

# **Applicability Degree of Autism Spectrum Disorder Diagnostic Criteria of Diagnostic and Statistical Manual of Mental Disorders –the 5 the Edition (DSM V) on Children Enrolled in Autism Centers in Jordan**

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## **Abstract**

This study aims to investigate the applicability of the diagnostic criteria of autism spectrum disorder in the diagnostic and statistical manual of mental disorders, fifth edition (DSM V) on the children enrolled in selected autism centers in Jordan. To achieve the objectives of the study, the researchers applied the scale of the (DSM V) on the children with autism spectrum disorder. The scale consisted of (30) items distributed on two areas. The first area is a lasting impairment in the social communication and interaction. The second area includes behavioral patterns and definite, repetitive and stereotyped interests and activities. The validity and reliability were extracted and calculated using the re-test application method, which amounted to (88.0) as well as the internal consistency, which reached to (94.0). The scale was also applied on the study samples that were represented by (300) children through the responses of the (94) teachers regarding the children with autism spectrum disorder. The results showed that the applicability of the diagnostic criteria of the autism spectrum in the diagnostic and statistical manual of mental disorders, (DSM V) on the children was low by (36.3%) with total occurrences of (109) children who suffered from the autism spectrum disorder, and (63.7%) of children on whom the two criteria were not applicable with a total of 191 children.

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**Keywords:** Autism spectrum disorder, Diagnostic and Statistical Manual of Mental Disorders, (DSM V)

## **Introduction**

The field of special education in the second half of the last century has witnessed a remarkable development on the Arab and International levels

through examining the needs of people with special needs, identifying and solving their problems. Therefore, attention was focused to disclose them, searching in their characteristics and conducting certain programs for them. The autism spectrum disorder is actually one of the categories that have received a significant attention and care in recent times because of the neuro-developmental disability of those children suffering autism and leading them toward withdrawal. The autism spectrum disorder is one of the most difficult developmental disabilities for the child as well as it has a tremendous effect on the individuals and the family (Abu Soud, 2002).

The autism spectrum disorder is one of the disorders that made huge argumentations among the scientific and research community. This disorder was previously considered as a manifestation of severe emotional disorders; however, today, it is classified under the neuro-developmental disorders or the autism spectrum disorders (ASD), which were mentioned in the diagnostic and statistical manual of mental disorders-the fifth edition, issued by the American Psychiatric Association (APA, 2013).

Despite the interests of the studies regarding autism spectrum disorders, there is a clear lack in the diagnosis of the children with autism spectrum disorder. The field observations indicate that the children with autism enrolled in the centers and institutions of special education are not subject to accurate diagnosis in the centers of the Ministry of Social Development, which routinely conducts a preliminary diagnosis without using the protocols known in minute diagnosis. Such minute diagnosis for autism spectrum disorders is essential especially because it is complex and involves multiple factors, not forgetting the apparent disparity among the individuals suffering from such spectrum disorder.

The fifth edition of the diagnostic and statistical manual of mental disorders (DSM V, 2013) referred to the most modern developments in the mechanism of our understanding of the categories that fall under the name of the pervasive developmental disorders (PDD), which appeared in the fourth amended edition of the manual. Such developments had a dramatic impact and change in this category. Perhaps, one of the most significant changes includes the agreement that Rett syndrome and the childhood disintegrative disorder became no longer a part of the autism spectrum disorder. The autism spectrum disorder includes three cases (Asperger's disorder, the indefinite comprehensive developmental disorder, and the traditional autism). These three categories fall under one name: the autism spectrum disorder. Generally, autistic children who were previously classified under those three categories came to be considered as suffering from the autism spectrum disorder. (Al-Jabiri, 2014).

Among the most important changes in the autism disorder in light of the fifth edition of the diagnostic and statistical manual of mental disorders (DSM V, 2013) are as follows:

1- The use of a single diagnosis in the light of the new criteria which is the autism spectrum disorder that includes (Asperger's disorder, the indefinite comprehensive developmental disorder and the traditional autism).

