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Research Article

Asperger's, giftedness and autism paradox: a case report[1]

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Abstract

The ongoing debate over the distinction between high-functioning autism, giftedness, and Asperger's syndrome is important to resolve because of the implications for understanding the etiology and prognosis associated with these conditions and diagnostic applications. But even decades later, the nosological status of AS is still unclear. In simple literature reviews on individuals with high-functioning ASD, the characteristics of these individuals were interpreted depending on both diagnoses, and were not explained by the data obtained as a result of empirical research. Moreover, Asperger's syndrome is currently used with high-functioning ASD. This poses greater problems for gifted individuals with Asperger's. This research, which was prepared to examine ten gifted and talented adult individuals diagnosed with Asperger's Syndrome and to determine the diagnosis process, its characteristics, and the reflections of these characteristics on their education, professional life and social life, is a case study. Semi-structured interview forms prepared in the research were used. Interview forms were prepared using the literature and were prepared from 15 open-ended questions that were parallel to each other. While preparing the questions, the opinions and consent of 3 experts in the field were obtained and the research questions were conveyed to the participants through online interviews. In some incomprehensible times, written responses were received. The answers given by the participants were deciphered and themes and codes were created. In findings, Gifted Asperger's individuals insisted on their routines, habits and obsessions during the interview. Although studies with children with Asperger's syndrome show that they are routine-attached individuals like high-functioning autistic children, it has been observed that Asperger's individuals share their interests and take pride in them from early infancy. In this context, individuals with gifted Asperger's differ from individuals with high-functioning autism. As a result of the study, this paradox was tried to be explained by discussing the similarities and differences between high-functioning autistic and gifted individuals according to the views of individuals with Asperger's.

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Introduction

First described in 1944, Asperger's syndrome (AS) was incorporated into ICD-10 and DSM-IV nearly 50 years after it was described by Hans Asperger, a Viennese pediatrician who deals with mental disorders in children. Considered a variant of autism for many years, AS is defined as a pervasive developmental disorder (PDD), characterized by obvious difficulties in socialization, a one-sided communication style, and rigid interest patterns that typically focus on

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memorizing real information. The temporary inclusion of Asperger's syndrome in ICD-10 and DSM-IV has brought this condition to the attention of nosological researchers. But even decades later, the nosological status of AS is still unclear. While the clarity of research on Asperger's syndrome is still questionable, an exponential increase in the number of individuals diagnosed with AS has led to a proliferation of parental support groups coalescing around this concept, increased research, and a steady growth in the educational literature. Part of this interest gives rise to a narrow view, sometimes deceptive, about highly intellectual Aspergerian individuals with eccentric attitudes and all-encompassing esoteric interests. While this may be true for some individuals, beyond the peculiar intersection of intellectual abilities and interesting orientations, it is also a fact that there are individuals with Asperger's who have major socialization deficiencies that cause significant difficulties for individuals and the family. Therefore, in Asperger's syndrome, the DSM-IV definition was used, which includes a certain number of substances, due to qualitative deficiencies in social interaction; limited repetitive and stereotypical behavior, interests and activities; an unequal development profile, evidenced by inconsistencies between or within language, social interaction, adaptive behavior, and/or cognitive skills; impairment in social interaction, which is manifested by delay, absence or atypical ability to relate to people or the environment; deterioration in oral and/or non-verbal language or social communication skills and limited repetitive and/or stereotyped behavior, interests or activities.

Asperger's and high-functioning autism (HFA) appear as interchangeable terms in the literature (Gray, 1998; Kunce & Mesibov, 1998; Sansosti, Powell-Smith, & Cowan, 2010). Within existing literature, researchers and psychiatrists proposed several similar definitions for highfunctioning autism. Researchers from Yale University defined high-functioning autism as individuals with autism whose full-scale IQ is greater than 70, without significant language and intellectual delays (Rubin & Lennon, 2004). Attwood (2003) reported the term highfunctioning autism was initially used to describe individuals who demonstrated typical symptoms of autism when they were young children, but as they grow older, they gradually showed greater degree of cognition, social and adaptive behavior skills with good long-term clinical outcomes compared to other children diagnosed with autism. Qualitative deterioration in social interaction; limited, stereotyped and repetitive patterns in behavior, interests and activities are among the similar characteristics of individuals with Asperger's and high-functioning autistic individuals (Mazzone, Ruta, & Reale, 2012). HFA individuals have higher IQ scores than individuals with classical autism and are individuals without cognitive and language disorders (Goldstein et al., 2008). In addition to having intense and deep knowledge about a complex subject, HFA individuals have excellent problem-solving skills (Yirmiya & Sigman, 1991). While their honesty and hard work capacity differ from classical autism (Tebartz van Elst et al., 2013), they create confusion with Asperger's. Because some studies (Gillberg & Billstedt, 2000; Sanders, 2009) claim that Asperger's and HFA are different from each other. It is reported that fine psychomotor skills of individuals with HFA are better than individuals with Asperger's. In addition, the IQ average of gifted individuals with Asperger's is in the same intelligence range as those of normal gifted individuals.

