something unusual for their age. For instance, too young kids recite poems with eloquence or try to compose poems. Others sing beautifully or try to play some songs by ear if their parents have a musical instrument. Some children get interested in mathematics, techniques, and many more. Some of them show brilliant abilities in art and paint very well.

On the one hand, their parents are happy with their kids' smartness. On the other hand, they are restless and ask many questions. Moreover, they sleep much less than their neurotypical peers because they think a lot and want to know about everything or what interests them. Furthermore, such kids may be fussy eaters and get into conflicts and tantrums if something does not suit them. Therefore, giftedness is often confused with autism, another part of neurodiversity. So, it is highly recommended to take them to a psychologist so that they can

check their IQ, conduct a general test of their psyche, find out possible disorders, and give parents general recommendations on how to nurture them and which educational program might be the most suitable for them. Many gifted kids have a brilliant memory and do very well at school. Their parents ask the school principal to let them skip some grades, but it only sometimes helps the gifted kids for many reasons. Firstly, they have problems with communication and are often bullied by their classmates-therefore, the same might happen when their new classmates are some years older [1]. Secondly, gifted kids might have learning difficulties, so they are called "twice exceptional." Thirdly, teenage students might have severe problems at university. Therefore, in this article, I will research possible solutions with enrichment programs for gifted students, which can help me with socialization and adaptation to the groups of their peers and society. It also researches different cases of academic acceleration: Some were successful, and some were not [2].

METHODS AND MATERIALS

Sources of Giftedness

According to the research, about 50% of the results of the IQ

Received:	21-September-2023	Manuscript No:	IPAP-23-17825
Editor assigned:	25-September-2023	PreQC No:	IPAP-23-17825 (PQ)
Reviewed:	09-October-2023	QC No:	IPAP-23-17825
Revised:	16-October-2023	Manuscript No:	IPAP-23-17825 (R)
Published:	23-October-2023	DOI:	10.36648/2469-6676-9.10.91

Corresponding author Julia Koifman, Kinneret Academic College, Israel, E-mail: juliana211269@gmail.com

Citation Koifman J (2023) Is Academic Acceleration a Good Idea for a Gifted Child? Act Psycho. 9:91.

Copyright © 2023 Koifman J. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

tests, the average level of IQ is about 100 ± 10 . An IQ value of less than 70 often qualifies as mental retardation, and giftedness is above 130 (Figure 1).

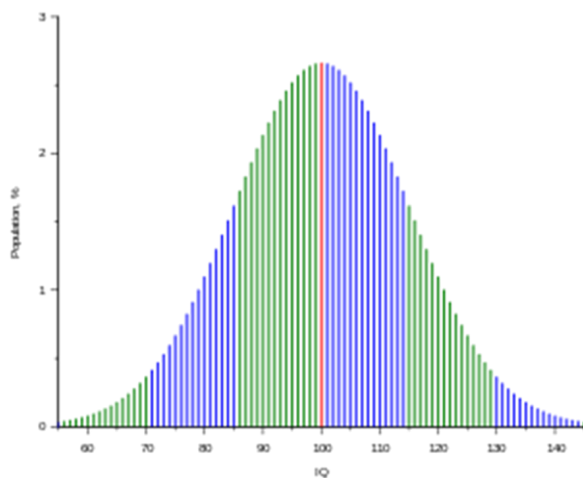


Figure 1: Average level of IQ is about 100 ± 10 . An IQ value of less than 70 often qualifies as mental retardation, and giftedness is above 130

M Mrazik, et al. Claim that giftedness might result from neuroanatomical and neuropsychological factors that may be accompanied by some hormone excel level [3]. On the one hand, modern science seems to understand how the brains of these children work and how giftedness manifests itself. On the other hand, it is still very little known where talent or inclination for certain areas of knowledge come from, whether this property is innate or developed by family and school. In the scientific literature, one can find three areas of research into the specifics of the brain of gifted children.

