

Autistic Savants: Making Child Really Special

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Abstract: *The paper is about highlighting phenomenon of 'savant syndrome' among autistic children. Author starts with defining and explaining the term autism as viewed in special education followed by 'theory of mind' as an attempt to explain autism. Then author puts forward case of 'idiot savants', more accurately 'autistic savants' as a contradiction to the 'theory of mind' explanation. The terms 'idiot savant' and 'autistic savant' are explained in terms of origin and reasons. Various savant skills possessed by autistic children are illustrated with real life examples to prove the point that autistic savants are really exceptional. It was stressed that an autistic child is a blend of deep deficits and super abilities. In the end paper explains that there need to be an individual education program (IEP) for attending autism related deficits and a spring board program for nurturing, expression and utilizing savant skills. The paper concludes autistic savant is a case of blessing in disguise and should be used for benefit of the child and society.*

Keywords: autism, idiot savant, autistic savant, savant skills, theory of mind

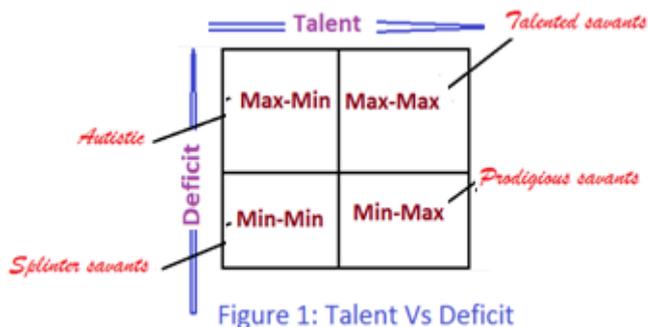
1. Introduction

Special education deals with children who are negatively as well as positively deviant by physical, sensory or behaviors means. Negatively deviants cover much of the domain whereas positively deviants are greater in numbers. One of the thoroughly researched negatively deviant categories is developmental disability including Down syndrome, Pervasive developmental disorder, Cerebral palsy, Intellectual disability and Autism. Symptoms of all these disabilities are bit overlapping and confusing consequently diagnosed wrongly many a times. Autism is a neurodevelopmental disorder characterized by triad of symptoms namely lack of adequate social skills, communication and imagination. These symptoms have been explained by theory of mind proposed by Baron-Cohen et al., (1985). Leslie (1987) explains there is a dedicated cognitive mechanism that allows human beings to represent thoughts, feelings and beliefs about the world, which is absent in individuals with autism. Frith et al (1994) termed this ability as 'mentalising' which implies people constantly attribute mental states to each other and predict their behaviour on the basis of inferred beliefs rather than on the basis of physical facts. At the behavioral level, there are a number of consequences of the lack of mentalising. One is the inability to acquire an intuitive everyday 'theory of mind'; another, the inability to understand intended meaning; a third, the inability to understand pretend play.

Even after successfully explaining many behaviors of autism by theory of mind many could not be explained. These behaviors are mainly included under a condition called 'savant syndrome', and individual is termed as 'idiot savant' characterized by remarkable exceptional characteristics in many ways in spite of being diagnosed as an autistic. The term 'idiot savant' dates back to the concept of the "village idiot," a person who might be tolerated because he or she exhibited certain uncommon skills. In other cases, the exhibition of savant skills, particularly in the middle ages, was apt to be considered witchcraft. Unfortunately, a savant cannot necessarily control demonstration of such skills, and some "village idiots" were chased out of their villages or killed. Savant syndrome was first properly recognized by Dr. J. Langdon Down, (also credited for originating the term *Down's syndrome*). In 1887, he coined the term "idiot savant", meaning low intelligence, and from the French,

savoir, 'knowing' or 'wise', to describe someone who had extraordinary memory but with a great defect in reasoning power. Rimland (1978) an authority on autism research and a father of an autistic son, Mark, introduced a more appropriate term 'autistic savant,' which is the current label. "Autistic savant" refers to individuals with autism who have extraordinary skills not exhibited by most persons, so called normal. This is an exceedingly rare phenomena, although there are several well documented cases (Sacks, 1986; 1995; Treffert, 1989), and recently the Academy Award winning movie *Rain Man* has led to the term 'savant' being much more widely known. Although there is a strong association with autism, but still all autistic are not savants. It is estimated that about 50% of the cases of savant syndrome are from the autistic population, and the other 50% from the population of developmental disabilities and CNS injuries. Interestingly, estimated incidence of savant abilities in the autistic population is about 10%, whereas the incidence in the learning disability population (which is very much larger) is probably less than 1%.

