



## AUTISM, YET GIFTED- A CASE STUDY

## Rehabilitation Science

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## ABSTRACT

Autism is a neurological condition which mainly involves lack of social interactions and communications; Restricted, repetitive patterns of behaviour and interests. "Autistic savant" refers to individuals with autism who have extraordinary skills not exhibited by most persons. 'Savant syndrome' refers to those with or without intellectual impairment and/or autism, who display skills above that expected of those with either intellectual impairment and/or autism, or when compared to non-disabled population. A detailed case study was carried out to study about the extraordinary abilities of a child with Savant abilities and autism. Information about the child was collected through observation, interaction and enquiring about the child's abilities and activities. The collected data was recorded in the tools prepared for this research. The data collected was consolidated, interpreted and points were calculated. The results were descriptively written and portrayed.

## KEYWORDS

## INTRODUCTION:

Autism is a neurological disorder that affects the functioning of the developing brain, resulting in profound communicative, social and cognitive deficits (Dave Hiles, 2001). Autism mainly involves lack of social interactions and communications; Restricted, repetitive patterns of behaviour and interests. It is a condition where children and adults typically have a lowered level of intelligence, combined with problems in verbal and non-verbal communication, social interaction and in play activities.

"Autistic savant" refers to individuals with autism who have extraordinary skills not exhibited by most persons. The estimated prevalence of savant abilities in autism is 10%, whereas the prevalence in the non-autistic population, including those with mental retardation, is less than 1% (Stephen M, Autism Research Institute). Savants are people who despite serious mental or physical disability have remarkable and spectacular talents. Savants occur far more frequently in males than females, in a ratio of 6:1. Autistic savants are characterised by;

- Concentration on specific interests and activities.
- Tendency to be rigid, inflexible and context bound resulting in difficulty applying skills to new circumstances.
- Savant skills involve highly developed rote memory and a lexicon of well-organized, structurally rule-based knowledge.

'Savant syndrome' refers to those with or without intellectual impairment and/or autism, who display skills above that expected of those with either intellectual impairment and/or autism, or when compared to non-disabled population. (Treffert, 2009).

Due to formation of exceptional neural structures during prenatal brain development, causes still remain unclear and controversial. Can be also due to a genetic link with family members displaying similar interests, talents and abilities (Hermelin & O'Connor, 1900b; Young & Nettlebeck, 1995)

## CATEGORIES OF SAVANT SKILLS:

The skills are to be right hemisphere oriented and some of the striking abilities have been found in savant.

- Memorization- Superior memory is a usual feature and also tends to be a unique skill, for there are savants who have memorized population statistics, telephone books, bus schedules, etc. Tremendous memorization of facts and detailed information related to topics of interest.
- Fast calculations- This is displayed in the instantaneous calculation of multiplications, square roots, etc, the determination of prime numbers, or subdividing. (The Twins, Sacks, 1986)
- Calendar Calculation- Includes the skill of identifying the day of the week upon which a particular date falls. (The Twins, Sacks, 1986)
- Musical ability- Perfect pitch, and playing a complete piece of music after hearing it just once is a very common feature found in them.
- Artistic ability- Exceptional painting, sculpture and drawing skills are found.

- Language ability- Reading, writing and translating in many languages, skill of learning many languages, excellent grammatical development is seen. Advanced use of words, can think and communicate in concrete and literal terms.

## REVIEW OF LITERATURE

**Howlin.P (2009)** says most investigations of savant skills in autism are based on individual case reports. The present study investigated rates and types of savant skills in 137 individuals with autism (mean age 24 years). **Pring (2012)** says that individuals with autism spectrum disorder (ASD) often display impairments in creativity, yet savant artists with ASD are reported to produce highly novel and original artistic outputs. **Treffert DA (2009)** says 126 years ago Down first described savant syndrome as a specific condition and 70 years ago Kanner first described Early Infantile Autism. The reality is that low IQ is not necessarily an accompaniment of savant syndrome; in some cases IQ can be superior. Savants can be creative, rather than just duplicative, and the skills increase over time on a continuum from duplication, to improvisation to creation, rather than diminishing or suddenly disappearing.