Brain morphology: Concerns the size and shape of the brain as a whole and its individual parts. For instance, mathematically gifted children have larger intracranial brain volume and cortical surface area but less thickness and white matter volume [4]. The white matter also has structural features in mathematically gifted children: Its microfibers are located more codirectionally, parallel to each other [5]. This is important because the white matter is the very axons, or processes of neurons, covered with myelin [6]. Due to myelin, the signal from one neuron to another moves along the axon faster, which means cognitive processes are more efficient [7].

Anatomical connectivity: Features of the axon network. These are long processes of neurons that connect different parts of the brain [8]. The axon network in gifted children has a more complex and intertwined structure, and the signals travel along the neuron network of axons faster [5]. It turns out that a complex network of neurons, just like the presence of myelin, speeds up thought processes [6].

Functional connectivity: Is the activity of different brain parts while performing a task or at rest [9]. Gifted children use more brain regions when performing tasks than their peers. This can be explained both by better signal transmission and by the fact that gifted students put in more effort to think harder when solving a problem. Furthermore, gifted children think differently and use different cognitive mechanisms [10]. The scientists recorded the brains of mathematically gifted children and their peers without such abilities while performing tasks. It turned

out that gifted children demonstrate higher activity in the early stages of solving a problem and lower activity when forming a conclusion. For children who did not show mathematical abilities, the opposite was true [9].

Neuroscience confirms the multidimensional nature of giftedness. After all, gifted children differ not only in brain morphology but also in using different cognitive strategies. Giftedness is not only the ability but also the desire to think. Furthermore, education can instil the desire to think and not fear difficulties [3]. In addition, studies of gifted children show that the brain is very plastic and changes under the influence of cognitive loads. This means that abilities can and should be developed. Everything we know about the neurobiological basis of giftedness once again proves that talents develop in the right environment. There are no two the same gifted children, and each one has his own strengths and weaknesses, which must be developed and treated individually [11].

How to Recognize Giftedness

According to the research, the first signs of giftedness can be seen when the baby is some months old. For instance, he can grab a toy more firmly than other babies, start cooing earlier, or probably start sitting and walking earlier. Any paediatrician can claim that all the kids vary and each one does differently. Nevertheless, when your child is about two years old and asks you many questions that his or her peers usually do not and speaks with rather complicated sentences, it is one of the signs that he or she has high cognitive abilities. Renzulli et al. claim that three main factors make giftedness [12] (Figure 2).



Figure 2: Three main factors that make giftedness in children

Usually, gifted children know how to have great fun alone and involve everyone around them in their fantasies. They often come up with fascinating stories and improvise. At the same time, parents, medical practitioners, and educators should pay attention to the level of tactility. Geniuses are sensitive to touch. They can be irritated by external factors [11]. For example, sharp clothes or an uncomfortable briefcase, the expert adds. An excellent, maybe even photographic memory, a craving for knowledge and creation, outstanding mental abilities, namely ornate reflections, sketching a thought in the form of a diagram, a desire to get to the bottom of a solution also testify that your child may become extremely gifted in some area

[9]. Nevertheless, perfect obedience, on the contrary, indicates that a boy or girl most likely does not have extraordinary abilities.

Are the walls at your home full of complicated pictures rather than doodles? Does your child always draw and ask you to buy crayons, pens, pencils, and drawing paper? Probably, he is gifted at art. Many famous artists started drawing very young, for instance, Picasso and Aivazovsky. The other sign is when suddenly your child starts singing with an absolute musical ear. Thus, Mozart started playing the piano when he was four. In those days, nobody knew about the term “Neurodiversity.” A Russian girl, Nika Turbina, started composing and reciting her poetry at the same age. She was famous in the former Soviet Union in the 1980s. I grew up in the Soviet Union, too, and I remember her. She often appeared on TV, and at the age of eight years old, she got a reward. Her poetry was translated into English and not only [13]. An American boy, Tanishq Abraham, was passionate about learning and became a Mensa member when he was four years old [14]. So was another American, Aaron Swartz [15].

