

Management of Savant Syndrome

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Abstract

This paper explained the concept of savant syndrome, its theoretical perspective characteristic and the management of individual with savant syndrome. Savantism is a condition in which person with serious mental disabilities including autistic disorder have some island of genius which stand in contrast to overall handicap the condition is associated to low level of intelligence concurrent with difficulties in verbal and non-verbal communication in the skill of social interaction and in a play activities. There have been many theories although none is sufficient enough to explain savant's talents. It occurs in male more frequently than in female. The talents are usually found in one or more areas; arts, musical abilities, calendar calculation, mathematics and special skills. Savants are characterized as splint skill, talentedness and prodigy. The paper has suggested ways in which savants could be managed.

1. Introduction

Savants are people who despite serious mental or physical disability have quite remarkable and sometime spectacular talents. This is an exceedingly rare phenomenon, although there are several well documented cases (Sack, 1986; 1995; Treffert, 1989). It is a condition in which person with serious mental disabilities, including autistic disorder, have some “island of genius” which stand in mark incongruous contrast to overall handicap. As many as one in 10 persons with autistic disorder have such remarkable abilities in varying degrease. Person demonstrates profound and prodigious capacities or abilities far in excess of what will be considered normal (Treffert, 2009). People with savant's syndrome may have neurodevelopmental disorder notable autism spectrum disorders, or brain injuries. The most dramatic examples of savant syndrome occur in individuals whose scores were low on IQ tests, while demonstrating exceptional skills poor brilliance in specific areas, such as rapid calculation, art memory or musical ability (Miller, 1999; Wiley, 2007). Savantism is not recognized as a mental disorder in medical manual such as the ICD or the DSM-5.

Savant syndrome was first recognized by Dr. .J. Langdon Down (originated the term down syndrome) in 1887, he coined the term “Idiot savant meaning low intelligence and from French, savior knowing or wise, to describe someone who had extraordinary memory but with a great defect in reasoning power”. This term is now substituted with savant syndrome the term believed to have more appropriate connotation. Another term, autistic savant is also widely used, can be somewhat misleading (Hiles, 2001). Although there is a strong association between savantism and autism, it is estimated that about 50% of the cases of savant syndrome are from the autistic population and that other 50% from the population of developmental disability and central nervous system (NS) injuries. The estimated incidence of savant abilities in the autistic population is about 10% whereas the incidence in the learning disability population is probably less than 19% (Hiles, 2001, 2002). Nevertheless in order to understand savant syndrome, it is important to know something about autism because of their close associative tendencies. Autism is a moderately rare condition resulting from a

complier developmental disability that typically appears during the first three years of life. It is a neurological disorder that affects the functioning of the developing brain, resulting in sometimes profound communicative social and cognitive deficits (Treffert, 1989). Hiles (2001) noted that autism is estimated to occur in as many as 1 in 500 individuals, and is four times more prevalent in boys than girls and does not seem to be associated with any demographic features, such as economic class, rattails, ethnic, etc. autistic traits are sometimes observed in connection with other developmental disabilities and (NS) injuries.

Autism is condition, as mentioned earlier, in which children and adult typically have low level of intelligence together with difficulties in verbal and non-verbal communication, in the skills of social interaction, and in a play activity. Frith (1989) opined that the disorder makes it hard for them to relate to the outside world, and there is marked tendency to withdraw from human interaction and become pre-occupied with attachment to objects. There is a failure in human inters subjectivity, characterized by difficulties in joint action, turn taking, and shared activities. Aggressive and low self-injurious behaviour may well be present. Often, there will be continues repetition of body movement (hand flapping, rocking) a rigidity of action resistance to changes in routine, a desire for sameness (Happe, 1994). Clearly, there is no standard “type” or typical person with autism, the terminology in used includes: autistic traits, autistic tendencies autism spectrum disorder, high functioning or low functioning autism. However this paper is not directly concerned with autism what rather serve as background to describe how amazingly these individuals’ posses’ one “island of genius” that stands in contrast to overall handicap.

2. Characteristics

Savant syndrome is rare, but a remarkable condition in which person with autism, or other serious mental illness, has astonishing Island of ability or brilliance. The condition can be congenital or be acquired (Hiles, 2002). It occurs in male more frequently than in females in an approximate ration of 6-1. Savant skills are usually found in one or more areas, arts, musical abilities, calendar calculation, mathematics and spatial skills (Treffert, 2009). The most common kind of autistic savant according to salovita, Ruusila and Ruusila (2002) and Kennedy and squire (2007), are the calendrical savant human calendar who can calculate the day of the week with speed and usually with accuracy. Memory feats are the second most common savant skill in a survey. It is often claimed that because of the extraordinary abilities involved human memory and cognition would not be truly understood until savantism is understood (Sabuita et al, 2000).