## METHOD

## MEASUREMENT INSTRUMENT:

To carry out the study on the giftedness in the child and to know more about the demographic and other required details a standardised case study format was used. The checklist included the demographic data, medical history, prenatal history, perinatal history, postnatal history, educational history, developmental level (Physical, Motor, Emotional, Language, Social abilities) and the interventions recommended.

"A Gifted indicators checklist" was used to assess the extraordinary abilities in the specific areas mentioned below. The questionnaire consisted of 50 questions related to learning (10), Motivation (10), Leadership (10), Creativity (10) and Adaptability (10). The responses for the questions were categorized and rated as consistently-3, occasionally-2, seldom-1 and never-1.

## PARTICIPANT:

A child with autism was identified with extraordinary abilities (Savant skills) and gifted with an intelligence quotient above 140. The child is pursuing his 10<sup>th</sup> grade at "Seagull"- Training and Study Centre for the Children with Special Needs, Cantonment, Trichy.

## PROCEDURE:

The data was collected by observation, interacting and enquiring about the child's abilities and activities through recording it in the tools prepared for this research. The data collected was consolidated, interpreted and points were calculated.

## RESULT:

Rahul is a 14 years old male child with autism diagnosed with borderline level of autistic features. He pays over-attention to small things which we individuals fail to notice. No one in his family has a disability and the parents are not blood related.

## MEDICAL HISTORY:

The child was very normal till two and a half years after birth. Later on,

the child started to avoid eye contact, not respond to people or questions asked and just communicated his needs when required. His parents took him to a nearby service society in which he was provided primary education. The problem started at 2 ½ years after birth and the child was given no apt treatment soon after diagnosis.

#### **PRENATAL HISTORY:**

The mother of the child was above 38 years when she conceived. Since she was childless for 15 years after marriage, the parents went in for *intracytoplasmic sperm injection (ICSI)*. During the prenatal period, the mother and the foetus were normal.

#### **PERINATAL HISTORY:**

Rahul was delivered at a hospital within a normal labour span. The birth cry and birth weight were normal and the baby had a normal skin tone. The term of pregnancy was normal and the mother delivered the child normally. Congenital anomalies, infections and convulsion were absent.

#### **POSTNATAL HISTORY:**

Rahul was not affected with infections, convulsions, injury or nutritional disorders during his childhood. Immunization was given as per the schedule.

#### **EDUCATIONAL HISTORY:**

Rahul attended regular school for a span of 10 years. The child is now doing his 10<sup>th</sup> grade in Seagull, training and study centre for children with special needs. He has been attending his classes here for the past 5 months. The child attends his classes regularly with good enthusiasm at class. The child contributes to his academics and class works with good performance in assigned work. The child has excellent memory and pays attention to even small things which easily distract him. Fair performance is seen in his relationship with peers and teachers. The child never enjoys or shows interest in play activities.

#### **DEVELOPMENTAL LEVEL:**

Rahul is independent enough to carry on all the *self-care activities* by himself. Good *physical development* with a well-developed physique, proper height for his age and a fair body proportion is noticeable. During the first stages of the child's life, his *motor development* was normal. The child developed speech normally, as the babbling, first word, two-word phrases, sentences, present speech and concept development occurred orderly.

The *social development* and interaction of Rahul is fair as he mingles well with his peers and age mates. The *emotions* of the child are fairly developed.

*Rahul has incredible creativity, excellent leadership and good learning. The child is interested in drawing and has an extraordinary set of artistic skills through which he expresses his sense of creativity and talent. He notes the finest details and sketches them on a sheet. He also has the ability to learn facts, detailed information, advanced words, etc.*

*His interests are very unique and rare which are not commonly found. His motivation and learning on certain areas are meritorious. He also has a good sense of responsibility and leadership.*

#### **GIFTED INDICATIONS:**

##### **LEARNING:**

Rahul consistently has unusual advanced vocabulary for age or peer group and conversations with him reveal the richness of expression, imagery, elaboration and fluency in language. (May be a blend of standard English and ethnic dialect, or other language). He habitually possesses and shares a large storehouse of information, some beyond the interest of peer group. Rahul regularly displays specialized knowledge based on life experiences like knowledge about shopping responsibilities, ability to make a change, safety, neighbourhood environment and daily happenings. He is an elaborate thinker, able to produce embellishments to an idea, situation or a problem and asks many questions to determine why or how things happen, what will happen next, or how things work.