Nevertheless, families often complain that young prodigies cause them many problems. For instance, Nika Turbina, when she was four years old, slept very little at night because “poems came to her at night.” Since she could not write, she asked her mother to do it. Nika dictated the verses, and Mom wrote for her [16]. If kids are interested in mechanisms, parents will face such problems as broken clocks, computers, telephones, and other home appliances because kids want to know how they work. Parents also get furious when young artists draw on the walls or make a noise with musical instruments if parents have any. If they make such mistakes, their children might give up their talents. Otherwise, the consequences might be unpredictable. Anyway, they should listen to their children and be patient. For instance, an Israeli prodigy, Kira Radinsky, was interested in the future and asked her parents many questions about prophecy. She claims, “When a child asks something... he should be asked back” [17].

DISCUSSION

What is Threatening about Academic Acceleration?

If a 2 year old child can read or a 6 year old one does algebra exercises, parents might be blamed for pushing their child to go beyond his or her real intellectual capabilities [18]. That is partially true because the research claims that children should play the games appropriate to their age [19]. Nevertheless, some kids find such activities boring and tend to do something more complicated. They might have a high IQ and be diagnosed as gifted. Giftedness is often confused with autism, another neurodiversity, because kids are often focused on something specific and are not interested in anything more. Moreover, they cannot befriend other kids and prefer playing alone. They think other kids are boring. Gifted children are frustrated because their peers are not gifted [20]. In addition, they have a way of arguing with other people, including their relatives and teachers. Furthermore, they might be fussy eaters and get up in tantrums if the relatives ask them to eat “good and healthy

food” that they have made for them. The same might happen if they refuse to wear specific clothes: They think they might have an allergy to some of the clothes or find it difficult to accept something new. Moreover, being focused on specific activities, gifted children must develop other skills. That is why they might, for instance, be very talented in Math and struggle in studying languages, and vice versa. So, they must be tested for dyslexia, dysgraphia, and other LD [18]. If they have any, they need individual curriculums and a course of treatment with psychologists and other therapists. Each one needs an individual program. It can be an enrichment program and a correction one simultaneously, depending on the needs of each gifted student. One of the problems of gifted kids is that their classmates often bully them for being “nerds” [18]. In the same way, young prodigies do not accept their “not very smart” peers. So, they are lonely and unhappy. Another problem is that parents and teachers expect too much of them. Ambitious moms and dads claim more achievements and get frustrated if their kids “shame them” in case of non-winning an Olympiad or not getting very high grades. Therefore, gifted kids are exposed to pressure. Moreover, they are perfectionists themselves and get frustrated if they fail. Thus, they might get depression or Obsessive-Compulsive Disorder (OCD) [21].

Dent M (2021) claims that although such kids have a high IQ, they are still children and need support [20]. So, the main task of parents, kindergarten and school teachers, psychologists, and other therapists is to find an appropriate way of nurturing and teaching each prodigy and helping them adapt to society. The main thing is to prevent them from losing their talents, getting depressed and addicted to drugs or alcohol, and committing crimes or suicide because they believe that perfection is the only acceptable level of performance. Furthermore, when perfection is not reached, they constitute it as a failure [22].

Ambitious parents often ask the homeroom teacher and the school principal to give their child permission to skip one or two grades, but it is not always a good decision. If smart kids skip some grades, they might be bullied by their classmates who are some years older. The same might happen at university [1]. Stone D (2020) claims that gifted kids might have such problems at university as overwhelming burnout and bullying, which can cause depression and psychosomatic disorders [23]. When gifted children skip grades, they get exhausted because of the quantity of information they need to study. The same happens when they meet the glory and become famous as young kids.

So, former young prodigies and other creative people are more exposed to depression. If they do not get enough support from their families, friends, and psychologists, they might start drinking alcohol or taking drugs. That happened to Robert Peace, whose childhood nickname was “the professor,” and Peaches Geldof, who became a journalist when she was 15. Walter Pitts, who had taught himself Greek, Latin, mathematics, and logic by age 12 and completed a Ph.D. when his peers were still at school, finally became a chronic alcoholic and died alone from cirrhosis [24].

