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SOCIAL SKILLS AND ATTRIBUTIONS OF ASPERGER'S SYNDROME

by
Louis Fair

A Thesis

**Submitted in partial fulfillment of the requirements of the
Master of Arts Degree
of
The Graduate School
at
Rowan University
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Thesis Chair: Roberta Dihoff, Ph.D. and John Klanderman, Ph.D.

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ABSTRACT

Louis A. Fair

SOCIAL SKILLS AND ATTRIBUTIONS OF ASPERGER'S SYNDROME

2009/10

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Master of Arts in School Psychology

The purpose of this study was a single subject design (a) measuring where in social skills ability, a male high school student diagnosed with Asperger's Syndrome, is deficient based off of 5 subscales of social skills and then (b) creating an intervention focused on improving the areas of weakness to help the student function socially. The five subscales that the skills were grouped under with social awareness, social cognition, social communication, social motivation and autistic mannerisms. A within-subject design was run for t-scores and the student measured to have the biggest area of weakness in the areas of social awareness, social communication and autistic mannerisms. Due to a social skills group for selected students that were assigned by the school, intervention was still in progress during the submitting of this report. Implications for future intervention strategies e.g., are discussed.

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CHAPTER I: INTRODUCTION

During the school year, about a minute before the bell rings to start the day, teachers, assistants, and therapists take their designated positions, waiting for the students at the alternative school to flood the halls. Each child that walks through the doors is battling his or her own different mental or behavioral struggle or issue. Then in walks BC(This is a code name given for Confidentiality). Through the doors he comes with his clothes disheveled, hunch in his back and either a smile on his face or uninterested blank stare. Steam represents a population that is rapidly increasing within the school districts. BC has been diagnosed with Asperger's Syndrome (AS). AS is a developmental disability that is defined by impairments in social relationships and verbal and nonverbal communication and by restrictive, repetitive patterns of behavior, interests and activities (Barnhill, 2002). AS is considered to be a part of the spectrum of autism disorders. Since there has been no concrete or conclusive evidence on Autism Spectrum Disorders (ASD), there has been, and will continue to be, controversy whether high-functioning autism and AS are the same or two different conditions (Attwood, 1998; Tantam, 1991; Wing, 1998,2000). The difference between the two ASD's is symptom severity and AS is considered to be on the higher end of the spectrum (Barnhill, 2002). This is stating that someone with autism on the lower end will have disabilities in all aspects of functioning such as speech, social skills, conceptual skills, academic skills, etc., where as someone with AS may be able to do the academic assignment given to him by the teacher but unable to maintain friendship, or interact like a normal developing adolescent. Asperger's Syndrome is a highly disabling social condition.

Observing BC, it is easy to see that something is not right for this 15 year old freshmen. His mannerisms are extremely odd, his hygiene is poor, and friendships do not exist. Although he is intelligent, his IQ score is on a normal level and he does excellent in his academic work, he lacks appropriate social skills, which cause him to fall behind the rest of the pack in his age range. Individuals with AS are said to lack social skills, have a limited ability to take part in reciprocal conversation and do not seem to understand many of the unwritten rules of communication and social conduct that their peers seem to naturally learn through observation (Barnhill, 2002). BC exhibits many of the behaviors defining AS. Although AS individuals are said to possess these deficits, it seems that at times, based off of observation, this student is right on the verge of breaking these deficiencies and interacting and socializing like his neuro-typical peers. As awareness of this condition increases, many families are requesting appropriate educational services to meet their child's social, communication, academic and behavioral needs.

Statement of the Problem

The purpose of this study looks to improve upon the social skills in a AS individual. The study will be conducted as a single subject design. To accomplish this goal, first a pretest will be conducted using the Social Responsiveness Scale (SRS), which measures the severity of social impairments associated with Autism Spectrum Disorder's. After administering and collecting the questionnaire, the data will be put into SPSS, which will give data that indicates where the area of weakness in the student's social skills lies. An intervention plan will then developed and instituted to the individual

over a period of time. During this period, the areas of weakness targeted will be by the design of the intervention, and after sessions, discussions will take place with the clinical staff of the school as to if any impressions of improvement are made. A post-test will then be conducted using the SRS again to see if the intervention had any significant effect improving his social deficiencies. It is hoped to provide more information on areas of concern. As awareness of this condition increases, many families are requesting appropriate educational services to meet their child's social, communication, academic and behavioral needs. Hopefully, the results will help develop an understanding of what accommodations should be made for school districts, so that BC and other students like this can return to normal schooling. While conducting this study I will try to prove the following hypotheses. Does the intervention applied, have a positive significant effect on areas of social deficiency in the adolescent? Does one area of social deficiency have an effect on other areas?

Origin

Autism is the most widely recognized pervasive developmental disorder (PDD) (Kline, Volkmar, 1995). Autism is said to be a spectrum disorder (Autism Spectrum Disorder/ASD) in which the disability occurs on different levels, ranging from more disabling to higher functioning. One form of autism, which is considered the equivalent of high functioning autism, is Asperger's Syndrome. The syndrome was first recognized and labeled "autistic psychopathy" by Hans Asperger of Austria in 1944. His most famous cases were patients described as having above-average intellectual and language

ability, with significant disturbances in social and affective communication. He also described cases of low intellectual and language abilities, which fits the mold of autistic disorder. (King, Toth, 2008). The similarities of varying intellectual and language abilities, helped to develop the notion of autism being a spectrum disorder. He also advocated an approach to education that involved individualized attention, an emphasis on strengths, rather than weaknesses, and engagement in learning by tapping into the child's special interests. (King, Toth, 2008).

Asperger Syndrome did not become a separate ASD until the DSM -IV made it official in 1994. A study was conducted using a large international field trial involving over a thousand children and adolescents with autism and related disorders (Volkmar et al., 1994). The study showed evidence justifying the inclusion of Asperger's Syndrome as a diagnostic category different from autism, under the over achieving class of PDD's (Volkmar et al., 1994). Although it is official, knowledge on AS is limited.

It is common to have co-morbidity among AS individuals. The most common co-morbid Psychiatric Disorder is depression at 41% of AS individuals. Other occurrences include anxiety at 8%, bipolar at 9%, attempted suicide at 7%, hallucinations at 6%, mania at 5%, PDD-NOS at 3%, schizoid personality at 3% and OCD at 1% (Toth, King, 2008). Careful observation must be taken because intense preoccupations and interests seen in AS may seem like schizophrenia and psychosis.