It seems seven features are emanated as pravelent to gifted individuals and individuals with Asperger. Modern definitions of giftedness are the result of an evolution of ideas. Each generation of gifted theories has built upon the one before it, thus integrating previous iterations and research while adding components reflecting the current state of research (Kaufman & Sternberg, 2008). An early and still common definition of giftedness was on top scores obtained in standardized IQ tests. Alfred Binet created the first IQ test in 1905 in order to predict success in school, not as a measure of innate intelligence or “raw” genetically based potential (Gardner, 1992). For example, verbal fluency or precociousness are common to both, and they seem to have splendid memories (Levy et al., 1988; Frith, 1991; Little and Clark, 2006; Silverman, 1993). Both can have a huge captivation with letters or numbers and become aware of their ability to memorize at early ages. Both may show a keen interest in a particular subject and have a great deal of factual knowledge about it (Gallagher, 1985; Klin et al., 1995). They can annoy their peers with their endless chats about their concerned areas. They can demand specific answers so long and detailed that they seem unable to stop. Hypersensitivity to sensory stimuli occurs in both groups of children. Parents of both high-functioning autistic and gifted AS children

have often reported that their children choose to wear certain types of materials, eat foods with a certain texture, and are withdrawn and afraid, especially at sounds they find exhausting.

Children with high functioning AS are defined as owning quite multifold abilities, just like gifted children. It has been stated that all children with Asperger's have "a special interest in a particular field that allows them to reach unusual degrees of performance" (Winter-Messiers, 2007). This is like the "passions" of the gifted children (Torrance, 1965; Betts & Kercher, 1999). While they may exhibit unusual abilities in certain fields, both gifted AS individuals and high functioning individuals can perform in the average range in some areas (Baum, Owen, & Dixon, 1991; Wing, 1991). When the cognitive development of both gifted and high functioning AS children is compared with their peers, it has been observed that these children show a much faster development than their peers (Hollingworth, 1942; Altman, 1983; Asperger & Frith 1991; Silverman, 1993).

In the field of "gifted intelligence", four related cases can be defined in which the term Asperger's is used (Subotnik et al., 2011): (1) high academic achievements; (2) individuals who score at least 2 Standard Deviation (SD) above average on intellectual tests (Full-Scale Intellectual Section 130 and above on the commonly used Wechsler Scales); (3) individuals who exhibit extraordinary talent in one or more areas of talent; and (4) individuals with socio-emotional characteristics, high intellectual ability but socialization deficiencies. These definitions of giftedness are based on different understandings of phenomenological reality and the different models of intelligence the term evokes. In the first case, giftedness is related to academic achievement. The second state reflects high-level mental abilities that are not a guarantee of academic success, while the third state refers to the development of natural abilities in any area of general intelligence due to regular training based on pluralistic intelligence models.

Individuals with gifted AS are defined as having a wide variety of abilities, just like gifted individuals. Asperger's clinical observation is that all individuals with this syndrome have "a unique relevance that allows them to reach certain stages of performance that are quite unusual in a particular area" (Asperger's, 1991). This interest is similar to the saying that talented individuals have "passions" (Torrance, 1965; Betts & Kercher, 1999). While exhibiting extraordinary abilities in selected fields, both gifted individuals and gifted individuals can perform on average in some fields (Baum, Owen and Dixon, 1991; Wing, 1991). Both high functioning individuals and talented AS-individuals are described as experiencing unequel upgrowth, especially when cognitive development is compared to social and emotional development at early ages (Hollingworth, 1942; Altman, 1983; Asperger's, 1991; Silverman, 1993).

Hypersensitivity to sensory stimuli often occurs in both groups of individuals (Hazen et al., 2014). Parents of individuals with both high-functioning autism and gifted AS often tell stories that these individuals prefer to put on specific kinds types of fabrics, consume foods with a specific texture, turn inward or escape in sounds they find frightening, or resolutely reject certain facts (Smith and Sharp, 2013).