There were even more tragic cases when former child prodigies committed suicides. Thus, the forenamed poet Nika Turbina, by age 8, had written many poems, and her first collection was

translated into many languages. She became the second Soviet poetess to receive the prestigious Venetian Golden Lion award [16]. She was overwhelmed with all the glory as a child, but when Nika was a teenager, everybody forgot about her talent. Although she was accepted to university without exams, she did poorly. As a result, she got addicted to drugs and jumped out of the window [25].

The same happened to an American, Aaron Swartz, a computer prodigy. He attended a school in Chicago, and in the 9th grade, he left it and became a student at Lake Students College. At the age of 14, he became a member of the working group that authored the RSS 1.0. When he was 15, he joined the Creative Commons organization. 2005, he enrolled at Stanford University but left the program after his first year [15]. During his funeral, one of his friends characterized him as a deep thinker who tried to change the world [26].

To prevent such cases, the teachers of Tenney School (2016) in the USA claim that these children must be educated holistically, even if they study at a special school for the gifted [18]. Good education is not supposed to sharpen specific skills and not to develop all the others. In Israel, the Ministry of Education tests gifted children and highly recommends that they study with their peers and learn to make friends with them. In most cases, they offer after-school enrichment programs. Not all gifted kids get permission to skip even one or two grades. Before talented students are permitted to skip ahead, educators must be conscientious when they assume the children are really gifted because they might be good at studies but not very good socially, emotionally, or not physically strong enough [20]. As a remedial teacher, I can add that since such kids are twice exceptional, they need twice as much attention. On the one hand, their talents should be developed. Moreover, they should be interested and motivated in their studies with their peers or older classmates. On the other hand, they will not suffer from LD, if any, burnout and bullying. So, parents and educators should think twice about this idea and decide whether they are suitable to skip some grades at school.

Successful Prodigies

The research claims that twice-exceptional kids such as children deserve special attention in public schools and should study in special classes, have special training, and have special educational benefits. It is practiced in Israel, the USA, and many other countries where high-school students attend special programs or even some classes at university in the afternoon. So, by the age of 18 or earlier, they can get a bachelor's degree. Kira Radinsky is only 36 but one of the most famous worldwide scientists. She was born in Ukraine, and at the age of 4, she moved to Israel with her mother, aunt, and grandmother. Her parents divorced; therefore, her mother, a mathematician, had to do menial jobs in Israel. Nevertheless, young Kira was curious and always wanted to be a scientist. At 15, she was enrolled at Technion, one of the most prestigious universities in Israel, and at 18, she graduated Suma Cum Laude. At 26, she defended her doctorate and entered the list of 35 most promising young scientists from MIT, where Mark Zuckerberg and Sergey Brin were noted at one time [27].

Some years later, after selling her Sales Predict company to in-

ternational giant eBay for \$ 40 million, Dr. Kira Radinsky became a Technion professor and eBay's chief scientist in Israel [27]. She says, "I studied in Israel only from elementary to high school in my hometown, Nesher. My personal experience with the Israeli education system was great. I was fortunate to have amazing educators and participate in many programs that fostered curiosity [17]. In an interview, she said that her family and educators always supported her as a child. She is sure that talented young people should be persistent and believe in their success because the harder it is at the beginning, the greater the feeling it is at the end [28]. Nevertheless, Kira thinks that "gifted children should live with average children." Moreover, she insists that "...the purpose of education is not to know, but to experience" [17]. Many educators agree that keeping children within their age group is the best and safest way for them to study school subjects and acquire socialization skills. They think childhood is too short to be stolen from kids. They can skip some school years ahead only if they want it, as Radinsky did. If they do, they will still need many accommodations, for instance, an individual approach, a unique curriculum, and oral or computerized tests in case of LD.