Diagnosis/Clinical Definition

The commonly described clinical features of the syndrome include paucity of empathy; naive, inappropriate, one-sided social interaction, little ability to form friendships and consequent social isolation; pedantic and monotonic speech; poor nonverbal communication; intense absorption in circumscribed topics; and clumsy and ill-coordinated movements and odd posture (Klin, Volkmar, 1995). Most children who have the symptoms function at a normal range of intelligence, although there have been some reports of cases with students reported to be mildly retarded. The apparent onset of the condition is seen later than autism; this can be attributed to the more preserved language and cognitive abilities. It tends to be highly stable, and the higher intellectual skills observed suggest a better long-term outcome than is typically observed in autism (Klin, Volkmar, 1995).

Criteria for AS follows the same format for autism and overlap to an extent. The symptomatology is clustered in terms of onset, social and emotional, and restrictive interests criteria, with the addition of two common but not necessary characteristics involving motor deficits and isolated special skills, respectively (Klin, Volkmar, 1995). The DSM-IV definition of AS uses autism as its point of reference. This means some of the criteria involve the absence of abnormalities in some areas of functioning that are affected in autism.

Definitions

The following are words which meanings are important to understand for this study. They are all applied in one way or another. This section serves as a dictionary for

the reader. Asperger Syndrome, is a spectrum disorder of autism in which the study looks to understand and solve the problems presented by its onset. The DSM definition for AS is broken down into six sections. They are as follows:

Qualitative impairment in social interaction, as manifested by at least two of the following:

- Marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
- Failure to develop peer relationships appropriate to developmental level
- A lack of spontaneous speech seeking to share enjoyment, interests or achievements with other people
- Lack of social or emotional reciprocity
- Restricted, repetitive, and stereotyped patterns of behavior, interests, and activities as manifested by at least one of the following:
 - Encompassing preoccupation with one or more stereotyped and restricted patterns of interests that is abnormal either in intensity or focus
 - Apparently inflexible adherence to specific, nonfunctional routines or rituals
 - Stereotyped and repetitive motor mannerisms
 - Persistent preoccupation with parts of objects
- The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning
- There is no clinically significant general delay in language

- There is no clinically significant delay in cognitive development or in the development of age-appropriate self-help skills, adaptive behavior, and curiosity about the environment in childhood

Criteria are not met for another specific PDD or Schizophrenia.

Autistic Disorder and Asperger's Syndrome and their symptoms are two terms that have been debated since they have been recognized. Some say that they are the same and some argue that they are two different syndromes with overlapping characteristics/symptoms. The DSM definition of autistic disorder is the presence of markedly abnormal or impaired development in social interaction and communication and a markedly restricted repertoire of activity and interests. Manifestations of the disorder vary greatly depending on the developmental level and chronological age of the individual.

One developmental characteristic that is expected to show deficiencies and that this study looks to intervene on is theory of mind. Theory of mind was coined by Premack and Woodruff (1978), states that individuals with ASD fail to impute mental states to themselves and others and that this deficit is expressed as a failure to take other's mental states into account. It is also the main way that we make sense of or predict another person's behavior, which is often referred to as mentalizing (Kaland, Callesen, Moller-Nielsen, Mortensen, Smith, 2007). Part of this study will be looking at how the intervention plan implemented will improve on one's theory of mind and how that affects other social skills.

One of the main tools used in this study is going to be the Social Responsiveness Scale (SRS). The SRS is a 65 item rating scale that measures the severity of autism spectrum symptoms as they occur in natural settings. The scale is completed by a parents or teacher, in the present study it will be completed by a therapist in the school setting, in just about 15-20 minutes. The SRS provides a clear picture of a child's social impairments, assessing social awareness, social information processing, capacity for reciprocal social communication, social anxiety/avoidance and autistic preoccupations and traits. The age range targeted is 4-18 years.

Since AS is a syndrome that causes delays in different abilities, it falls into the category of Pervasive Developmental Disorders (PDD). PDD was first introduced in 1980 to describe a class of conditions that encompass a wide range of delays of different magnitude in different domains (Tasi, 1998; Kundert, Trimarchi,2006). The term pervasive indicates that these developmental disorders affect or pervade all domains of the individual's life; that is multiple developmental and behavioral problems are associated with these conditions (Tidmarsh, Volkmar, 2003, Kudert, Trimarchi, 2006). Presently, the Syndromes and Disorders that fall under this category are autistic disorder, Asperger's Syndrome, Rhett Disorder, Pervasive Developmental Disorder-Not Otherwise Specified (Kuder et al. 2006).

Assumptions/Limitations

The study will be a single subject design that will use a student from an alternative school. The students in the school all have a diagnosis of some sort. They

range from attention deficit disorder to autistic spectrum disorder. The student being used has Asperger's Syndrome. The school also has a high population of AS students. If the results of the intervention prove to be statistically significant and clinical observation shows improvement, then the intervention implementation will be used with the other AS students. Judging from observation prior to the assessment, abnormal social development is obvious in the subject being studied. He does have "friend-like" experiences during school hours, however, he cannot keep friendships outside of school and more importantly, he does not have a sense for the unwritten rules of his social world, and his communication skills are lacking. For example, he has a very difficult time staying on topic. He also tends to be unresponsive when asked a question. He will look at the person who is speaking to him and it appears as though he is acknowledging that he heard the question, but it's as if there is minimal to no response.

Summary

Asperger's Syndrome is a highly disabling social condition. The following sections of this study will give more insight as to why the condition is disabling. It will go into more detail about the type of tests used. Also, it will describe the natural setting where the tests and interventions take place. There will be a section describing the student and his disabilities as well. Once the pre-test is conducted, statistics will be presented describing the findings and which deficiency is the focal point. A discussion chapter will follow, and then a concluding section suggesting possible future studies.