Autistic savants can further classified by Treffert (2000, 2006) in to three categories. First in this spectrum of skills are 'splinter skills'. This is the most common form of savant syndrome and means that a savant has a minor talent; they may for example memorize small amounts of facts, like license plate numbers. Second, there are 'talented savants' which have impressive talents when compared to their handicap. Their general appearance is of a mentally retarded but still within some domain they can perform impressive tasks. Third, there are prodigious savants who have an extraordinary talent and these talents would be remarkable even if the savant was not handicapped in any way (Treffert, 2000). Prodigious savants are very rare, and probably there are only about 12-15 prodigious savants alive today (Treffert, 2006). Types of autistic savants has been visualized in figure 1 shown below.



2. Autistic Savants Are Special:

Autistic savants are special by demonstration of their exceptional skills mainly falls under the category of artistic abilities, super cognitive abilities (including memory, calculations and solving calendar problems) with amazing speed and language abilities. These abilities are justified by documented real life examples as presented below.

Artistic abilities:

Gottfried Mind (1768-1814) a Swiss was one of the earliest known savants in the history of exceptional children. In 1776, the eight-year-old Gottfried was studying in an art academy. Teachers noted his strange characteristics: physically very weak, strange in appearance, impulsive but possessed great talent of drawing. One day, Gottfried's mentor, Sigmund Hendenberger was drawing a cat when Gottfried exclaimed "That is no cat!" The teacher asked whether he could do better and sent the child to a corner to draw. The cat that Gottfried drew was so lifelike that since then he became known as the Cat's Raphael.

Mark (1956-) from USA, son of a revolutionary in autism research Dr. Rimland, has established himself as an excellent watercolor artist.

As a young child, Stephen Wiltshire (1974-) from Britain was a mute diagnosed as autistic and was sent to a school for special needs children. There, he discovered a passion for drawing - first of animals, then London buses, then buildings and the city's landmarks. Throughout his childhood, Stephen communicated through his drawings. Slowly, aided by his teachers, he learned to speak by the age of nine (his first word was "paper.") Stephen has a particularly striking talent: he can draw an accurate and detailed landscape of a city after seeing it just once! He drew a 10 meter (~33 ft) long panorama of Tokyo following a short helicopter ride.

Music is common savant ability. Many performers with autism have perfect pitch and also have a great memory for music. In some cases, a person can hear a classical piece once and play it back in its entirety. Tim Baley (1952-), an American who also has Fragile X, is a concert pianist and the piano player for Hi Hopes, a musical group of singers and performers with autism and/or mental retardation. Hi Hopes played at the Los Angeles autism conference a few years ago and have even played at the White House.

As a toddler Alonzo Clemons (1959-) an American suffered a head injury in an accident that changed his life.

He can't feed himself or tie his shoelaces, but he can sculpt. And boy, can he sculpt: after seeing only a fleeting image of an animal on a TV screen, Alonzo could sculpt a perfect 3D figure of it, correct in each and every detail right down to the muscle fibers. As Alonzo became savant after head injury some special educationists term this phenomenon as acquired syndrome in contrast to in born one.

3. Super cognitive abilities:

Kim Peek (1951-) an American source of inspiration for movie 'Rain Man' could remember 12,000 books and is lovingly popular as "Kimputer," reads two pages at once - his left eye reads the left page, and his right eye reads the right page. It takes him about 3 seconds to read through two pages - and he remembers everything on 'em. Kim can recall facts and trivia from 15 subject areas from history to geography to sports. Tell him a date, and Kim can tell you what day of the week it is. He also remembers every music he has ever heard.

Orlando Serrell (1969-) an American popularly known as "calendar-brain" is an acquired savant - indeed, his savant skills only came about after a brain injury. In 1979, then ten-year-old Orlando was playing baseball when the ball struck him hard on the left side of his head. He fell to the ground but eventually got up to continue playing. For a while, Orlando had headaches. When they went away, he realized he had new abilities: he could perform complex calendar calculations and remember the weather every day from the day of the accident.

Jedediah Buxton, born in Derbyshire, England, in 1707, couldn't write. By all accounts, he has no knowledge of science or history or anything else for that matter except for numbers. Jedediah, as it turned out, was one of the world's earliest mental calculators and savants. Everything was numbers to Jedediah - in fact, he associated everything he saw or experienced with numbers. He measured the area of the village he was born in simply by walking around it. When he saw a dance, his whole attention was to count the number of steps of the dancers. At a play, Jedediah was consumed with counting the number of words uttered by the actors. The mental feat of Jedediah Buxton was tested by the Royal Society in 1754 - his mathematical brain was able to calculate numbers up to 39 figures.