Occasionally he is an original thinker who is able to see relationships among seemingly unrelated objectives, ideas or facts. He easily catches new ideas and information and retains them; He resists drill and repetition. The child typically has facility for learning standard English, even though another language or ethnic dialect is used in his home and has an excellent ability to code-switch/ translate from one language to another at a high level of accuracy. The child is very keen;

greatly observes, listens, normally he "sees more" or "gets more" out of a story or a film than others and reads a lot in interested areas and accelerated "cognitive" development relative to sociocultural and age peers. Always he has an answer to questions asked, even if the answer is incorrect.

#### **MOTIVATION:**

Rahul mostly evidences power of concentration, becomes absorbed in topics or tasks promptly and consistently. He occasionally prefers to work independently with minimal direction from teachers; organizes self and materials. He rarely takes advantage of opportunities to learn; the child enjoys challenge and tasks which are not routine; is bored by routine tasks. He gets distracted when solving problems. Rahul is very much concerned about what's right and wrong, good and bad, fair and unfair. He is normally self-critical and strives for perfection; may be critical of others. The child is persistent in task completion; may be unwilling to change tasks or moves from task to task without regard for completion. He shows more interest in art, music, sports, participates enthusiastically and shows a high level of energy.

#### **LEADERSHIP:**

Occasionally Rahul accepts or volunteers for responsibilities; follows through with tasks and usually does them well. He at times seems to enjoy being with other people; sociable, empathetic, charismatic and sometimes maybe a loner. He is fairly-liked when chosen as a leader. The child consistently tends to dominate others and generally organizes and directs activities when involved in a group; Seldom has a strong sense of self, pride and worth and he has a lower self-concept. Once in a while, Rahul explains things to other students, helps them finish their assignments (May neglect their own work because of helping others). He has good reasoning ability and has keen awareness of the group process and may have the ability to manipulate others. He likes to take in charge, be assertive, helps the teacher with class responsibilities.

#### **CREATIVITY:**

The child usually displays intellectual playfulness; imagines, elaborates, or modifies basic ideas to add interest or fun. He is a high-risk taker; adventurous and willing to deviate from standard procedures, answers or behaviours and is not fearful of being different. He mostly displays a keen sense of humour reflective of his own cultural background; sees the unusual and unexpected in everyday occurrences. He is very curious about many things; has many hobbies and one intense interest. The child keeps generating a large number of ideas or solutions to problems and questions.

He becomes deeply involved in stories or films, identifies personally with characters and plots; may create own stories and plays. Rahul is very creative in finding ways to communicate and express ideas (E.g., drawing, body language, use of concrete objects, or others alternate means may replace limited facility with oral language). He demonstrates exceptional and excellent ability in the area of arts (E.g., drawing, painting, crafts and sketching). Rahul improvises with commonplace materials; creates original and unusual products and invents things.

#### **ADAPTABILITY:**

Rahul rarely learns through experience and is flexible and resourceful in solving day-to-day problems. The child hardly deals effectively with deprivation, problems, frustrations or obstacles caused by the complexities of living conditions. The child barely copes well with frustration, drawing negative attention because he is unable to sit still, or no attention because he seems to be so quiet. He scarcely adapts to new situations, and is not flexible in thought and actions. Does not attempt difficult tasks and finds it difficult to cope with variety of cultural settings, utilizing knowledge from a variety of traditions, integrating conflicting and discrepant cultural information.

#### **CONCLUSION:**

"Mostly giftedness relies on standardised measures, such as intelligence tests and other measures of achievement, but what is considered to be gifted goes beyond a high or low IQ." But these children give unusual answers to intelligence tests. Their answers are not necessarily wrong but cannot be considered correct, because they are not mentioned in the scoring manuals of the used tests. (Mathijssen (2016), The Centre for the Study of Giftedness, Radboud University, Netherlands).

Rahul is very much gifted with his exclusive and radical abilities. These abilities can be channelized and sharpened to make him grow in the areas of his giftedness. It can help him develop his exposure and

perception, make him get more social with people around and enable him to feel as a part of the society. This will empower him to contribute his best to the community as he feels a part of it.

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