Savant’s skills occur within a narrow but fairly constant range of human mental functions. If they have any things in common it is that they all have more or less considerable feasts of memory. In some cases a specific skills might exists, while in other there may be several skills that co-exist simultaneously. An important observation is that the skills tend to be right hemisphere oriented i.e. non-symbolic, artistic, concrete, and directly perceived and void of fraction of reasoning or logic.

The following are some of the striking abilities that have been found in savants.

Memorization: Superior memory is a common feature of savant syndrome (Sacks, 1986), but it also can be a special skills in its own right. There are cases of savants who have memorized population statistics, telephone book, but schedules, and in one remarkable case the 9 volume edition of Graves Dictionary of music and musician (Sacks, 1986).

Lightning calculation- this is exhibited in the instantaneous calculation of multiplication,

square roots, etc. the determination of prime numbers, or subitizing as also reported by Sacks. Musical ability: this relatively common savant's skill, the co-occurrence of musical genius blindness and learning disability is a striking feature. Hermelin (2001) noted that savants will have perfect pitch, and can play complete piece of music after hearing it only once. Artistic ability: is not as common as musical abilities, but there are savants with exceptional painting sculpture and especially drawing skills (Selfe, 1997; Wiltshire, 1987; 1991; Sacks, 1995; 1996 and Hermelin, 2001)

Language ability: this is fairly rare, but there is one well documented case of a savant with (NS) damage since birth that could read write and translate 15 to 20 languages (Smith Tsimpli, 1995; Hermelin, 2001) and a case of savant poet.

3. Type of savant skills

Hiles (2001) maintained that savant skills can appear suddenly without explanation, and disappear just as suddenly. Based on this act according to Hiles, it is useful to put these special skills into the following three categories:

1. Splint skill: the individual possesses specific skills that stand in contrast to his/her overall level of functioning.
2. Talented savant: individual displays a high level of ability that is in contrast to his/her disability.
3. Prodigious savant: it involves much rare form of the condition, where the ability or brilliance is not only spectacular in contrast to the disability, but would be spectacular even if viewed in a non-disabled person. In the case of prodigious savant Hiles (2002) estimated that there may be fewer than 100 cases reported in the world literature in the past 100 years.

Whatever the special ability, remarkable memory of a unique and uniform type welds the condition together. Terms such as automatic, mechanical concrete and habit-like have been applied to this extraordinary memory. Down (1887) used the term verbal adhesion, Critchley (1979) used the terms exultation of memory; or memory without reckoning; Tredgold (1914) used the term automatic, and Barr. (1898) characterized with patient with prodigious memory as an exaggerated form of habit. Such unconscious memory suggests what Mishkin, Malamut, and Bachevalier (1984) refer to as non-conscious habit formation rather than a semantic memory system. Mishkin and Coleques proposed two different neural circuits for these two different types of memory: a higher level corticolimbic circuit for semantic memory (deep and wide) and a lower level corticostriatal circuit (deep and narrow) for the more primitive habit memory, which is sometimes referred to as procedural or implicit memory. Mishkin et al (1984) suggested that savant memory is characteristically very deep, but exceedingly narrow within define of special skill.

4. Theories of savant syndrome

Now widely accepted cognitive theory explains savants combination of talent and deficit (Linde, 2005) it has been suggested that individuals with autism are biased toward detail-focused processing and that this cognitive styles predisposes individuals either with or without autism to savant talents (Happé and Vital, 2009). Hiles (2001) noted that the reason why some autistic and disabled individuals have savant abilities is not understood, however, the strong link with autism does offer a good starting point. There have been many theories but it is clear that no one theory is sufficient. Theories include:

Biological-Development: Such as genetic Neurochemical, left hemisphere dysfunction, frontal and temporal lobes damage with right hemisphere compensation a form of paradoxical

functional as described by Kapur (1996). Bring (1980) raised that possibility with a case in which left brain injury in a child gave rise to some mechanical and other savant skills. Miller's recent work with person with frontal-temporal dementia (FTD) in whom savant skills surfaced sometimes at a prodigious level, add impetus to that speculations (Miller, Broone, Cumming and Mishkin, 2002). Also the attention to detail of savant is a consequence of enhanced perception or sensory hypersensitivity in this unique individuals it has been confirmed that some savants operates y directly accessing 100 level less-processed informatics that exist in all human brains but is normally unavailable to conscious awareness as suggested by Snyder (2009) it is also suggested that deficit in executive function and abstract theory surfaced in highly developed procedural memory and eidetic imager (Happe, 1994; Schopler and Mesibou, 1995).