CHAPTER II: REVIEW OF LITERATURE

Chapter 2 provides a review of existing literature on the history, characteristics and diagnosis of Asperger's Syndrome. Along with these features, a review of the brain and its functioning in an AS individual will also be examined. After that, a review of the assessment tool being used, the Social Responsiveness Scale, will also be provided. Also throughout the chapter, comparisons and descriptions of the subject will be used to illustrate how the subject functions. The awareness and knowledge of Asperger's Syndrome is still very limited since it is a fairly new disorder. There are plenty of studies and theories available, however much of what has been researched up to this point is still opened ended. There are no concrete answers for this neurobiological disorder, leaving plenty of room and opportunities to expand and improve on previous theories and ideas. Therefore, chapter 2 is set up in two ways; to provide the reader with the proper understanding of this phenomenon and also to paint a picture for the reader to understand the specific idiosyncrasies of the subject.

To obtain information pertaining to this topic, information was gathered through various databases through the Rowan University Library. Databases included, Academic Search Premier, Applied Social Sciences Index and Abstracts, PROQUEST, Sage, PsycARTICLES, and PsycINFO. Keywords such as Asperger's Syndrome, Autism Spectrum Disorder, Pervasive Developmental Disorder Not Otherwise Specified, autism, assessments, interventions, theory of mind, social skills, were inserted to obtain the reference material.

Asperger's Syndrome

Autism is the most widely recognized pervasive developmental disorder (PDD). Leo Kanner first recognized autism in 1943. In a description of his findings, he mentioned characteristics of problems with social interaction and communication, and circumscribed and idiosyncratic patterns of interests (Kanner, 1943). Other diagnostic concepts with features somewhat similar to autism have been less intensively studied and their validity, apart from autism, is more controversial (Klin, Volkmar, (1995). This is the basis for the idea that there is a spectrum of disorders stemming from autism, that vary in severity and impairments, but share similar characteristics in one shape or form. Under this idea, Autism Spectrum Disorders was developed. One of the concepts that falls on the spectrum, is Asperger's Syndrome or Asperger's Disorder. In 1944, an Austrian pediatrician, Hans Asperger, coined the term "autistic psychopathy", after observing four boy patients of his. The pattern of characteristics include a lack of empathy, little ability to form friendships, one-sided conversation, intense absorption in a special interests and clumsiness. It differs from Kanner's explanation in which, speech was less commonly delayed, motor deficits were more common, the onset appeared somewhat later, and all initial cases occurred only in boys (Klin, Volkmar, 1995).

Although Asperger set the foundations for classification of this phenomenon, the syndrome was still unrecognized for about forty years. It wasn't until 1981 when Lorna Wing brought awareness to America and much of the world. Wing reviewed the findings and translated Asperger's writings into English and labeled this phenomenon Asperger's Syndrome. Wing also added that the disorder did not only include children who were

aloof but those who were socially active but odd in behavior (Toth, King, 2008). Since then both the usage of the term in clinical practice and number of case reports and research studies have been steadily increasing (Klin, Volkmar, 1995). The current explanation of AS is characterized by deficits in reciprocal social interaction of the autistic kind, subtle impairment of verbal and nonverbal communication and the presence of idiosyncratic interests (Kaland, Callesen, Nielsen, Mortensen, Smith, 2007). Current estimates say that AS occurs at a rate of 2.5/10,000 compared to 60/10,000 for the rest of ASD (Toth, King, 2008).

Clinical Description and Onset Criteria

The criterion for Asperger's Syndrome, according to the DSM-IV (Diagnostic and Statistical Manual of Disorders, American Psychological Association, 1994), follows and to a degree overlaps with the description of Autism. The required symptomatology is clustered in terms of onset, social and emotional, and restricted interests criteria, with the addition of two common but not necessary characteristics involving motor deficits and isolated special skills (Klin, Volkmar, 1995). To view the diagnostic criteria given by the DSM, refer back to the definitions section in chapter one.

The DSM-IV states that the individual's history must show, "a lack of any clinically significant general delay" in language acquisition, cognitive development and adaptive behavior (APA, 1994). Other descriptions of early development of individuals with AS include a certain precociousness in learning to talk, a fascination with letters and numbers, and the establishment of attachment patterns to family members but

inappropriate approaches to peers and other persons (Klin, Volkmar, 1995). The subject here has attachment to his younger brothers. He lives with a grandmother, in which he does not seem to be attached as much too.

The following section looks to show how this disorder is still not understood completely by comparing and contrasting some past studies of the differentiation of AS and HFA.

AS vs. HFA

Since Asperger's Syndrome is on a spectrum and much of the research that is available is inconclusive, there is much debate as to whether or not Asperger's Syndrome and High Functioning Autism are the same disorders. Over the past two decades, a growing body of research has attempted to address the diagnostic and phenotypic ambiguity between AS and high functioning autism (Toth, King, 2008). Some researchers believe that behavioral characteristics of AS and HFA differ, while others counter saying there isn't enough conclusive evidence which shows how they are different from each other. Ozonoff and Miller (2000), conducted a study that examined differences based on external criteria such as cognitive and intellectual profiles, executive function, language, current symptoms and course of illness. The findings concluded that although the two disorders appear to fall on the same end of the spectrum, they differ in severity of developmental course. The one difference which seems to separate the two is that by adolescence, the pre-school age differences disappeared for HFA individuals, meaning

that the onset of HFA occurs earlier. Once again, this shows the separation of levels on the spectrum.

Toth and King, show the other side of the debate with a more recent study. A more recent study examined the core symptom domain of social interaction and used the Wing and Gould classification system (aloof, passive, and active but odd) to evaluate potential differences in quality of social interaction between AS and HFA. The results showed AS subjects to be more active but odd as compared too more aloof and passive which was seen in the HFA group. This related very well to the subject being used in this study. After over a year of observation our subject does make attempts to be social, but his comments after interaction is made are just as the system says, odd. There is still plenty of debate as to whether or not these two ASD are different or are similar, but judging from the results of the severity of symptoms, AS individuals do not seem to be as impaired, but this is only an observation. Once again, it is inconclusive.

Theory of Mind

Theory of Mind is a term that was created by Premack and Woodruff (1978). This hypothesis states that individuals with ASD fail to impute mental states to themselves and others and that this deficit is expressed as a failure to take other's mental states into account (Premack, Woodruff, 1978). Theory of mind is the way we make sense of or predict other people's behavior. We refer to this process as "metalizing" (Kaland et al. 2007). One of the main features of AS is impaired ability to recognize and attribute mental states and the inability to make sense of others behaviors. This can help

to explain why AS individuals have a difficult time with social interactions. They cannot understand the non-verbal messages from the person they are interacting with. Normal developing individuals unconsciously analyze others behaviors and try to read one's mind when interacting. This helps them to appropriately negotiate interactions.