Problem of Study

This brief analysis of the external validity of AS demonstrates the urgent need for additional research evaluating the effectiveness of various diagnostic modalities. This research agenda is required for a number of reasons: First, it's important to evaluate how comparable the study data that are now available and were obtained utilizing various diagnostic techniques are. Second, despite the rise in clinical and research interest in AS, the lack of a validated definition hinders the creation of standardized instruments that might improve diagnostic assignment reliability and enable cross-site collaborations that are crucial to both behavioral and biological research. Third, there are signs that the DSM-IV definition is not being followed in clinical practice; the term is being used interchangeably with HFA or, perhaps more frequently, PDD-NOS. This has caused a rift between DSM-IV and research and clinical practice, which has confused and alienated researchers, clinicians, and parents alike. Fourth, without addressing the validity of the AS diagnosis, the scientifically intriguing question of whether or not there are qualitative discontinuities among the PDDs or, alternatively, whether the PDDs should be considered along a dimensional continuum (and what this dimension should be) is left open (Klin, 2003).

Recent case reports of Asperger's syndrome have used the term fairly uniformly for individuals who are interested in relationships but are unable to maintain social interactions with sufficient success to facilitate relationships. Few studies have been done to find specific pathological associations with Asperger's syndrome. There is a growing body of research on children with autism (ASD), but little is known about individuals with Asperger's; even less is known about gifted individuals with AS. In simple literature reviews on individuals with high-functioning ASD, the characteristics of these individuals were interpreted depending on both diagnoses, and were not explained by the data obtained as a result of empirical research. Moreover, Asperger's syndrome is currently used with high-functioning ASD. This poses greater problems for gifted individuals with Asperger's. For example, there will be negative labeling when defined as high-functioning autistic. The aim of this study is to examine ten gifted and talented adult individuals diagnosed with Asperger's Syndrome and to determine the diagnosis process, its characteristics, and the reflections of these characteristics on their education, professional life and social life.

Method

Research Model

This study was developed by modeling the case study. Case study provides an understanding of a complex social situation (Yin, 2004) and is a frequently preferred pattern in applied fields such as education and psychology (Merriam, 2002). A case study is a study in which detailed information about a particular situation in daily life is collected, the situation is defined, and themes are put forward (Creswell, 2016; Merriam, 2002). Case studies according to Stake (2015); The content of the research can be classified in three different ways as internal, instrumental and integrated. If the researcher is particularly interested in a specific topic, he or she performs an internal case study. In this research, internal state study was adopted and focused on the behavioral characteristics of high-functioning adults with Asperger's.

Participants

Study group consists of ten adult individuals with gifted Asperger's who were diagnosed at an early age. Five of them are female and 5 are male. The age range of the group is between 29 and 37. 3 of the participants live in Turkiye and 7 of them live abroad. The codes were given to the participants in the study (see Table 1). This research, which was prepared to examine the diagnosis process of adults with gifted Asperger's, high-functioning characteristics and the reflections of these features on the education process, after-school life, human relations and mood, is a case study.

Table 1. Structures of participants and coding

Participant no	Living place	Gender	Age	Codes
1	Turkiye	Female	32	P1-F-32
2	Russia	Male	29	P2-M-29
3	Turkiye	Male	35	P3-F-35
4	Turkiye	Female	34	P4-F-34
5	Russia	Male	30	P5-M-30
6	Russia/Spain	Female	36	P6-F-36
7	Portugal	Male	35	P7-M-35
8	Russia	Female	35	P8-F-35
9	England	Female	36	P9-F-36
10	Russia	Male	33	P10-M-33

Data Collection Tool and Procedure

Semi-structured interview forms were used in the research. Interview forms were prepared using the literature and were prepared from 5 open-ended questions that were parallel to each other. While preparing the questions, the opinions and consent of 3 experts in the field were obtained and the research questions were conveyed to the participants through online interviews (See Appendix). In some incomprehensible times, written responses were received. The answers given

by the participants were deciphered and themes and codes were created. After obtaining consent for the themes and codes from the same 3 experts, the statements for the findings were put in quotation marks. Volunteering was taken as a basis while collecting the data.