Other theories include a deficit in theory of mind (Frith, 1989), compensation for sensory disabilities (especially, blindness) and social isolation and the modularity of mind hypothesis which proposes that particularly when executive function are disrupted the mind exhibits a striking modular organization (Smith and Tsimp, 1995). However any theory would need to explain the link with autism the islands of exceptional ability the bias toward males savant and recent research that includes finding of the emergence of savant abilities in frontal-temporal dementia patients, and the suggestion of a neurotoxin effect of circulating testosterone on the help hemisphere in the male fetus are possibly related to autism as noted by Hile (2001).

5. Management

On managing the savant, Philip (1930) frames the controversy when stated that is it better to eliminate the effects or train the talent? The talent as one does so, some of the defect subsides. The special talent in fact becomes a conduit toward normalization using the unique savant skills to achieve better socialization, language acquisition and independence.

The special skills can be used as a way of engaging attention of the savant and rather than seeing the special abilities as frivolous, they can be used as a form of expression with the goals of channeling those abilities more usefully. In the case of prodigious savant, it is possible that early recognition, as with any other disabilities and careful encouragement are important contributory factors to how the talent develops. It has been proposed that helping the savant to achieve a higher level of general functioning may result in a loss of the special savant skills. However, there is little evidence for this, and it may well be that training the talent could be a valuable approach toward improving socialization, communication and self-esteem.

References

- Frith U. (1989). *Autism Explaining the enigma* Blackwell
- Happe, F. Vital, P. (2009) what aspect autism predisposed to talent? *Philosophical Transaction of the Royal Society B. Biological Science*.
- Hermelin, B. (2001). *Bright splinters of the mind: a personal story of research with autistic savant*. Jessica Kingsley publishers.
- Hermelin, B. (2001). *Bright splinters of the minain* Jessica Kinsley Publishers London.
- Hiles, D. (2001). Savant syndrome filell G:/savant syndrome 2.htm. Retrieved 10/31/2014 11:06Am.
- Hockney, D. (2001). *Secret knowledge: Rediscovering the lost Techniques of the old master*. Thames and Hudson.
- Kapur, N. (1996). *Paradoxical function fertilities in brain-behaviour research: a critical*, Rev.

Brain.

- Kennedy, D.P, square, I.R. (2007). An analysis of calendar performance in two Autistic calendar savant. *Learn mem* 14 (8)
- Linder, P. (2005). "Savant talent development medicine and child neurology 47 (7).d
- Miller, J.K. (1999). "The savant syndrome: intellectual impairment and Exceptional skills *psychological Bulletin* 125 (1)
- Mishkin M, Malamut, B; Bachevalier, J. (1984). Memories and habits: two neural systems in neurological learning and memory Lynchh G. MacGuagh J.L, Wieberger. N.M 1984pp. 65-7 eds. New York: Guilford press.
- Sacks, O. (1986). *The man who mistook His wife for a Hat*. Picador. Sacks, O. (1995) *An Anthropologist from Mars*. Picado.
- Salovita, J; Ruusila, I; Ruusila U. (2000). Incidence of savant syndrome in Finland, precepts most skills 91 (1)
- Schopler, E. & Mesibov, G.B. (1995). *Learning and cognition in Autism* Plenum press.
- Selfe, L. (1977). *Nadia: a case of extraordinary drawing ability in an autistic Child* Academic press.
- Smith N. & Tsimpli, I-M. (1995). *The Mind of a Savant: Language learning and modularity*. Blackwell.
- Synder, A. (2009). Explaining and inducing savant skills: privileged access to Lower level, less-processed information. *Philosophical Transaction of the Royal Society. B; Biological Science* 364 (1522)
- Treffert, A.D. (1989). *Extraordinary people* Bantam.
- Treffert, A.D. & Wallace, G.L. (2002) *Inlands of Genius*. *Scientific American*, (June), P.60-69
- Treffert, D.A. (2009). The Savant syndrome. An extraordinary condition. A Synopsis: past, present future: *Philosophical transaction of the royal society. B. Biological Science* 364 (1522).
- Wilshire, S. (1987) *Drawings*. J.M Dent.