Kira was lucky, probably because her curiosity, desire for knowledge, and other needs to develop her talents were satisfied and enabled her to finish school at 15 without exhaustion and burnout [28]. Perhaps she had had enough support at university, and her experience was one of the most successful. Nonetheless, educators should be cautious and only after multiple tests give their gifted students permission to skip ahead. They must try their best to support their talents while simultaneously preventing them from becoming overwhelmed and depressed [29]. Another prodigy who has made a brilliant career is an Indian American, Tanishq Abraham. When he was in kindergarten, he could do tasks for sixth graders [30]. He finished school at 10, graduated from college at 14, and now, at 18, he is a Ph.D. candidate at the University of California. His GPA was always 4.0 [31]. He found it fun to be different and enjoyed studying at university while kids of his age were still in elementary school [30]. He succeeded, but it was only sometimes so because it was very stressful for such a young boy since he suffered from bullying and not all his teachers were supportive. Later, he found it challenging to find professors who would allow him at least to be present at their classes, not to mention taking their courses [31].

His parents said he was bored at school because it was too easy, so they decided home-schooling would be better for him. His family gave him much support and opportunity, and he succeeded, although it was challenging. Without their support, he would not have any opportunities [31]. Finally, he succeeded in socialization because he attended the choir program, where he communicated with his friends of the same age. In the interview, his mother added that he sometimes was depressed, and the family tried their best to treat him appropriately [31]. Therefore, psychological support is crucial for twice-exceptional kids [31-34]. Cretu C (2009) that general success in life depends not only on giftedness but also on talent and environment, which includes support from family, peers and school [35] (Figure 3).

As it was mentioned above, they play a crucial role in forming emotional development, self-image, and general attitude

to life.

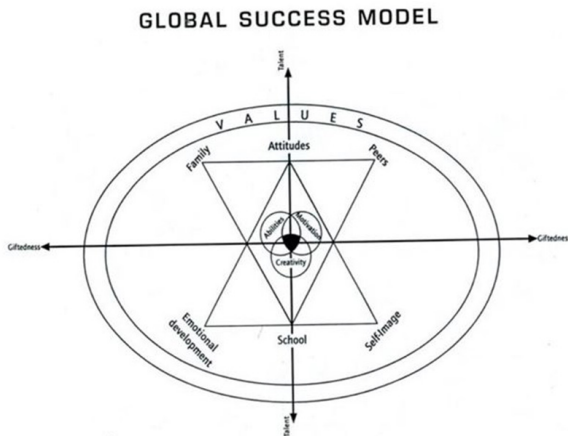


Figure 3: Global success and giftedness

CONCLUSION

The research claims that giftedness is a variety of neurodiversity, and teaching twice-exceptional kids requires teachers to take special training courses. They are supposed to teach gifted students to develop critical thinking, support their creativity, and teach social skills. Therefore, teachers must be “leaders and facilitators. During the lessons, they must “show managerial and organizational skills by managing the classroom activities smoothly.” It means that they need to create a friendly and pleasant atmosphere in the classroom as well as to be flexible and stimulating. Since gifted kids are bored in the classroom with their peers, some parents try to convince the homeroom teacher and the school principal to let their kids go ahead. They usually do not get such permission for the following reasons. Firstly, their older classmates might bully them. Secondly, parents must consider possible problems with LD, which will be an obstacle while studying more complex subjects. Thirdly, gifted kids will still be lonely due to emotional problems and a lack of ability to build relationships with other people. The same might happen at university, where adult students might not accept teenagers, whose isolation often leads to severe violations in behaviour.