Credibility and Dependability

Credibility and reliability in qualitative studies are just as important as validity and reliability in quantitative studies. In this study, the interview made by the participants are recorded to ensure credibility; Afterwards, it was informed that the interview data could be converted into a scientific publication and confirmation was obtained about voluntary participation. In addition, the researchers provided long-term interactions with the participants and it is still ongoing. Feedback on the findings of these interactions was given and reconfirmation was obtained. An opinion was obtained from a psychiatrist with expertise in the subject in Russia to determine whether there was a counterpart to the recent findings in ensuring credibility. On the other hand, triangulation, one of the most frequently used techniques, was used to ensure reliability. In triangulation, interviews, observations and related articles and books in the literature were examined and the results were compared. For the confirmability of the study, the audit trail was used. It is explained how the study proceeds on the way to supervision, how the information obtained raw in the study is reduced to themes and codes, and especially the participant discourses of the codes are presented within quotation marks. In the provision of external validity, the determination of the research method and design, the creation of the study group, the method used in analyzing the obtained data were presented in detail in the research and detailed descriptions were made with the direct statements of the participants. In order to ensure internal reliability, the analysis of the data was carried out by two researchers separately by using researcher triangulation (Merriam, 2015), themes, sub-themes and codes were determined independently, and then those with disagreement and consensus were compared and finalized.

Results

In the study, it was conducted to determine the diagnosis process of 10 adult individuals with high-functioning Asperger's disease, their characteristics, and the reflections of these characteristics on their education, professional life and social life, and at the end of the interviews; unequal developmental profile evidenced by inconsistencies in or between language, social interaction, adaptive behavior, and/or cognitive skills; impaired social interaction, manifested by a delay, absence, or atypical ability to relate to people or the environment; It is possible to see frequently repeated patterns such as impaired verbal and/or non-verbal language or social communication skills and limited repetitive and/or stereotyped behavior, interests or activities. The data obtained from the study; a) Positive experiences with having Asperger's, b) Negative experiences with having Asperger's c) Social relationships and emotion d) Sensory sensitivities (taste, smell, touch, hearing), e) Routines, constitute the main themes of the research. The answers given in the light of these themes and codes are presented in this section.

Findings related to the theme 'positive experiences with having Asperger's'

When asked to individuals with Asperger's, “What did being with Asperger's give you in life, what did you achieve more easily?” The answers given by the participants to the question mostly; special talent in a particular area, a strong memory and rationality. It is noteworthy that the participants used similar expressions within the framework of these codes.

Theme 1. Positive experiences with having asperger's

Table 1. Content analysis of the responses of the participants to the question "What did being with Asperger's give you in life, what did you achieve more easily?"

Theme	Codes	Frequencies
Positive experiences with having Asperger's	Special talent in a particular area	6
	A strong memory	5
	Rationality	3

Regarding the *rationality* expressed by the participants within the scope of positive characteristics, one participant used the following statements:

"Not feeling certain emotions as intense as everyone else says makes me more rational and calm. I can look at things rationally. I can make more logical decisions in this sense, which is a big plus for me (P1-F-32)"

"I'm very good with numbers. That's why I turned to this area (Stockbroker). Even when I was very young, I admired the numbers. I can do all kinds of operations with 4 or 5 digit numbers from my mind (P7-M-35)"

Research participants mentioned special abilities in connection with their syndrome. All 7 participants mentioned specific interests and skills in specific areas.

"I love painting. I even make a part of my living from the paintings I sell. I especially like to draw still life pictures. I've always had talent in this field since I was a kid. The older I grew up, the better I became. (P6-F-36)"

"I have a huge interest in bicycles and motorcycles. I can smash and collect these tools like a puzzle. When I was little, I used to go to my father's repair shop and watch him. I learned how to do it by watching him (P2-M-29)"

"Music is my life. I have been working in orchestras since my childhood. Music is both my love and my obsession. If it wasn't for the music, I would probably kill myself (P10-M-33)"

"I am very talented in computers. That's why I chose this job (Working as an IT staff at the University). I'm also very good at World Wars history. You can ask me anything you want about it (P5-M-30)"

"I've had a great interest in music since a young age. I play violin, guitar, cello and piano. I play other instruments, but I'm still a novice (P4-F-34)"

"... painting is a passion for me. People sometimes think that the pictures I make are photographs... (P8-F-35)"

Two of the participants talked about their memory abilities and emphasized that having Asperger's makes them learners much faster.

"I can learn much faster compared to others. My memory is very strong. I can remember what I read, what I heard, what I saw for a very long time and in a very vivid way. When I'm focused, nothing can distract me (P1-F-32)"

"...I think I am luckier than most people. I can easily remember what I want. I can learn fast. I can read and write for long hours without getting tired (P3-F-35)"

Theme 2. Negative experiences with having Asperger's

The data obtained from the study includes the negative experiences that the participants associated with the syndrome. By the related theme; psychological problems, obsessions and clumsiness are the most emphasized negative aspects of the participants.

Table 2. Content analysis of the responses of the participants to the question " What kind of psychological problems do you have?"

