Autism

Keara Rashanea' Moore
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“I have neither given nor received unauthorized aid on this assignment.”
Part A: Genetic Information

Most people see Autism (also known as Autistic Disorder or Classical Autism) as a disorder that produces behavioral problems in children and adolescents. It is also seen as a disorder that has both intellectual and social effects on those afflicted with the disorder. These things are all true, but there is more to the disorder than what meets the surface. So what exactly is Autism?

The National Institute of Neurological Disorders and Stroke defines autism as “the most common condition in a group of developmental disorders known as the Autism Spectrum Disorders (ASDs)” (2007). There are several other disorders that make up ASD. They include Asperger Syndrome\(^1\), Rett's Disorder\(^2\), Child Disintegrative Disorder\(^3\) and Pervasive Development Disorder Not Otherwise Specified (PDD-NOS)\(^4\) (National Institute of Neurological Disorders and Stroke 2007). Autism prevents children and adolescents from interacting normally. It affects almost every aspect of the individual's social and psychological development. It tends to affect approximately 1 out of every 150 children (Dowshen 2008). The disorder is four times more likely to occur in males than females.

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\(^1\) A disorder where there is no problem with their language and cognitive skills. However, they do have the same social problems and limited scope of interests as children with autistic disorder

\(^2\) A disorder found only in girls where they develop normally then they begin to lose their communication and social skills

\(^3\) A disorder where children with it develop normally for at least two years, then lose some or most of their communication and social skills.

\(^4\) Also known as Atypical Autism, disorder where some characteristics/problems of autism are present but do not fit into a specific category.
The exact cause of autism is currently unknown, but researchers have begun to narrow down the possibilities. Studies have shown that both genetics and the environment may play a role in the development of this disorder. The developmental factors could include “viral exposure before birth, an immune system problem, or plain genetics” (U. S. Department of Health and Human Service-Substance Abuse and Mental Health Service Administration 2003). The United States Department of Health and Human Service-Substance Abuse and Mental Health Service Administration also stated that “an abnormal slowing down of the brain's development before birth” may be a cause of autism (2003). Chemicals in the brain are also being observed as playing a role in the cause. The level of serotonin⁵ in a child with autism is far higher than those of a “normal” individual. Unlike an autistic individual when a “normal” brain develops, the level of serotonin declines (Society for Neuroscience 2008).

⁵ One of the major neurotransmitter substances in the Central Nervous System that is involved in the attention, sleep and mood processes
There are several common signs and characteristics associated with autism. “Autistic children have difficulties with social interaction, problems with verbal and nonverbal communication, perform repetitious behaviors, and have narrow, obsessive interests” (National Institute of Neurological Disorders and Stroke 2007). Babies with autism may be unresponsive to people. They may also focus on one particular item but because of their short attention span, it may only be momentarily. Autistic individuals are fascinated and motivated by things that most people may find to be either odd or unusual (Zager, 1999). Children with autism may not respond to their name and avoid making eye contact with other people. “They tend to refer to themselves by name instead of “I” or “Me” and start talking later than other children” (United States Department of Health and Human Service-Substance Abuse and Mental Health Service Administration 2003). Autistic individuals engage in repetitious behaviors. Rocking back and forth, head banging, biting themselves or twirling objects are examples of such behaviors (United States Department of Health and Human Service-Substance Abuse and Mental Health Service Administration 2003). The interests and activities range of an autistic individual is very limited. Even the smallest change in their environment or daily routine may upset them (United States Department of Health and Human Service-Substance Abuse and Mental Health Service Administration 2003).

A reduced sensitivity to pain is also a common sign of autism. People with autism are said to be abnormally sensitive to touch and sound. Most affected children tend to have a resistance to being hugged and cuddled (Society for Neuroscience 2008). “If an individual has autism, they are at a higher risk of acquiring certain conditions that may co-exist with them. These conditions include Fragile X Syndrome, Tuberous Sclerosis, Tourette Syndrome, epileptic seizures, learning disabilities, and ADD” (National Institute of Neurological Disorders and Stroke 2007).

