Study Notes – Exceptional development

Autism & Learning Difficulties

What is Autism?

First identified by Kanner in 1943 and Asperger in 1944, autism is a severe developmental disorder, which is innate, that affects the way children process information. It has been suggested that autistic people have information coming at them all at once, which is on the whole, normal, however, autistic people find it difficult to process and sort out the information into different sensations such as colour, light, movement, sound, smell and feelings. It is therefore a disorder that affects a person's ability to communicate and form relationships with other people and affects the ability to respond appropriately to the environment. Kanner suggested that and autistic individual lives essentially, in and 'asocial state', shutting down and ignoring the world around them. Autism affects around 3 in 10,000 people yet autism is likely to affect 4 times as many boys than girls.

Can you list all the possible symptoms?

Although autistic individuals may not possess the same symptoms as others, they commonly share certain social, communicative, motor and sensory problems: -
In terms of communication autistic people: -

- Avoid eye contact – a normal child tends to study mothers face
- Prefer being alone
- Seem deaf – a normal child stimulated by sound easily
- Start developing language and abruptly stop communicating altogether

In terms of social relationships autistic people:-

- Act as if unaware of people entering or leaving a room – a normal child usually cries when the mother leaves the room
- Physically attack and injure others readily
- Inaccessible without any form bodily or facial expression.

In terms of exploration of an environment, an autistic individual:-

- May remain fixed on a single item or activity and behaviour may become repetitive or ritualistic.
- Practice strange actions such as waving or banging their heads on a wall.
- Show no sensitivity to burns or bruises and tend to engage into periods of self harm or disruption. Normal individual may seek pleasure to avoid pain.
- Usually lick toys.

Why was the work on autism by Leo Kanner important?

Before Leo Kanner had discovered the autistic disorder in the mid 20th century, society rejected people with autism as being 'weird' and in most cases 'freaks of nature'. It appears that at this time nobody was aware that autism was a severe mental problem. It is the great work by Kanner that lead to the development of autism being studied and being socially more acceptable than it was previously. Work, which followed Kanner, including work by Asperger in 1944 and later by Wing and Gould in 1977, has now lead to a whole range of types of autism a child can have. It is now

still an ongoing controversial issue yet most psychologists now believe that there is an autistic spectrum and that normal people who are not diagnosed with autism fall onto the autistic spectrum somewhere.

What are the differences and similarities between Autism and Down's syndrome as suggested by Mitchell (1997)?

- Both autism and Downs's syndrome are present from birth.
- Downs syndrome is evident form the structure of the babies face so early diagnosis is possible. Autistic children look normal – not easy to diagnose at an early age.
- Down's syndrome is a chromosome abnormality where the child inherits and extra 21st chromosome. Diagnosis = identification of extra chromosome
- Diagnosis for autism = on the basis of characteristic behaviours.
- Neither Down's syndrome nor autism can be cured
- Leaning disabilities are characteristic of people with Downs's syndrome and are common in people with autism.
- 5 – 30% of autistic people above average IQ's a lot of autistic people have normal IQ's = hard to diagnose.
- Some people with autism can have outstanding ability in a particular subject area, commonly mathematics, art or music they are savants. – Downs syndrome individuals do not have the capability to show gifted qualities in art for example and be mentally retarded in other subjects.

Theories of Autism

Environmental Theory of Autism – 'Refrigerator Parenting' hypothesis

Leo Kanner had originally thought that autism was not innate. He felt, that people developed autism partly as a result of 'unemotional parenting'. This idea was built on by a study by Bettleheim.

Bettleheim (1967)

He suggested that from an early age, parents who mistreat their children grow up in a climate of 'emotional refrigeration.' It is important to understand here that 'mistreated' may not necessarily mean violent, physical or sexual abuse, it could simply be showing a lack of affection or love for the child. Bettlehiem believed that if their parents were continuously ignoring a child, the child was likely to be withdrawn from society and become individualistic. A disadvantage for this study may be that the sample size was too small = unrepresentative. Bettlehiem also used a biased sample. Only highly intellectual parents were asked to take part in the study. This may suggest that highly intellectual parents have better jobs therefore work longer hours and in turn appear to be 'ignoring' their children. One major limitation to Bettleheim's study is that although one child in a family may be autistic, their sibling may not be which questions whether the parents are ignoring their children and secondly questions whether autism is environmentally acquired. (Mitchell, 1997) Powell (1999) also agrees that this theory is invalid. He said that any change in the parent's behaviour is more likely to be caused by the autism than the parent's changing their behaviour causing their child to be autistic. Piven and Folstein (1994), however, found that 30% of parents with an autistic child themselves show some autistic mannerisms which indicate that there must be some valid explanations for autism in terms of the environment of the child.