To test Theory of Mind functioning, false belief tests have been very popular as an assessment. When Baron and Cohen (1985), ran this type of test with its pool of subjects, they found that 80% of the population used, all possessing an ASD, failed the tasks presented. This concludes that these children had a deficit in their theory of mind. 80% is a very large representation, adding more support that this is a key feature of ASD that leads to social dysfunction. However, it is important to note, that just like most features of ASD aren't the same for each case because the different symptoms vary in severity, the main features of the disorder are pretty consistent among the people affected. To summarize these results, ASD individuals who fail false belief tasks seem to have a correlation with low IQ and language skills, where as children who pass these false belief tasks seem to operate with average to above average IQ and language ability.

When a dialogue is trying to be maintained with the current subject, there are frequent pauses and delays in responses. Kaland et al. (2007) supports this observation by addressing the issue of a relation between theory of mind abilities and social competence in individuals with ASD. Most non-autistic individuals compute mental states quickly and seemingly automatically, without explicitly reflecting on the attributions they make in the course of social interaction. Multiple attributions take place in parallel and people often act on them with immediate behavioral or linguistic responses. (Kaland et al.,

2007). An aspect of AS that is important to understand, for how perceptions of others are formed is explained by Kaland et al (2007). Environmental elements of the situation that inform people's attributions may change rapidly as they move in and out of multiple interactions throughout the day, simultaneously recognizing other people's eyes, language and voice modulation. Normal developing individuals, as explained, use environmental cues and cues unconsciously to determine how to respond in different situations. People whom posses Asperger's Syndrome lack this ability. Although each situation is assessed on a moment-by-moment or situation-to-situation basis, this characteristic can be attributed to the deficiency in Theory of Mind. The social dysfunction among high-functioning individuals with ASD's may be understood in the context of the mind not being attuned to the social world; their gaze and gaze following patterns are different from typically developing individuals and the eye region does not capture attention as strongly as non-autistic individuals (Klin, Volkmar, 1995).

Another observation that has been seen over the time working with subject, is that he tends to stop interaction in the middle of conversation or situation where interaction is being made. The social impairment in AS may also reflect an inability to keep track of what is going on during a social interaction; some able persons with AS who can compute mental states, but respond slowly and several seconds after someone else's behavior, are likely to be perceived as socially impaired (Kaland et al., 2007). It is odd, and at first can be seen as annoying and rude to people who may not be aware of the disorder. When asking a question to the subject being used in this study, most of the time, a delayed response occurs. A look is given in which the subject seems to be processing

the information but it is still like an atypical stare in a way. Sometimes repeating the question needs to happen in order for a response to be given.

Theories of Mind tasks have been developed to tap into processing abilities more. Tasks have shifted away from Wimmer and Perner (1983) false belief paradigm into a different territory of language and face processing tasks. These advanced tasks help to show to the researcher how mind reading abilities and cues from the person and environment factor into social abilities.

Emotion and Its Expression in ASD

Recently, while interacting with the subject of this study, something happened that was unusual. The atmosphere at the time was very upbeat, teachers were making jokes and the students were responding in a humorous manner. The subject, while taking part in the classroom activity, reached out his arms and asked for a hug. He was showing emotion that has never come out to that point. There have been times where he has exhibited basic emotions, such as laughing, smiling etc. but never has he initiated any type of action or expression that exhibited this. This is in contrast with early views that autism involves and absence of emotional expression and indifference to others. Particularly among high functioning groups such as AS, evidence suggests that autistic individuals are able to recognize and express basic emotions such as happiness, sadness and anger and are no less emotionally expressive overall than comparison children (Losh, Capps, 2006). Many times, you can see a high functioning individual laughing

and smiling along with his or her peers when a joke is made just like a normal functioning kid.

Expressing complex emotions, embarrassment, pride, etc. cause much trouble amongst these individuals. In laboratory settings, high functioning individuals seem able to discuss experiences with simple emotions but have trouble with more complex or self-conscious emotions such as pride and embarrassment (Losh, Capps, 2006). This is the aspect of emotional expression, which causes an HFA person the most trouble. They have an awareness of these types of feeling of emotions but have trouble expressing it. These attempts may cause the individuals to appear odd in behavior and can cause separation amongst peers. An example in the sample is pride. An incident had occurred where a behavioral outburst had happened. It was a harmless act, but the teacher in which the subject refused to give requested an apology. He said this is “attacking his pride.” It is easy to see that the views and ideas of complex emotions such as pride, is hard for a high functioning individual to understand.

Summary

Past research has shown that Asperger’s Syndrome is a disorder that has many components to consider when trying to figure out the syndrome. Research still seems to be inconclusive to many of the questions that remain. The rest of this study looks to answer those questions. The next chapter will discuss the methodology of the study including the subject being used, the type of design being conducted along with the

reliability of the study. It also will contain different types of procedures that can be followed and types of analysis. This will then lead into the procedure and results.

CHAPTER III: METHODS AND PROCEDURES

The previous two chapters have given a brief description about what to expect in the following study and a brief but detailed introspective view about the historical background on Asperger's Syndrome and the spectrum of Autism. In chapter 3, the breakdown of the study is examined. Since this is a single subject design, all the information will be directed toward the one participant. Since AS is a disorder that differs from case to case and due to the nature of how the study is constructed, the reader will be able to get a more direct understanding on how this disorder affects a person day to day and among basic life functioning.

The breakdown of the chapter will go as follows. First, the subject used will be explained. The given information ranges from how they were recruited, how AS affects them, what services they are receiving and what type of therapy the participant will be subjected to. Next, is a discussion of whether the design is examined by talk of variables used and a discussion of the reliability and validity. Following the design, the procedures are then discussed and broken down so that anyone reading the study can follow. Type of Analysis is also examined in terms of how it goes along with the hypothesis and what is used to run the data. The chapter concludes with a brief summary of what was previously discussed and what the rest of the report holds.