2- Diagnosis in the light of the new criteria, depending on two criteria instead of three diagnostic criteria that were used by the revised fourth edition. The new criteria study the diagnosis according to the two criteria of deficiencies in the social communication and interaction and the stereotyped behaviors and interests.

3- The number of diagnostic symptoms in the light of the new criteria (DSM V) including the following behavioral symptoms: three symptoms in the first criterion and four symptoms in the second criterion. On the contrary, the old criteria used twelve behavioral patterns distributed on four behavioral symptoms for each diagnostic criterion.

4- The new criteria stipulate the identification of severity levels; therefore, examiners should identify the severity levels of the symptoms, determining the level and type of the service and rehabilitation support, which should be provided to achieve the maximum functional independence in daily life. The new criteria employ three levels to this severity for each diagnostic criterion while the old criteria did not employ such procedure in determining the level of severity.

5- The age range was extended in the light of the new criteria, where the symptoms include the age of early childhood until eight years, rather than the age range used by the old criteria, which is only up to three years.

6- The new criteria stipulate the examiners to determine the extent of the presence of other accompanying disorders for the autism spectrum disorder of the child at diagnosis, which is a condition that was not mentioned by the old criteria as a diagnostic condition but was recommended by the field when needed.

7- The fifth edition of the manual added another diagnostic category known as the social communication disorder, which is considered the right diagnosis for the child who is diagnosed with the behavioral symptoms that fall under the first criterion of the autism spectrum disorder and, at the same time, is not diagnosed with the behavioral symptoms of the second dimension (criterion). Therefore, the applicability of the symptoms in both dimensions leads to the diagnosis of the autism spectrum disorder, while the applicability of the symptoms in the first criterion only leads to the diagnosis of the social communication disorder.

Through reviewing the literature related to the autism spectrum disorder, the two researchers found a scarcity of studies on the applicability

of the diagnostic criteria of the autism spectrum disorder in the diagnostic and statistical manual of mental disorders (DSM V). Therefore, the current study aims to identify the applicability of the diagnostic criteria of the autism spectrum disorder in the diagnostic and statistical manual of mental disorders (DSM V) on the children enrolled in selected autism centers in Jordan.

### **Literature Review**

Here is a summary of the most important studies that were conducted in the area of the present study, and they will be presented sequentially from the newest to the oldest in addition to showing their procedures and results.

Beighley (2014) conducted a study in the United States that aimed to identify the differences in the behavioral characteristics of adults suffering from the autism spectrum disorders using DSM-IV-TR and DSM V. The study sample consisted of (51) adults who suffered from the autistic spectrum disorder. To achieve the objective of the study, DSM-IV-TR and DSM V were used to diagnose the behavioral characteristics of the respondents. The results showed that DSM V was more able to observe the repeated behavioral characteristics in adults suffering from the autism spectrum disorder compared to using DSM-IV-TR.

Young and Rodi (2014) conducted a study in Australia to detect the ability of DSM-5 in detecting the different behaviors of the individuals suffering from the autism spectrum disorder, and the study sample consisted of (210) individuals suffering from the autism spectrum disorder, Asperger's syndrome, and the developmental disorders. To achieve the objective of the study, the criteria, included in the (DSM V), were used to determine the different behaviors. The results of the study revealed that the DSM-IV-TR criteria were not able to detect the social behaviors among the members of the autism spectrum disorder compared to using the DSM V.

Barton (2013) conducted a study in the United States that aimed at evaluating the (DSM V) criteria regarding the ability to detect the behaviors of the children suffering from the autism spectrum disorder. The study sample consisted of (422) children diagnosed with the autism spectrum who were randomly chosen. The results indicated that the sensitivity of the (DSM V) criteria have reached (0.93). This means that they are able to determine a wide range of behaviors of children with autism spectrum disorder, and the results also showed a low level of the ability of the (DSM V) criteria in determining the social and behavioral problems in children with autism spectrum disorder.

Beighley (2013) conducted a study in the United States that aimed to compare the criteria of both DSM-IV and DSM V regarding the ability to detect the behavioral problems in the adolescents of the autism spectrum disorder. The study sample consisted of (459) randomly chosen children. To

achieve the objective of the study, the children and the adolescents of the study sample were observed using the criteria of both (DSM-IV) and (DSM V). The results of the study indicated that the list of the criteria for the (DSM V) were more able to diagnose the behavioral problems in children and adolescents with autism spectrum disorder.