Theme	Codes	Frequencies
Negative experiences with having Asperger's	Psychological problems	10
	Obsessions	6
	Clumsiness	5

"I was treated for depression for a long time. I am obsessive compulsive. I am on medication (P1-F-32)"

"When I was in high school, I trained in a special education class for 5 hours a week. I have an anger management problem. There is a therapy group I join for this (P5-M-30)"

"Yes, unfortunately. I was treated for chronic depression for a long time (P10-M-33)"

"I have a severe lack of concentration. In my academic life, there were times when I had difficulties because of this. At that time, I received support and used medication (P6-F-366)"

"I have bipolar disorder. I am getting help for this (P3-F-35)"

"I have OCD. I am on medication (P7-M-35)"

All of the participants stated that they had *obsessions* during the interviews and these obsessions were both challenging and indispensable for them.

"My obsessions are pushing me hard. That's why I have to take medication or they get to a level where I can't cope (P4-F-34)"

"I love backpacks. I have a system that I have set up myself. I built it on the number Pi (π). I change my bags according to this system. The number on each digit represents a certain bag. I'm definitely not going outside of this system. I just wear multi-colored socks and wear them in a certain order. I do my best not to spoil the order. I don't like even numbers at all. That's why I prefer odd numbers in any ranking. If my sequence number at the bank or hospital is an even number, I try to change it or I get very uncomfortable (P1-F-32)"

"Keeping my environment under control is indispensable for me. This includes my room, where I work, even where I eat. I only eat my lunches at 2 cafes. It's close to where I work, but I take my dinners from there. I eat my food in a certain order. If this order is broken, I get very nervous. There are even times when I have anxiety attacks (P6-F-36)"

"I don't know if it's an obsession, but my orchids are the most obsession-like thing to me. The temperature of the room, vitamins, water, everything has a certain standard. I only grow a certain type of orchid. (a sub-species called Oncidium Orchid) (P9-F-36)"

"The tools I use have a certain layout. I hate the disruption of this order. I'm getting very restless. If someone comes along and breaks this system, I can't work efficiently that day (P2-M-29)"

"I have an obsession with cleanliness and order. Only I clean my house. I do not accept help from anyone in this matter, neither from an assistant nor from my fiancee... (P7-M-35)"

Clumsiness is seen in the study data as another negative that participants with Asperger's agree on.

"...I have many cracked bones in my body. Even a few broken ones. Ever since I remember myself, I've been falling all the time, hitting something (P2-M-29)"

"I have a serious lack of coordination. This causes me to fall all the time. So much that sometimes I feel like I have 4 arms. I'm so unstable. That's why I never wanted to learn to drive. I don't have a license. Because with this clumsiness and lack of coordination, I can be a serious danger to other people (P1-F-32)"

"I've always been clumsy as long as I know myself. Coordinating often challenges me (P9-F-36)"

"I love to cook. It's even a passion for me. It's bad to be clumsy when you have such a hobby. I always get a cut or a burn on my hands. I even burned my feet while making pasta (P4-F-34)"

"I am very clumsy. I was always like this. Even though I paint, my coordination ability is zero...(P8-F-35)"

Theme 3. Social relations and emotions

With the questions asked to the individuals with Asperger's during the interview, their social relations and emotional worlds were tried to be understood. In line with the findings obtained from the interview questions; empathy, interpersonal relationships, loneliness and personal space codes were reached.

Table 3. Content analysis of the responses of the participants to the question "How would you describe your relationships with people?"

Theme	Codes	Frequencies
Social relationships and emotion	Empathy	5
	Interpersonal relationships	10
	Loneliness	5
	Personal space	7

The expressions used by the participants in line with empathy are as follows:

"Empathy is almost impossible for me. It doesn't make sense to me to understand how others are feeling or to share that feeling with them. That's why I have problems in my relationships with people. But when I read emotions from somewhere, for example from a novel, it is much easier to understand. Sometimes I am accused of being heartless and very cold. But I don't mind it too much. Though I am often accused of being heartless, of being insensitive. In fact, my brother once said that I have another brain instead of my heart, that's why I'm so smart but insensitive (P1-F-32)"

"I thought everyone was like me until I grew up and realized what it was like to have Asperger's. I find it very difficult to internalize people's sadness, joy or pain with them. I think we (individuals with Asperger's) are even lucky in this sense. I'm sure my parents thought I was a psychopath or something because I was like that. But over time, they begin to understand this situation, as I do (P2-M-29)"