Participant/Subject

Once again, this study is a single subject design meaning that one participant is examined by measuring his social abilities and then being put through the intervention developed for this study. The participant used in this study is a male adolescent. He started the study at the age of 15 and during about halfway through turned 16. The

student is diagnosed with Asperger's Syndrome as well as ADHD. Based off IQ testing, he poses normal IQ for his age group. He has been placed in an alternative school since 6th grade and is currently starting his freshmen year in high school (it is important to note that the high school is in a different building, so he was subjected to new surrounding and new students during the start of the school year).

Its vital to the study, to understand that there is more to this student then just Asperger's Syndrome. Before his birth, BC parents kind of put him in a hole to being with. There was a history of substance abuse for the father and mother, with the type of drug being unknown. The student has moved multiple times from the Midwest and eventually to this day, settling in New Jersey. His mother passed away about two years ago from cancer. He has reported to have a close relationship with her and was very upset with her passing. He now lives with his grandmother and his two brothers and two sisters. At one point there were eleven children, including him, in the house. He has a good relationship with his grandmother, but says she can be strict at times. He has been attending alternative schooling since the sixth grade. He has been instituted to crisis control before at two different hospitals, for behavior where he threatened to harm himself and once for attempting to stab his teacher with a pair of scissors. Judging from accounts he was not in an angry mindset while trying to stab his teacher and that he had a bit of a grin on his face. After his time in crisis for this incident and he was allowed back in school, he was assigned a one on one aide and will continue to have one until his sophomore year of high school.

From reports of the school psychiatrist, BC seems to be very calm and pleasant. BC had mentioned to him that he has dealt with stress over dealing with his anger and sometimes cannot control it. Judging from this and other symptoms, the psychiatrist

believes he is multiply disabled mentally, and suffers from some type of impulse disorder or symptoms, along with Asperger's Syndrome. Due to the incidents discussed previously and his AS diagnosis and before any intervention for this study could be applied, the student is already required by his IEP (individualized education plan) to have different therapeutic processes. The participant is also given scheduled therapy sessions consisting of 45 minutes once a week, and is also allowed time with his social worker whenever he reaches out for it. He is prescribed the medication Risperdal. Based on observation by the one on one and the therapist, over the last two school years, the student seems to have been fine in terms of behavioral problems, since there has been no major incidents. During the early stages of this study, during collection of research, the student was assigned to a social skills group by his school. This will impact the study by means of intervention.

Designs

Social Responsiveness Scale (SRS)- One instrument was used during this study, Social Responsiveness Scale (Constantino, J. N., & Gruber, C.P., 2005). The Social Responsiveness Scale, was originally designed to rapidly and reliably measure autistic symptoms as quantitative traits across the entire range of severity with which these traits occur in nature. These quantitative measurements are useful for identifying and characterizing subtle autism spectrum conditions, including AS, and for measuring subtle changes in the severity of symptoms over time or as a response to intervention. This scale was based on a sample of more than 1,600 children and separated by identity of rater and gender of child being rated.

Constantino describes the SRS as, a 65-item rating scale that measures the severity of autism spectrum symptoms as they occur in natural social settings. The test is accompanied by 2 different forms, one form is for a parent/guardian to rate the subject being used and the other form is for a teacher to rate. The form take 15-20 minutes to complete and provides a clear picture of the child's social impairments, assessing social awareness, social information processing, capacity for reciprocal social communication, social anxiety/avoidance and autistic preoccupation and traits. It is appropriate for the use of school age children from 4 to 18 years old. Sensitive and reliable across a wide range of symptom severity, the SRS can be used as a screener in clinical or educational settings, an aid to clinical diagnosis or as a measure of response to intervention. SRS scores are particularly helpful in identifying Autism, Asperger's Syndrome, Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS) and Schizoid Personality Disorder of Childhood. In addition, the scale can alert clinicians to sub-threshold autistic symptoms that may be relevant in evaluating children with a wide variety of psychological problems.

One difference that stands out and was a major reason for deciding to use this scale over other is because SRS measures impairment on a quantitative scale across a wide range of severity, which is consistent with recent research indicating that autism is seen as a spectrum condition rather than an all-or-nothing diagnosis. Instead of giving a yes or no decision about certain symptoms, it gives a rating on how the symptom effects individuals and also allows how one person might perceive a symptom differently than another person.

The present study had every teacher the participant has in class to fill a form out as well as one teacher's assistant who has a good relationship with the student and is

contact with him often. One parent form was sent out as well. Although the SRS does not call for this many teachers to fill out the form and since this was a single subject design, this was done to get more data and a better read on how his teachers observe and view this student.

Interpretation of the scores: The primary application of the SRS generates a total score of the 65 questions. This serves as an index of severity of social deficits among the spectrum. The total score is then expressed in two ways. First the SRS total raw score reflects the simple sum of the individual item responses. Second, the score is expressed also as the SRS total T-score. The T-scores have a mean of 50 and a standard deviation of 10. Major research using the SRS have relied on analysis of the raw score, which is a score that varies from 1 to 195, based on a 0-3 point Likert scale weighting given to each of the 65 responses.

Clinical Applications and Interpretations. Constantino explains how the use of T-scores provides advantages in everyday clinical and school settings. Since the T-scores have been calculated separately for males and females, a T-score will have similar meanings. The following will give a brief interpretation of the T-scores:

- *59T or Less-* The result is in the normal range. Children in general population and not affected by autism spectrum conditions typically obtain scores in this range. When obtained on ratings in clinical settings, scores in this range usually suggest an absence of of an autistic spectrum condition, and any psychosocial dysfunction.

- 60-75T- Mild to moderate range:* Scores in this range indicate differences in reciprocal social behavior that are clinically significant and are resulting in mild to moderate interference in everyday social interactions. Scores in this range are typical for children with mild or “high functioning” autism spectrum conditions, such as PDD-NOS and higher functioning children with AS. Children in this range of scores are commonly described as “odd” or “weird” or as having difficulty relating to others. Children in the lower end of this range, may be reasonably well compensated when not comorbidly affected with other child psychiatric conditions. It is often the case that children with combinations of mild autistic symptomatology and other psychological liabilities come to clinical attention because of severe behavioral problems that result from such combinations of co-occurring conditions.
- 76T or Higher-Severe Range:* This range is highly associated with a clinical diagnosis of Autistic Disorder, AS, or more severe cases of PDD-NOS. They suggest severe interference in everyday social interactions. Children who obtain scores in this range elicit behavioral descriptors such as “very inappropriate,” “considerable or extreme difficulty relating to others,” or “he/she just doesn’t get it.”