Genetic Theory of Autism

- Kanner thought that autism also had a genetic component this was supported by several studies made by Rutter et al (1999).
- Rutter said that there is a very substantial degree of familial clustering of autism. That means that siblings of autistic children may also be autistic (2 – 6%). However this may support the environmental theory.
- If one member of a twin is autistic it was found by Rutter that there was a 60-90% chance of the other twin having autism providing that the two twins are monozygotic (i.e. are identical twins).
- However the results from identical twin studies is difficult to analyse because autism is such a rare disorder and yet it is very rare to have an autistic child/ren within a set of twins because as well as autism being rare, having twins is also rare. Therefore there are not may reported cases of twined autistic children so results from these studies are unreliable to conclude.

Theory of mind and mind-blindness

- The theory of mind model is at present the most influential theory for explaining autism.
- Baron-Cohen (1990) was the first to suggest that 'mind-blindness' was the most common deficit autistic people have. The idea of 'mind-blindness' that autistic people are supposed to possess is…

  'a severe impairment in their understanding of mental states and in their appreciation of how mental states govern behaviour'
- This therefore means they lack the 'theory of mind'. (Term Autistic people fail to develop the ability to attribute mental states to other people and this causes problems with communication, where making sense of others intentions enables the listener to understand what is being said. (Baron-Cohen, 1995)
- Wimmer and Perner (1983) devised a false belief task called the 'Maxi' study.
- Sally-Anne study is a replica of the Maxi study
- Greatest difference between Wimmer and Perner's 'Maxi' study and this, Baron-Cohen 'Sally-Ann' study is that the 'Maxi' study only involved normal children. This study focused on 27 normal, 20 autistic and 14 Downs syndrome children.

Baron-Cohen (1985)

The procedure for the 'Sally-Ann' study is as follows:-

- There were two dolls Sally and Anne.
- The experimenter firstly made sure the children could name Sally and Anne and that there were sure which doll was which.
- Sally places a marble in her basket
- Sally leaves the scene
- Marble is taken out of the basket and hidden by Anne in her box.
- Sally returns
- Experimenter asks the Belief question: 'Where will Sally look for her marble?'
- If the children said in her basket they passed the belief question because this is where Sally had left the marble before leaving the scene.

- If the children say in the box (the marbles current location) the children fail the belief question.
- The conclusions are warranted on the answer of the reality question: 'Where is the marble really' and the memory question: 'Where was the marble originally?'
- These control questions are crucial in order to ensure that the children have an understanding of the marbles current location and the location of the, marble before Anne hid it.
- Questions do not differ in psycholinguistic complexity
- Questions DO differ in conceptual complexity
- 23/27 of the normal children and 12/14 of the Downs syndrome children got the belief question correct
- 16/20 of the autistic children failed the belief question.
- The autistic group could not appreciate a difference between their own knowledge (The fact they themselves know where the marble is) and the knowledge of the doll, Sally (who thought the marble was where she left it – in the basket.)
- Autistic group therefore lack a theory of mind.
- This proves a big problem for autistic individuals when trying to predict other peoples behaviour

Many criticisms have been made over the current theory used to explain autism.

1. Some psychologists believe it is an incomplete theory to explain autism and that it doesn't account for all the deficits associated with autism such as the ritualistic and repetitive habits.
2. The theory also fails to note some of the apparent strengths of savants.
3. Before the age of 7, children do not have empathy because they lack 'reversible thought process'. (Bryant 1998)
4. One major limitation spotted by Mitchell (1997) is that autistic children have difficulty engaging in imaginative activities such as the activity of Sally-Anne and her marble. Autistic children couldn't get into the story in the first place.
5. Since Sally is a doll, she has no mind therefore the question of the content of her beliefs does not arise.

Make study better – use adults = broader range of age tested = done by Happé 1994, complex comprehensive task. Study also made better by using a real situation – not with dolls. Leslie and Frith (1988)

Weak Central Coherence model attempts to explain exceptional abilities by autistic savants.

Weak Central Coherence (WCC)

Theory of mind cannot explain exceptional ability such as those by savants. Frith felt that deficits and strengths stem from the same cognitive source. They claimed that autism is the result of a weak drive for central coherence. Central coherence involves the tendency to process information in context, a tendency to focus on the whole rather than the parts of any stimulus. The syndrome of autism has recently been characterised by 'weak' central coherence, or the inability to integrate pieces of information into meaningful wholes. This maybe why autistic people may find it

easier than others to find shapes within complex patterns, because they process information in a segmental way.
E.g. Can you see this cuboid in this complex pattern?

This theory is quite appealing as it attempts to capture not only the deficits of autism, but the associated assets and abilities that characterise children with autism, such as good rote memory, a knack for completing jigsaw puzzles, and savant abilities.
A weak central coherence is typical of autistic individuals.