"...there is a video my family took when I was little. Children are playing in a park. I stand a little further from them. Then I suddenly move and take the teddy bear from one of the children's hands. The boy starts to cry when he can't take his bear from me. Then my mother comes to me and the video is cut. But I remember that day very well. The fact that the teddy bear was in the sands made me very uncomfortable. I guess that's exactly the case. It doesn't matter if the child is sad or crying. The important thing is that the toy does not get dirty. Know what I mean? (P6-F-36)"

The opinions obtained in connection with interpersonal relations are as follows:

"I don't have many relationships with people in terms of personal intimacy, but that's my choice. I've never had a 'best friend' since I was a kid. I find it very difficult to establish this kind of long-term relationship. I can't catch the social cues. If I don't learn something while listening to others, I get bored. I have a hard time making sense of allusions or the sarcastic use of words. This makes it very difficult for me to continue the conversation. There are times when I find very difficult to understand what my husband feels. But he understands me. However, I don't want children. I don't like children. A lot of time and effort wasted... (P1-F-32)"

"...I am quite comfortable on my own. I have a girlfriend. She can understand me. My relationship with her is enough for me. I definitely don't want children. My fiancee also respects my decision (P2-M-29)"

"I'm sorry, but I don't like people very much. I have a small circle (P9-F-36)"

I have a group of friends with whom I play video games, but I haven't met any of them in real life. Actually, this is the best kind of friendship in my opinion. Even people I thought were friends when I was in school treated me badly. Virtual friends are the best (P3-F-35)"

"...I can't host guests at home because of my cleaning situation, nor can I do it in other people's homes... I have a sterile, small world that I set up with my fiancee and my cats. That is enough... I am very happy this way. (P7-M-35)"

The findings regarding *loneliness* (being alone, isolation) are as follows:

> *"The calmness... I love being alone. Because most of the time I don't know how to behave when I'm with people. This makes me tired. I feel more energetic when alone. (P6)"*

> *"Not being in a crowded environment, being alone means peace. Silence, happiness... I feel much better and more productive when I am alone. If I don't have an important job, I don't want to go out or see people for days (P6-F-36)"*

> *"Actually, I hadn't thought about it in detail. But I think it's good to get away from people. I can't say that I complain about loneliness (P3-F-35)"*

Individuals with Asperger's who participated in the research stated that they are sensitive in terms of their *personal space* and their space should be respected. Regarding this:

> *"I think people are very unsympathetic about physical boundaries. In my opinion, no one should touch or hug without the permission of the other person... (P2-M-29)"*

> *"My physical space should definitely be respected. I don't like people getting too close to me, touching or hugging me. Physical demonstration of affection is unnecessary and not for me. When people get close enough to break my comfort zone, I'm counting Shakespeare's plays to calm myself down. I don't like guests etc. My house is my castle. Others are invaders... (P1-F-32)"*

> *"...this issue is very important to me. That's why I hate using public transport and walking on crowded streets. I'm starting to get angry. There were times when I had problems with my co-workers because of it, but they learned that I didn't like it anymore. They respect my personal space... (P5-M-30)"*

> *"...I don't like having other people in my house. This is more sincerity than necessary... (P7-M-35)"*

Theme 4. Sensory sensitivities (taste, smell, touch, hearing)

In the study, individuals with Asperger's were asked about whether they had any sensitivity in terms of basic senses. In this context, it has been observed that the participants have some special situations in areas such as tasting, smelling, hearing and touching, and some of them may be in a special skill dimension.

Table 4. Content analysis of the responses of the participants to the question " What do you think about sound, visual, smell or taste?"

Theme	Codes	Frequencies
Sensory sensitivities	Tasting	3
	Smelling	2
	Touching,	4
	Hearing	3

Participants used the following statements regarding their sensory sensitivity:

> *"When I was a kid, I hated foods with a certain texture. I wouldn't eat anything that felt lumpy in my mouth. My mother always complains about this. As I got older, I started to deal with this a little more, but I still don't like this kind of food. Apart from that, I think my sense of taste is very developed. That's why I cook so well. I have a talent for combining different flavors (P3-F-35)"*

> *"I have a sensitivity to most external stimuli. I don't like bright lights, loud noises and certain smells. Especially the sounds make me nervous. I use headphones when I'm outside (P5-M-30)"*

> *"I feel like I can see sounds. I can even taste it sometimes. That's what makes me such a talented musician. (P10-M-33)"*

"Raising voices scares me. My headphones are always with me. Also hate from the white colored lights... I can smell strange things. When I was little, this was very strange to my family. So when I told them that anger has a smell, they were quite surprised. Other than that, I can smell hot and cold air, electricity, certain diseases or laughter. And I'm almost always right about that. I guess I have a special sensitivity to this (P1-F-32)"