Diagnosing autism is extremely hard for doctors to do. Since there is no specific criteria to be

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6 Most commonly inherited cause of mental retardation involving an easily damaged X chromosome whose tip is hanging on by a thread
7 Growth of tumors on the brain
8 A tic disorder originating in Chromosome 18 causing significant distress, social impairments and/or occupational functioning
9 Attention Deficit Disorder, a syndrome characterized by a persistent pattern of impulsiveness, short attention span, and hyperactivity that often interferes with academic, occupational, and social performance.
followed, doctors are uncertain of the disorder. They still run normal medical tests such as blood and urine tests, hearing exams, EEGs\textsuperscript{10}, MRIs\textsuperscript{11}, and IQ Tests (National Institute of Neurological Disorders and Stroke 2007). Because those tests can be inconclusive, the doctors must sometimes rely on a group of behaviors to alert them of the possibility of autism.

These behaviors include:

- Impaired ability to make friends with peers
- Impaired ability to initiate or sustain a conversation with others
- Absence or impairment of imaginative and social play
- Stereotyped, repetitive, or unusual use of language
- Restricted patterns of interest that are abnormal in intensity or focus
- Preoccupation with certain objects or subjects
- Inflexible adherence to specific routines or rituals

-National Institute of Neurological Disorders and Stroke 2007

Many different forms of treatments have been used to treat autism. Although there is no cure for autism, the treatments and interventions are extremely worthwhile. As Stephen Dowshen stated in his article \textit{Autism}, “Different kids need different kinds of help, but learning how to communicate is always an important first” (2008). With that aspect being taken into consideration, the main priority of most people working with autistic individuals is to get them communicating. Since spoken language may be hard for autistic individuals to acquire, therapists use other techniques to improve their communication skills. These techniques include the use of “highly structured and intensively skill-oriented training sessions to help the individuals develop their social and language skills” (United States Department of Health and Human Service-Substance Abuse and Mental Health Service Administration 2003). In addition to such training sessions, they teach them to point at objects/pictures or to use sign language (Dowshen 2008). In some situations, doctors may prescribe medications as a form of treatment. The medications are sometimes prescribed in response to severe behavioral problems (Anti-psychotics) while others are prescribed in response to anxiety or depression (Antidepressants) (United States Department of Health and Human Service-Substance Abuse and Mental Health Service Administration 2003).

With every disorder and every disease come effects. Like any other disorder, autism has its share

\textsuperscript{10} Electroencephalogram, used to measure their brain waves

\textsuperscript{11} Magnetic Resonance Imaging, used to see if there are any visible abnormalities
Autism affects a person's behavior, social ability, and intellectual correspondence. Children with autism have an inadequate amount of communication skills. Because they lack the necessary communication skills, the way affected children react is often perceived as "behavioral problems" (Layton and Lock 2003). Layton and Lock stated that "when the individual becomes frustrated due to their inability to communicate needs/desires effectively, their resulting behavior may be perceived as acting out" (2003). The type of behavioral results depend upon how extreme the individual's case of autism is. If the individual's case is severe, they may behave by throwing temper tantrums, screaming, or becoming highly aggressive. If their case is a moderate one, they may make unusual noises, not comply with instructions given to them, or simply just run away. In the cases where the disorder is only slightly dominating, the individual may have panic attacks, giggle and fidget on occasions, or have simple language problems (Layton and Lock 2003).

Social effects on an individual with autism affect many of the necessary aspects needed in communication. Some may not be able to speak, whereas others may have strong vocabularies and are able to talk about a wide variety of topics (Hobson 1993). R. Peter Hobson (1993) stated in his book *Autism and the Development of Mind* that "the majority of autistic individuals have little or no problem with pronunciation. Most have difficulty effectively using language, word and sentence meaning, intonation, and rhythm" (44). Individuals with autism also lack the ability to comprehend what others feel, believe, or think. They cannot understand "social cues such as tone of voice or facial expressions and do not watch other people's faces to obtain help in understanding the cues" (Zager, 1999, p.13). They also lack the skill of empathy and may sometimes overreact or under react in certain circumstances. (Zager, 1999).