Validity

There doesn’t seem anything out of the ordinary in terms of the validity of this test. Before the SRS is scored, it is recommended that they be inspected for unusual response patterns. Constantino explains how a teacher or parents might give an answer of

1 (not true) when ample evidence exists that indicates that the symptoms in question are present. When this occurs, appropriate steps are said to be taken. Some questions may be required to be read allowed with some informants.

There is also strong interrater agreement and no symptomatic group differences have been observed among parents and teachers. A rater may overrate or underrate certain symptoms but this is being based off their judgements. One response discrepancy may be inadequate familiarity with the child's behavior in social context. In these cases it is better off not to give a questionnaire to this person.

Procedure

Proper protocols were taking for the recruitment process of this study. First, approval from the school the student attends was needed to allow for this study to take place on school grounds. Along with this, a consent form was sent home to the students guardian, and approval was granted as well. No questionnaires were distributed until both of these consent forms were signed and collected. Forms were distributed to 5 teachers, 1 teacher's assistant and 1 therapist. These were given out in this order since being in this alternative school, therapist and assistant have as much contact and observation as a teacher. Tests were distributed and asked to be completed when the faculty had time to complete. Retrieval of the forms were collected a week from distribution. Results were then calculated into total scores and T-scores and compared to each other. The student then began social skills group with other students.

Analysis

The differences amongst the responses from the teachers, taken from the total score and T-score, were converted using a one-way ANOVA. From these results, the significant weakness in terms of social skills is evident. From this the social skill intervention will know where to focus on the weakness, and try and improve upon this area. With this, areas that may be strong within this child can also be strengthening

Chapter 3 is a description of the “meat” used in this study. It gives a detailed description of the subject used, why they were used, and how the design came about. It gives the reader an insight on what the questionnaire used was, and why it was chosen. This chapter is to make it easy for the reader to understand some on the interpretations of what the data collected means. It’s the skeleton of the data in a sense. The chapter also gives a brief detail of the procedure taken to run this study. Therefore, if someone wanted to use this study and expand on it, they can find what they like about the procedure and instruments and expand or improve on it. The upcoming chapter is a discussion of the results and answers for some questions that may have arise during the time of this study. It gives graphical analysis of the results found, along with a discussion of what the future of this disorder may hold and how to improve it.

CHAPTER IV: RESULTS

The following chapter begins to give the reader some answers as to where this study is going. This section contains the data collected throughout the study so far. Another goal to this chapter is to allow the reader to understand and create their own views as to how the instrument used, the SRS, operates, as well as to what extent it is used. This chapter is the beginning portion of the report in which the person reading about the study can start to create their own ideas, determine if they agree with the information presented, or start to think of ways to elaborate and improve the results. This chapter will first discuss the results. Here, one can see how the instruments to collect data were used, read about the measures reported, and get answers as to how this data relates to the original research question, Where should an intervention be targeted to an AS adolescent, and how can an intervention change how the subject perceives the social world around him. Following the results, tables and graphs are presented which gives an illustrated view of the data, which also give a better understanding. The chapter will conclude with a brief summary of what was covered and what to expect in the upcoming chapter.

As previously mentioned, the current study was conducted using a single subject design, meaning there was one subject that was the focal point. The demographics are presented in this section. The subject used was a Caucasian male. The SRS overall standardization sample for the Caucasian race is 65%. When the study initially started, before any real data was collected and it was merely observation of the subject in his social setting, he was 15 years and 8 months of age. At the time of collection of data, the participant was 16 years old. According to the SRS manual, there is no significant difference in terms of age. After review of past records, the subject was said to have normal intelligence and average IQ. There was no IQ score found in the records available. The subject has lived with his guardians, which consists of a grandmother, aunt and uncle and also lives with 2 brothers and 2 sisters during the time of this study. As mentioned earlier as well, the student attends an alternative high school, which consists of a population of other AS students, learning disabled students and students suffering from behavioral problems.

The SRS questionnaires were distributed to six teachers and one therapist. Once collected the data is scored into five treatment subscales: social awareness, social cognition, social communication, social motivation and autistic mannerisms (see chapter 4 for a description of these subscales). The data that was calculated was that of the T-Scores. A within-subject design was conducted. When this test was ran, the means and standard deviation for the subscales are as follows: Social awareness (M=64.29, SD=6.075), Social Cognition (M=59.86, SD=8.494), Social Communication (M=62.71, SD=7.365), Social Motivation (M=58.14, SD=9.494) and Autistic Mannerisms (M=62.29, SD=11.191) (see table 1). When a within-subject design was conducted, although small, there was a significance that was computed ($F=2.815$, $sig.=.048$) (see table 2).

The mean for T-scores determined by the SRS is 50 and standard deviation is at 10. This would have the subjects being used described as being in the normal range, that are considered in the general population and without autism spectrum conditions. The means calculated for the subject used in this study were all above 50. The subscale that was closest to the overall mean was social motivation (M=58.14). The subscale that is furthest away from the overall mean is Social Awareness (M=64.29). These number show that the participant is not at the normal level for any of these subscales. There are characteristics that define these subscales that he lacks or does not exhibit in a normal manner. Although social cognition and social motivation are closer to the mean of 50 they still are a bit over. The areas that stick out in which to address, is social awareness, social communication and autistic mannerisms. Graph 1 provides an easier look at how the subject is rated higher in some areas than others. This helps to prove the question that is to be kept in mind, where should intervention focus when dealing with a student with AS. The second part of the problem will be determined after the intervention is created and applied.