In the 20th century, Terman claimed that it was not a good idea to put your child in a position that practically forces him to be the best or to play the role of a child prodigy. He thought that parents should let him normally communicate in games and other social activities with other children who are not too distant in age. Providing gifted kids with activities and giving them every opportunity for normal social development is crucial. Parents should encourage children’s hobbies, offer them the best books, and provide them in large quantities. He also suggested that gifted children should be identified early, offered tailored instruction, and have access to specially trained teachers. Parents must know that other cognitive disorders often accompany giftedness and consult with psychologists. Otherwise, they feel unhappy, misunderstood, and isolated, which might have severe consequences. Therefore, families must cooperate with educators and follow their advice. If they do, their support can help young prodigies overcome all the challenges, develop their talents, and become successful or even achieve worldwide recognition, like our contemporaries, Kira Radinsky and

Tanishq Abraham.

ACKNOWLEDGEMENT

None.

CONFLICT OF INTEREST

The author’s declared that they have no conflict of interest.

REFERENCES

1. Matthiessen C (2020) Pros and cons of skipping a grade.
2. Cherry K (2020) How lewis terman influenced the field of psychology.
3. Mrazik M, Dombrowski SC (2010) The neurobiological foundations of giftedness.
4. Madan CR (2017) Advances in studying brain morphology: The benefits of open-access data. *Front Hum Neurosci.* 11:405.
5. Sanchez FJN, Gomez YA, Gonzalez JS, Villoria JAGD, Franco C, et al. (2014) White matter microstructure correlates of mathematical giftedness and intelligence quotient. *Hum Brain Mapp.* 35(6):2619-2631.
6. Miller EM (1994) Intelligence and brain myelination: A hypothesis
7. Jabr F (2012) Know your neurons: How to classify different types of neurons in the brain’s forest.
8. Lang EW, Tome AM, Keck IR, Saez JMG, Puntonet CG (2012) Brain connectivity analysis: A short survey. *Comput Intell Neurosci.* 2012:412512.
9. Wei M, Wang Q, Jiang X, Guo Y, Fan H, et al. (2020) Directed connectivity analysis of the brain network in mathematically gifted adolescents. *Comput Intell Neurosci.* 2020:4209321.
10. Duncan S, Goodwin C, Haase J, Wilson S (2017) Neuroscience of giftedness: Increased brain activation.
11. Housekamp B (2008) Sensory issues in gifted kids.
12. Renzulli JS (2011) What makes giftedness: Reexamining a definition. *Phi Delta Kappan.* 92(8):81-88.
13. Staratel (2002) Nika Turbina.
14. Talks T (2013) College life begins at 7.
15. Wikipedia (2013) Aaron Swartz.
16. Rambler (2022) The girl who wrote non-children’s poems: The tragic fate of Nika Turbina.
17. Wei Maital S (2013) Predicting of the future.
18. Tenney School (2016) The curse of the gifted and talented child.
19. Terman LM, Oden MH (1959) Genetic studies of genius.
20. Dent M (2021) Retrieved from: The challenges of being a gifted child.
21. Tenney School (2019) Gifted and talented: The importance

- of challenging gifted children.
22. Delisle JR (1986) Death with honors: Suicide among gifted adolescents. *J Couns Dev.* 558.
 23. Stone D (2020) Why creative people are prone to depression.
 24. Gora G (2016) 10 child prodigies who led tragic lives.
 25. Wikipedia (2022) Nika Turbina.
 26. Yearwood PD (2013) Brilliant life, tragic death.
 27. Imas S (2013) 27-years-old prodigy Dr. Kira radinsky talks to no camels about her award winning software that predicts the future.
 28. Radinsky K (2020) Time to build a podcast.
 29. Correl R (2020) How to skip a grade: What are the requirements?
 30. Desi M (2022) Meet Tanishq Abraham: Graduated from high school at 10, college degree at 14, phd candidate at 18.
 31. Global Teacher Prize (2022) Tanishq Abraham.
 32. THNKR (2012) 9-yr-old college prodigy.
 33. Peterson JS (2012) Small-group affective curriculum for gifted students: A longitudinal study of teacher-facilitators.
 34. Tirri K (2008) Who should teach gifted students?
 35. Cretu C (2009) Global Success and Giftedness. The Routledge International Companion to Gifted Education. 169-176.