"My ears hear very well. I can distinguish even very small sounds. I think that's why I love music so much. Most of the time when I hear a song once or twice, I can play it. When sounds come to my ears, I feel as if they have shapes and I can see them (P4-F-34)"

"...I am very sensitive to smells. I cannot tolerate odors other than cleaning related odors. My home, my clothes, my surroundings should always smell the way I want. Or I feel sick (P7-M-35)"

Theme 5. Routines

As a result of the questions asked to the participants about their routines, it was seen that they had certain routines and they were strictly adhered to these routines.

Table 5. Content analysis of the responses of the participants to the question "What would you say about your routines?"

Theme	Codes	Frequencies
Routines	Daily routines	6
	Personal care routines	5
	Routines related to work life	4

Participants used the following statements regarding their routines:

"I stick to my routines. I don't like surprises in my daily work. The times I wake up, have breakfast, get in and out of work, and return home are fixed. I go to the cinema once every two weeks. 2 days a week to gym. This order is important to me (P2-M-29)"

"I think routines make actions perfect. Therefore, they are indispensable for me. I like to live my life according to a plan. Sometimes I even have a plan B and a C in case things don't work out. 'Let it flow' means chaos (P1-F-32)"

"I don't like going out of my routines. My routines protect me from setbacks and nasty surprises (P4-F-34)"

"Although I work from home, I have a strict schedule. The time when I wake up, have breakfast, start work, take a break for lunch and finish the work is certain. Unless I'm very sick or something, this doesn't change (P7-M-35)"

Discussion

According to the data obtained from the literature and clinical experience, individuals with superiority and Asperger's have common characteristics. For example, verbal fluency or precociousness are broad for them and they all may have perfect capacity (Levy, 1988; Frith, 1991; Clark, 1992; Silverman, 1993). Despite the limitations of the study, the data obtained from the participants support these findings. However, it is generally thought that the distinction between high-functioning autistic people with superior intellectual abilities are ambigious (Myles et al., 2004). Therefore, more studies are needed in this context.

There are studies showing admiration for letters or numbers in individuals with both high-functioning autism and gifted Asperger's, and both groups have a strong memorization memory from an early age. Both can show a keen concern in a particular topic and acquire a vast amount of literal information on that topic (Klin et al., 1995; Gallegher, 2004). They can annoy their peers with their endless talk about their interests. They can ask endless questions or give very long, detailed and specific answers to seemingly endless questions. However, as seen in the study, individuals with gifted

Asperger's syndrome have more unusual occupations (outside of the usual/out-of-the-ordinary habits) and interests compared to those with high-functioning autism. Kerbeshian et al. (1990) suggest that limited and marked interests or insensitivity in many areas are important in differentiating Asperger's syndrome (Kugler 1998).

Individuals with gifted AS are defined as individuals with a wide variety of abilities, such as gifted individuals. Hans Asperger's observation is that all individuals with this syndrome have a "special interest in a particular field that enables them to achieve quite extraordinary levels of performance" (Asperger and Frith, 1991). The extraordinary abilities and performances of the participants in the fields of painting, music, literature or informatics also support these findings. This interest is like the way gifted individuals are told to have "passions" (Torrance, 1965; Betts & Kercher, 1999).

While exhibiting extraordinary abilities in selected fields, both gifted individuals with Asperger's syndrome and gifted individuals may perform at an average level in other areas (Baum, Owen and Dixon, 1991; Wing, 1991). Both gifted individuals and individuals with Asperger's Syndrome are described as experiencing an irregular development, especially when cognitive development is compared with social and emotional development at a young age (Hollingworth, 1942; Altman, 1983; Asperger & Frith, 1991; Silverman, 1993). Especially from the point of view of emotional development, it is seen that individuals with gifted Asperger's have problems in social interaction and communication skills, understanding the perspective of others and showing loyalty to people compared to gifted and high-functioning autistic individuals. As participants in the study noted, individuals with Asperger's require coping with intense emotional states in social relationships (Ellis and Dumas, 2018). However, in this case, this process can turn into a very difficult situation for Aspergers due to its many features (Hillier et al., 2018). Compared to gifted and high-functioning autistic individuals, individuals with gifted Asperger's may have difficulty developing a romantic relationship and understanding the emotional dimension of the romantic relationship (Baron-Cohen et al., 2001; Byers et al., 2013).