Table 4.1- Descriptive Statistics of Subscales

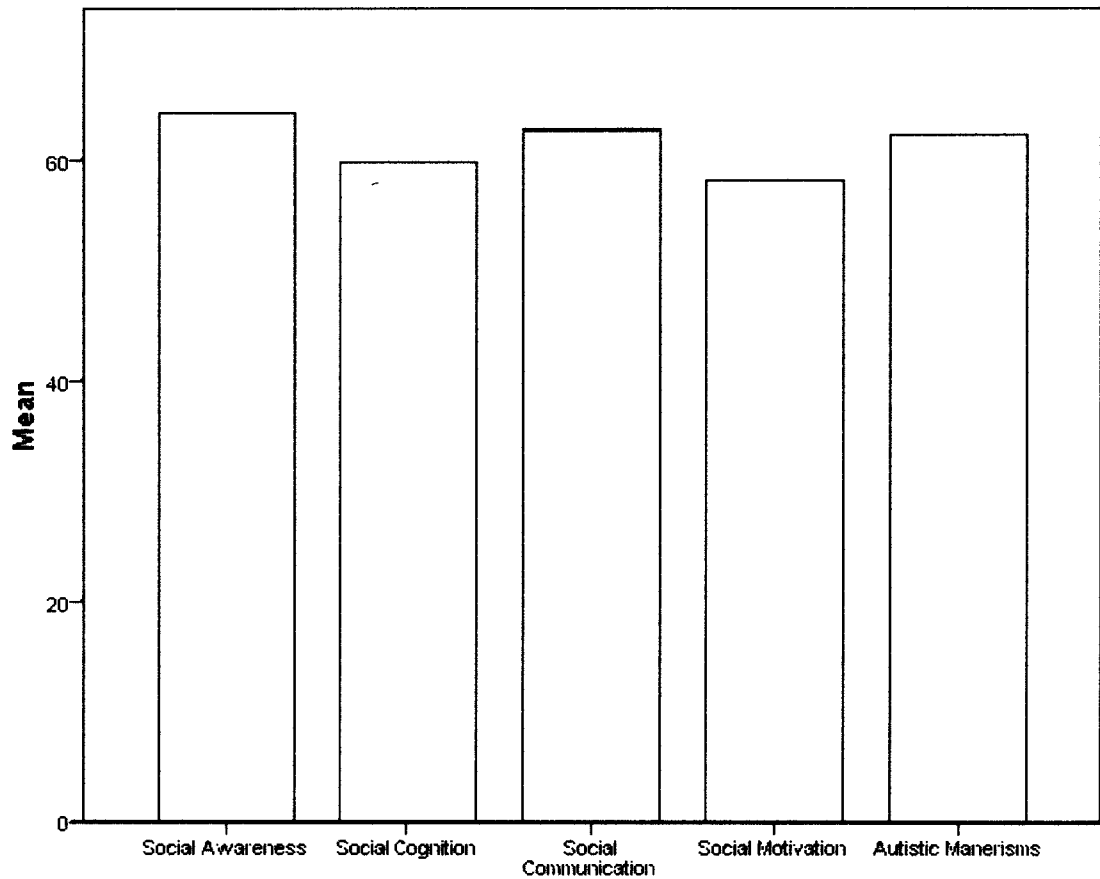
	Mean	Std. Deviation	N
Social Awareness	64.29	6.075	7
Social Cognition	59.86	8.494	7
Social Communication	62.71	7.365	7
Social Motivation	58.14	9.494	7
Autistic Mannerisms	62.29	11.191	7

Table 4.2- Test of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
factor1	Sphericity Assumed	166.686	4	41.671	2.815	.048
	Greenhouse- Geisser	166.686	3.035	54.924	2.815	.068
	Huynh-Feldt	166.686	4.000	41.671	2.815	.048
	Lower-bound	166.686	1.000	166.686	2.815	.144
Error(factor1)	Sphericity Assumed	355.314	24	14.805		
	Greenhouse- Geisser	355.314	18.209	19.513		
	Huynh-Feldt	355.314	24.000	14.805		
	Lower-bound	355.314	6.000	59.219		

Table 4.3- Graph of Means



Summary

What has been discovered is where the subject lacks in aspects of the social world. This is the basis of the current study. Throughout the study and report, the question that kept being asked was where is CB deficient in his social abilities. Now although all of the subscales proved to be rated above the mean and in the category of autistic traits according to the SRS, social awareness, social communication and autistic mannerisms are the focal point of the intervention. Once an appropriate intervention is created and implemented, retesting will show if these areas can be fixed.

CHAPTER V: DISCUSSION OF RESULTS

While reviewing the present study, it is imperative to keep mind that the purpose of the study was to use a single subject diagnosed with Asperger's Syndrome and determine where in his social abilities a weakness lies by administering the Social Responsiveness Scale and creating an intervention. As mentioned before the implementation of the intervention is still in the works. Once the time period for the intervention is up, a posttest will then be conducted to see if any change has taken place. This will allow seeing how even in a mentally deficient individual, positive change can take place. Or on the reverse of that notion, if no change happens, what other factors not measured by the SRS is affecting the goal. As mentioned in the previous chapter, there are three areas that contain social implications, that are lower functioning in this subject; social awareness, social communication and autistic mannerisms. This serves for the basis of the intervention. The means of these three subscales, especially social awareness, are above the mean set by the SRS. Between these subscales, significance was found that proves that there is a deficiency in this subject. The Following chapter cumulates everything that has been discussed thus far. It summarizes in a way what is known about the subject, prior the data collected, history on what past research has discovered about AS and what the data has told us. It elaborates on the data and gives a starting point for future research to expand on approaches and techniques used for future improvements on a topic that is still looking for an answer to its problems.

Interpretation of Findings

The participant being used, prior to the formation of this study, has already been diagnosed with Asperger's Syndrome. Therefore our data isn't to decide if the student has

this spectrum disorder but rather which characteristic defines him the most. Once again, our data analysis has proven that there is a discrepancy in social ability in the subject being used. Starting with the subscale with the biggest difference from the given SRS mean, Social Awareness, this is the area that intervention will focus on the most. According to Constantino and Gruber, social awareness is the ability to pick up on social cues; items in this category represent the sensory aspect of reciprocal social behavior. Not only based off the data, but based off observation as well, this student has problem with eye contact, and reading facial expressions. For example, say a student or teacher is joking with the subject but in a sarcastic way, the student tends to get aggravated easily. This data seems to be consistent with these observations. Social communication is also an area of weakness according to the data. This is where expressive communication is nonexistent or going along with AS, “weird.” This category represents the motoric aspects of reciprocal social behavior. Finally, autistic mannerisms was said to be an area of concern as well. This means that the subject shows stereotypical behaviors or highly restricted interests characteristic of autism spectrum disorders. It is easy to see how all three of these subscales correlate. This allows the intervention to focus on a certain aspect and trying to prove the original problem right, the other areas will be *Limitations* as well.