The intellectual effects of an autistic individual are similar to those experienced by individuals with severe learning disabilities. Autism affects an individual's comprehension, sequential, and vocabulary skills. Their Performance IQ is higher than their Verbal IQ. Their perceptual organization and perceptual-motor integration skills are intact (Schopler and Mesibov 1995). Most of the other effects
possible (such as damage to motor skills and visual learning) depend upon the individual's intellectual level. “Regardless of intellectual level, autistic individuals reveal deficits in conceptual problem-solving, meta-representational ability, pragmatic aspects of communication, joint attention, symbolic play, emotion recognition, open-ended expression of ideas, verbal reasoning, and rapid word retrieval” (Schopler and Mesibov, 1995, p.16). Schopler and Mesibov (1995) explained that autistic individuals “fail to use meaning to guide their comprehension and their expression of vocabulary on grammatical structures” (21).

As part of the Children's Health Act of 2000, the NINDS\textsuperscript{12} and three other institutes (NIMH\textsuperscript{13}, NICHD\textsuperscript{14}, and NIDCD\textsuperscript{15}) formed the NIH/ACC\textsuperscript{16} to expand, intensify, and coordinate current research in autism (National Institute of Neurological Disorders and Stroke 2007). To bring together both researchers and necessary resources, eight research centers across the United States have been established as “Centers of Excellence in Autism”. The centers conduct research on the causes, prevention, treatment, and diagnosis of autism.

The centers are located at:

- Boston University
- Kennedy Krieger Institute
- Mt. Sinai Medical School
- University of California, Los Angeles
- University of North Carolina, Chapel Hill
- University of Rochester
- University of Washington
- Yale University

-National Institute of Neurological Disorders and Stroke, 2007

The studies include:

- Investigators using animal models to study how serotonin establishes connections between neurons hoping to discover why the connections are impaired in autism
- Testing a computer-assisted program that would help autistic children interpret facial expressions
- Testing the effectiveness of a program that combines parent training and medication to reduce

\textsuperscript{12} National Institute of Neurological Disorders and Stroke
\textsuperscript{13} National Institute of Mental Health
\textsuperscript{14} National Institute of Child Health and Human Development
\textsuperscript{15} National Institute of Deafness and other Communication Disorders
\textsuperscript{16} National Institutes of Health Autism Coordinating Committee
children with autism and other ASDs’ disruptive behavior
- Imaging studies which will to try and find the brain abnormalities that cause the impaired social communication in autistic individuals
  - National Institute of Neurological Disorders and Stroke, 2007

**Part B:**

Autism, like most other medical disorders, tends to put a massive strain on the individual it affects. The disorder not only affects the individual, it also affects everyone and everything the individual comes in contact with. The recipients of the greatest consequences and effects are the individuals and the individuals' families. Having a child/sibling with autism can be an extremely challenging. “The emotional roller coaster lurches from disbelief, anger, guilt, surprise, helplessness, devastation, understanding, etc” (Ezine Articles 2008). Because the parents or guardians bear most of the family responsibility, the mother or female guardian often feels more personally impacted by the child's autism. This may cause them to experience additional amounts of emotional stress. Dealing with an autistic child can also lead to difficulties between the parents. They each play the blame game and blame one another for their child's circumstances. This sometimes leads to the end of their relationship and/or marriage (Ezine Articles 2008). The impact of having a child with autism can also affect the family's financial state and parent's work performance, which can lead to feeling a sense of resentment.

The effects of an autistic child in the family can also impact their siblings. The unaffected child(ren) may feel embarrassed and be reluctant to bring friends home or become angry if one of their things is destroyed or ruined during one of their sibling's spells (Ezine Articles 2008). They may need time to adjust to how time consuming taking care of an autistic child can be. They also may need time to adjust to how they may not be able to do things or go places due to the fact that their autistic brother/sister may not be able to handle it. These circumstances can also lead to a sense of resentment (Ezine Articles 2008). They may become jealous of the amount of time spent with their brother/sister. On the other hand, the siblings may develop strong feelings of protectiveness for their brother/sister and take an interest in their development (Ezine Articles 2008).