Daniel Tammet (1979-) is a highly functioning autistic savant with exceptional mathematical and language abilities. Daniel first became famous when he recited from memory Pi to 22,514 decimal places (on 3/14, the International Pi Day, of course) to raise funds for the National Society for Epilepsy. Numbers, according to Daniel, are special to him. He has a rare form of synesthesia and sees each integer up to 10,000 as having their own unique shapes, color, texture and feel. He can "see" the result of a math calculation, and he can "sense" whether a number is prime. Daniel has since drawn what pi looks like: a rolling landscape full of different shapes and colors. Daniel speaks 11 languages, one of which is Icelandic. There is a big difference between Daniel Tammet and all the other prodigious savants in the world: Daniel can tell you how he

does it and that makes him invaluable to scientists trying to understand the savant syndrome.

4. Language Savants:

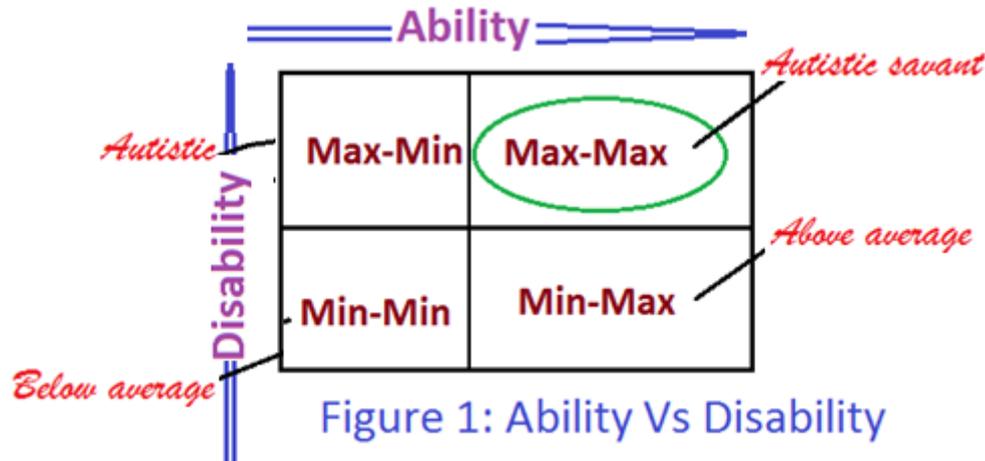
Unusual language talent — polyglot savant — skills have been reported but are very rare. What makes language savants so rare and unexplainable is that the left hemisphere—the damaged hemisphere in savants—is mainly responsible for language skills. Christopher Taylor (1962-), who was diagnosed as brain damaged at the age of six months. He also has a speech defect, poor eyesight and apraxia, meaning he has poor motor skills. The damage to his brain has been variously diagnosed as autism and hydrocephalus. He requires round-the-clock care, and can't leave the house alone. Yet he is also a polyglot savant who has learned more than 20 languages without being formally taught. Among the languages he has learned are German, Greek, Italian, Hindi, Turkish, Swedish and Portuguese. In fact, he was able to learn Epun, an artificial language whose grammatical rules defy the universal grammar espoused by Chomsky et al. In Christopher, we have the perfect example of what Dr. Treffert calls "the juxtaposition of ability and inability in the same person."

All the above given examples show children are exceptional indeed in abilities, skills and talents. Why it happens is still matter of research and drawing conclusions from available research findings. But we should seize opportunity to highlight the utility of special children in their own existence and to the society. Autistic savants can be a representative

model for presenting a class as among otherwise diverse population. It's a matter of planning, execution and follows up by the special education professionals to make life of an autistic savant as a celebrated one. The biggest deal in the idea of rehabilitation is making the child self dependent, productive and socially acceptable, the other possibilities follow automatically like a normal children. An autistic savant even after being exceptional in one sense has sure cognitive and social deficit associated with autism. Parents and teachers need to understand specialty of this special child on individual basis. As far as educational context is concerned grouping may not be even possible for two autistic children, meaning thereby rule if individualized education program (IEP) need to be followed in true sense. A spring board program need to be run parallel for nurturing, maturing and utilizing savant skill/s possessed by an autistic child. This spring board program should include parents, teachers, school, and ability specialist in the form of a team who will look for training, refining, integration to normal learning and providing chances of expression to these exceptional abilities.

5. Conclusion

Existence of autistic savants although in narrow range of abilities prove beyond doubt that there is a class of individuals who possess both disability and ability in one mind and may be one body as well, as it is visualized in figure 1. It differentiates autistic individual from autistic savants.



Autistic savants are special class of special children having bipolar exceptionality rather than unipolar with other categories of exceptional children. This gives us an idea how nature can do miracle as blessing in disguise for making a child truly special. Many educationists have stressed that we can not understand phenomenon of being genius and even concepts like aptitude, creativity, talent, unless we don't understand savant syndrome. There may be a possibility that autistic savants are extreme case of ability like creativity, talent or even aptitude as we find in normal children.

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