Limitations

The biggest factor to take into account when going about this study is what else affects this participant. There are symptoms that are not characterized by AS that has an affect on the deficiency of the participant’s social skills. This student is classified as multiply disabled. There are other aspects that cause people to perceive him as “weird.”

He has addressed to other services that he has times that cause him much distress. He is said to have a low frustration tolerance, according to his school psychiatrist. This can lead to mood swings.

Taking these outside influences into account, different teachers may perceive this student differently. Maybe a teacher that responded teaches a class that the participant doesn't enjoy. This can lead to his frustration taking over, causing distress and thus leading the teacher to believe he functions differently compared to other situations. This then leads to rating the student differently than the consensus and causing the statistics to not be as accurate.

Staying on the idea that the scoring of the questionnaire could be different, one must take into consideration that the teacher being asked to participate might be having a hard day, on that particular day. This can cause a lack of concentration and may cause the teacher to just circle numbers. Another possibility is that the teacher doesn't understand the question being asked and just guesses. Some teachers need to be asked over and over if they can fill out the form, which can lead to impatience, which then leads to answers.

Conclusion

This study is still in the process of being completed in terms of the intervention. Some sections may seem inaccurate. The reader must take into account that some parts are speculation. Regardless of that fact, there is much room for future research and improvement on this topic. One suggestion may be to include more than one participant since AS and Autism Spectrum Disorder is a unique disorder and is different from case to case. This can allow one to elaborate on the intervention created which can cover multiple aspects that not only improve on weaknesses but also strengthen an area already

considered strong. The jury is still out on AS and these spectrum of disorders. This study tried to elaborate on past research and hopes to be a starting point for future research.

REFERENCES

- Barnes, K. A., James, H. H., Howard, D. V., Gilotty, L., Kenworth, L., Gaillard, W. D., Vaidya, C. J. (2008). Intact Implicit Learning of Spatial Context and Temporal Sequence in Childhood Autism Spectrum Disorder. *Neuropsychology, 22(5), 563-570*. Doi: 10.1037/0894-4105.22.5.563
- Barnhill, G. P. (2002). Designing Social Skills Interventions for Students With Asperger Syndrome. *Newspaper of the National Association of School Psychologists, 31(3), 5-6*
- Beaumont, R., Sofronoff, K. (2008). A Multi-Component Social Skills Intervention for Children with Asperger Syndrome: The Junior Detective Training Program. *Journal of Child Psychology and Psychiatry, 49(7), 743-753*. Doi: 10.1111/j.1469-7610.2008.01920x
- Buettel, M. P. (2003). Exploring Current Knowledge on Asperger Syndrome and Best Practice for School-Based Interventions. *School Psychology Quarterly, 21(3), 349-357*.
- Erba, H.W. (1998). Early Intervention Programs for Children with Autism: Conceptual Frameworks for Implementation. *Journal of Orthopsychiatry, 70(1), 82-94*. Doi:10.1037/h0087826
- Kaland, N., Callesen, K., Moller-Nielsen, A., Mortensen, E. L., Smith, L. (2008). Performance of Children and Adolescents with Asperger Syndrome or High Functioning Autism on Advanced Theory of Mind Tasks. *Journal of Autism and Development Disorder, 38, 1112-112*. Doi: 10.1007/s10803-007-0496-8

- Kanne, S. M., Christ S. E., Reiersen, A. M. (2009). Psychiatric Symptoms and Psychosocial Difficulties in Young Adults with Autistic Traits. *Journal of Autism and Developmental Disorders*, 39, 827-833. Doi: 10.1007/s10803-008-0688-x
- Klin, A., Volkmar, F. R. (1995). Asperger's Syndrome: Guidelines for Assessment and Diagnosis. *Learning Disabilities Associations of America*,
- Lazarus, S. S., Thurlow, M. L., Lail, K. E., Christensen, L. (2008). A longitudinal Analysis of State Accommodations Policies. *Journal of Special Education*, 43, (2), 67-80. Doi: 10.1177/0022466907313524
- Losh, M., Capps, L. (2006). Understanding of Emotional Experiences in Autism: Insights From the Personal Accounts of High-Functioning Children With Autism. *Developmental Psychology*, 42(5), 809-818. Doi: 10.1037/0012-1649.42.5.809
- Mastrangelo, S. (2009). Play and the Child With Autism Spectrum Disorder: From Possibilities to Practice. *International Journal of Play Therapy*, 18(1), 13-30. Doi: 10.1037/a0013810
- Mintz, J. (2008). Working with Children with Asperger's Syndrome in the Mainstream Classroom: A Psychodynamic Take From the Chalk Face. *Psychodynamic Practice*, 14(2), 169-180. Doi: 10.1080/14753630801961743
- Owens, G., Granader, Y., Humphrey, A., Baron-Cohen, S. (2008). LEGO Therapy and the Social Use of Language Programme: An Evaluation of Two Social Skills Interventions for Children with High Functioning Autism and Asperger Syndrome. *Journal of Autism and Developmental Disorders*, 38, 1944-1957. Doi: 10.1007/s10803-008-0590-6

- Schwartz, C. B., Henderson, H. A., Inge, A. P., Zahka, N. E., Coman, D. C., Kojkowski, N. M., Hileman, C.M. (2009). Temperament as a Predictor of Symptomatology and Adaptive Functioning in Adolescents with High-Functioning Autism. *Journal of Autism and Developmental Disorders*, 39, 842-855. Doi: 10.1007/s10803-009-0690-y
- Toth, K., King, B. H. (2008). Asperger's Syndrome: Diagnosis and Treatment. *American Journal of Psychiatry*, 165, 958-963. Doi: 10.1176/appi.ajp.2008.08020272
- Tropel, E. M., Lachmann, F. M. (2008). Life Begins on an Ant farm for Two Patients With Asperger's Syndrome. *Psychoanalytic Psychology*, 25(4), 602-617
- Volker, M. A., Lopata, C. (2008). Autism: Review of Biological Bases, Assessment, and Intervention. *School Psychology Quarterly*, 23(2), 258-270. Doi: 10.1037/1045-3830.23.2.258
- Williams, G. (2006). Generalization of Tacting Actions in Children with Autism. *Journal of Applied Behavior Analysis*, 39(2), 233-237. Doi: 10.1901/jaba.2006.175-04