My four year old nephew KeeVonte' has been diagnosed with autism. When he was four months
old, my sister moved and left him to live with me and my mother. I was fourteen and was left to take care of both my mother and a four month old baby. My mother was going through one of her depression spells so I was placed in charge. I have seventeen nieces and nephews and watched most of them grow up. I have a nephew, Kenton, who is the same age as KeeVonte'. He was talking and walking while KeeVonte' would make random noises and crawl around. KeeVonte' did not start walking until he was two. I thought that was unusual, but my mother said my sister did not start walking until she was around two as well. He started saying understandable words when he was about to turn three. This was stressful on both me and my mother (she had come out of her spell by then). He would say something, but we would not understand what he was saying. He would get mad when we did not respond and would respond by either banging his head on the floor/wall, cry or just begin screaming. We did not officially know it was something wrong with him until my mother took him to the doctor for his annual check-up.

Dr. Charles Pierce, a local pediatrician, could not find anything wrong with KeeVonte' during his initial examination. When my mother and I took him back three weeks later for a follow-up, it was then that Dr. Pierce told us that KeeVonte may have autism. We had no idea what autism was. We had heard of it, but had never had an experience with it. We really did not know what was to come or what to expect. In Ahoskie (my hometown), they have a program at one of the local schools that takes children with disabilities. Dr. Pierce gave my mother the information about the school. Since this August, KeeVonte' has been enrolled in the program. He was three when he first started. He is now four and has improved a great deal. He now speaks grammatically well. He understands so much more than he did when he first started. At first, my mother and I really did not know to handle the predicament we were placed in. We had no idea how to handle him or his condition. But now we are taking it day by day, one step at a time.

I now feel so fascinated by autism and all the other disorders associated with it. I want to learn any and everything that concerns the disorder. Having a family member with autism has been both a blessing and a curse. There are times when KeeVonte' is such a big help and brings so much joy to my
life. Then there are times when he seems to pluck my last nerve. But the good times with KeeVonte' outweigh the bad three times over. People say I show him favoritism because he is autistic, but I do not think so. He is more like my son than my nephew. For the past four years, I have played a huge part in his growing up. Wherever I go, he goes. Whatever I eat, he eats. We act just alike. He is my Mini-Me. I don't find it to be favoritism. I think I have just gotten accustomed to having a particular routine almost like he has. I think KeeVonte' having autism has had a positive effect on me. He has helped me mature very rapidly yet graciously. He has taught me how to appreciate the little things and to take time out to just live life to the fullest extent possible.

In her USA Today article *After dramatic increase, what does the future hold?*, Anita Manning states that the future may hold an even larger number of special needs individuals (2005). The future is seen to hold a drastic increase in number by the end of the decade. “The United States is going to have to prepare to serve a large population with special needs” (Manning 2005). Because of this aspect, many people have had a very critical opinion of autistic individuals. In an public opinion poll called *America on Autism*, the National Alliance for Autism Research (NAAR) inquired about American attitudes on autism. “Americans are very concerned about autism and view it as an extremely serious problem that is increasing. Many Americans (71% of the people in the study) worry that their child or a relative's/friend's child may have or develop autism” (National Alliance for Autism Research 2008). They also believed that autism should be a higher priority, deserved an increase in research funding, and believed that not enough is being done to find a cure. 89% of the Americans polled in the study believed in increasing funding for Autism research. 85% of them were in favor of increasing funding for genetic research to find a cure for autism and other disorders/diseases.

Autism: helpful yet harmful, good yet bad, unpredictable yet tolerable. The choices are endless. What is Autism? Autism is simply a disorder that not only grows in number affected, but a disorder in which the knowledge about it grows as well. Being identified only sixty-five years ago, autism has made a drastic impact on the world. Autism was once seen as a disorder that only a small number were known
to have. Now in the twenty-first century, it is seen as a rapidly growing epidemic that is spreading throughout the nation. Autism is forever changing with the generations. Hopefully before the end of the twenty-first century or before this decade ends, scientists will have a cure. But for now, autism is simply a disorder that is impossible to get rid of and incapable of being forgotten.
Bibliography

Part A


Part B


Images