Treatments for Autism

Autism cannot be treated. However, there are three forms of therapy to help cope with autism and living with autistic individuals aside:-

- The biological based therapy
- Behavioural based therapy
- Cognitive based therapy.

Biological approach for a therapy for autism

- Neuroleptic drugs such as serotonin and fenfluramine can help with autism but have serious side effects.
- Certain allergies produce certain behaviours found in autistic individuals such as head banging and other repetitive behaviours therefore some autistic individuals are put onto low carbohydrate diets to ease the compulsive behaviours given off when eating certain foods.
- Large doses of vitamin B6 are given to calm autistic individuals down.

Behavioural approaches for a therapy for autism

- Self-mutilative behaviour can be modified by conditioning an autistic individual who try to harm themselves. Often using extinction of behaviour = long time = disadvantage. Simmons and Lovaas (1969) = 1800 head bangs over 8 day period to extinguish head banging.

Obviously, autistic individuals, are not transformed into normally behaving people, this is just therapy.

Cognitively based Approach

- One form of cognitive therapy for autism is 'structural therapy' where the environment is arranged to that the child will receive verbal stimulation in the form of games. Increasing the amount of stimulation the therapy allows them to make them more aware of their environment.
- Other approaches include family therapies getting the whole family involved with the autistic child – make them feel more comfortable – family games – again more aware of social situation.

Describe and evaluate 2 theories of autism **(12)**

Barely sixty years ago we had no idea that autism existed, now it has been established as the most severe developmental disorder, impairing communication and socialising skills and the ability to process information as a whole and not in segments as suggested previously. Autism was found both by Kanner in 1943, and later by Asperger, in 1944. Both individuals investigated this phenomenon quite independently of each other. Asperger came up with Asperger's syndrome, which is lead to be believed as a form of autism. There have been many different theories put across to explain why people acquire autism and why it is innate.

There are very definite signs that Autism may have a strong genetic component. Regardless of the most common theory to explain autism, the theory of mind and mind-blindness, researchers are looking at the human genetic structure as one possible factor in the puzzle of explaining autism. One way that researchers are learning about the genetic link with Autism is by studying twins and looking at the probabilities that both twins would have Autism. In research at the MRC Child Psychiatry Unit at the Institute of Psychiatry in London, it was discovered that in identical twins in which one was Autistic, there was a 60% chance that the other would become Autistic as well. In fraternal twins, the rate was 0%. Even when the definition of Autism was expanded to include many conditions that are on the Autism Spectrum but are not classic Autism, the rate showed a comparable variation. In other words, Autism appears to have a genetic factor, however its development is also linked to other things, since if genetics were the sole cause, all of the children who were identical twins would have developed Autism.

This study also ruled out the possibility that Autism is purely caused by other factors and it does not have a genetic component, since children raised in the same environment, with the same experiences, should develop Autistic tendencies at roughly the same rate.

It is also known that anywhere between 5 to 14% of individuals with Autism also have another known genetic illness such as Fragile X syndrome, tuberous sclerosis, or a duplication of part of the long arm of chromosome 15. Therefore we can conclude that a significant percentage of Autistic children also have other illness which are known to be inherited, and perhaps this fact could eventually lead to a better understanding of the mechanisms that predispose an individual to Autism.

Currently there are several studies, which are looking into the genetics of Autism, including one from Oxford University, which reports that they have narrowed the search for the genetic link to Autism to two regions on chromosomes 2 and 17. They feel that these areas may house genes that make a person more susceptible to Autism.

One main limitation of this theory is that it is hard to analyse the results from 'autistic' twins because as well as autism itself being rare, having twins with autism is even rarer. Therefore the evidence and data to support this theory cannot realistically draw conclusions.

Another theory used to explain autism is the parent refrigerator hypothesis. This ideology was brought forward primarily by Leo Kanner and then, later by Bettleheim in 1967. This theory takes place during a child's development, which is a critical time in the childs life, learning about society and life in general. If the child is mistreated in terms of receiving a lack of love and affection (and possibly sexual or physical abuse – but not always the case) the child moves through a climate of emotional refrigeration. If there is a continuous lack of support for the child by the

parents and the family, the child is likely to withdraw from society and become individualistic.

The research which tried to prove this theory, was heavily criticised. The samples of which the study was based on was unrepresentative. The parents studied were intellectual parents which may suggest they have high profile jobs and less time with their children, earning more money to support the family. The sample was not representative because it didn't take into account the parents who are always with their children. Furthermore, it was reported that the sample size of the families studied in general were not big enough. One major limitation was the thought that if families were studied with twins. One twin may be autistic yet the other may not. However, surely if one of the twins moves suffers from emotional refrigeration, the other must also be suffering the same situation. This raises the question: why isn't the other child autistic? This could therefore make psychologists lead to believe that the genetic factor has a greater validity than that of the parent refrigeration hypothesis proposed by Bettlehiem.