Despite possessing an average to above-average Intellect, people with AS frequently struggle to empathize with others due to a lack of social cognition or theory of mind, according to Carothers and Taylor (2004), who also agree with Baron-Cohen et al (2003). While it has been discovered that people with AS have a strength in studying, researching, categorizing, or building systems, it has also been discovered that this capacity is frequently found to be adversely connected with empathizing (Myles et al, 2007).

On the other hand, there are studies showing that rates of depression are more common in both gifted individuals with Asperger's and high-functioning autism than in gifted individuals and other segments of society (Rumsey et al. 1985; Tantam 1988; Ghaziuddin et al., 2002; Larsen and Mouridsen, 1997; Kim et al., 2000). When considering depression in autism and Asperger's syndrome, there are diagnostic difficulties because the characteristics of these disorders such as social withdrawal, appetite and sleep disorders are also the main symptoms of depression. Verbal and nonverbal communication impairment in both Asperger's and individuals with high-functioning autism can mask the symptoms of depression. Symptoms associated with high-functioning autism and Asperger's syndrome, such as obsessions and self-harm, may increase during an episode of depression. Depression in some cases; It has been shown to be hidden by the symptoms of autism and Asperger's syndrome. A symptom of depression often reported in high-functioning autism and Asperger's syndrome is depressed mood, and depressed mood is identified as a symptom in nearly all case studies (Kim et al., 2000; Tsioursis et al., 2003). Both Asperger's and individuals with high-functioning autism may exhibit a developmental delay in certain components of the socio-emotional space. In both groups, difficulties in verbal comprehension can affect not only communication and social interaction, but also many areas of daily life.

Hypersensitivity to sensory stimuli is also common in individuals with both high-functioning autism and gifted Asperger's. Parents of individuals with both high-functioning autism and gifted AS often report their experiences of preferring to put on specific types of materials, consume foods with a specific fabric become withdrawn or run around sounds they find frightening, or resolutely reject certain facts. The results obtained in the study consistent with the findings obtained in the studies of Bettison, (1996); Tanguay et al., (1998) and Yates and Le Couteur, (2016).

Conclusion and Recommendations

It is claimed that individuals with gifted Asperger's are more persistent and rigid in their routines and habits, have a more developed imagination, show more motor stereotypes, and are constantly interested in strange, unusual objects and subjects compared to high-functioning autistic individuals and gifted individuals (Sussman, 1999). The participants insisted on their routines, habits and obsessions during the interview. Although studies with children with Asperger's syndrome show that they are routine-attached individuals like high-functioning autistic children, it has been observed that Asperger's individuals share their interests and take pride in them from early infancy (Kugler, 1998). In this context, individuals with gifted Asperger's differ from individuals with high-functioning autism (Ehlers et al., 1999; Ehlers and Gillberg, 1993).

The characteristics of gifted, high-functioning autistic and gifted individuals with gifted Asperger's and the characteristics stated in the literature are compatible with each other. The lack of empirical studies designed to compare these populations precludes comprehensive analysis, but a new line of research can be proposed. But empirical studies need to be increased. Because it is necessary to clarify who is normal gifted, who has Asperger's special talent or who has high-functioning autism. Some normally gifted individuals keep themselves away from social relations due to labeling. In this case, the confusion increases even more. On the other hand, the fact that children have been diagnosed with high-functioning autism instead of Asperger's diagnosis since 2013 exacerbates the paradox. It is thought that some of the characteristics conveyed by gifted adults with Asperger's disease interviewed in this study are not found in individuals with high functioning autism. Therefore, studies comparing the three groups are needed.

Studies with families of children, adolescents or young adults with high-functioning autism, giftedness and gifted Asperger's are very limited in the literature. This makes it impossible to observe the developmental stages of these individuals from an early age. In this context, it is seen that there is a need for studies with families, due diligence and appropriate training and development programs. For example, examining the similar and different characteristics of individuals with supernormal abilities and alexithymia and gifted individuals with Asperger's is a subject worth examining in new studies.

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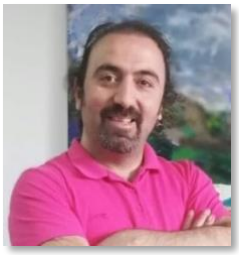

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Appendix 1. Semi-structured Interview Questions

Semi-structured Interview Questions

Q1. What did being with Asperger's give you in life, what did you achieve more easily?
Q3. What kind of psychological problems do you have?
Q4. How would you describe your relationships with people?
Q4. What do you think about sound, visual, smell or taste?
Q4. What would you say about your routines? (importance, commitment etc. how?)