Turygin (2013) also conducted a study in the United States that investigated the effect of (DSM V) criteria on identifying the behaviors and adaptability of the children with autism spectrum disorder. The study sample consisted of (142) children and adolescents with autism spectrum disorder who were selected randomly. To achieve the goal of the study, only the (DSM V) criteria were used. The results of the study indicated that there were no differences with regards to the diagnosis between the uses of (DSM-IV) and (DSM V) criteria for the children and adolescents with autism spectrum disorder. Furthermore, the results revealed that there are no statistically significant differences in determining the behavioral characteristics and the adaptability of the children using the (DSM-IV) and (DSM V) criteria.

Furthermore, Matson (2012) conducted a study in the United States and tried to identify the level of the prevalence of autism and its related behaviors in children. He compares the criteria of both the (DSM-IV) and (DSM V) in the diagnosis of autism spectrum. The study sample consisted of (2721) students who were randomly chosen and the criteria of both the (DSM-IV) and (DSM V) were used to determine the extent of ability to detect the behavioral characteristics of the children with autism spectrum disorder. The results of the study revealed that the criteria of (DSM V) were more able to detect the behavioral characteristics in the children with autism spectrum compared to the (DSM-IV) criteria.

However, The study of Peery (2005) aimed to examine the ability of the diagnostic scale compared to the diagnosis of the diagnostic and statistical manual of mental disorders in its fourth edition (DSM-IV) . It also examines the ability of the discriminatory scale of the autism spectrum among the following five groups: the indefinite comprehensive developmental disorders, the mental retardation and the developmental delay, etc. The study sample consisted of (274) children aged between 2-6 years old. The results showed the great compatibility between the results of the diagnosis of both the scale and the (DSM-IV), and the results also showed the ability of the scale to distinguish the autism spectrum disorder from other kinds of disorders, in addition to its ability to determine the severity and degree of turbulence.

By reviewing the previous studies, we note that many studies used the diagnostic criteria in the diagnostic and statistical manual of mental disorders, (DSM V) in diagnosing the children suffering from the autism

spectrum disorder. We also note that a contradiction between the results of the previous studies that some indicated that the (DSM V) is more effective in the diagnosis of the social and behavioral problems of children with autism spectrum disorder such as (Beighley2014). The results of the other studies indicate that there is a decrease in the ability of the diagnostic criteria in (DSMV) to determine the social and behavioral problems of the children with autism spectrum disorder such as those of Young and Rodi, (2014) and Turygin (2013). The researchers also note that there are few Arab studies on the applicability of the diagnostic criteria of the autism spectrum disorder in the diagnostic and statistical manual of mental disorders (DSM V) on the children with autism spectrum disorder, which makes the subject of this study crucial for disclosing the applicability of the diagnostic criteria of the autism spectrum disorder in the diagnostic and statistical manual of mental disorders, (DSM V) on the children with such disorder.

### **Study Problem**

Autism spectrum disorder is considered as one of neuro-developmental disorders that are still surrounded by ambiguity in all aspects. Therefore, it is important to conduct an accurate diagnosis for the children with such disorder in order to provide therapeutic and educational services. The issuance of the fifth edition of the diagnostic and statistical manual of mental disorders (DSM V) has included many variations and differences in the diagnosis process compared to the previous editions. The presence of problems in the process and procedures of diagnosis, revealed by the field practices and views, leads to the fact that the present study came to identify the extent of the accuracy of such actions depending on the modern criteria and diagnostic standards.

In general, the researchers did not find any studies on the criteria used to diagnose children with autism spectrum disorder and on their applicability with the autism criteria in the diagnostic and statistical manual of mental disorders, (DSM V). So, the idea of the current study is to determine the applicability of the diagnostic criteria of the autism spectrum used in the special education centers on the children with autism spectrum disorder in Jordan. Specifically, this study answers the following question:

- What is the applicability of the diagnostic criteria of the autism spectrum in the diagnostic and statistical manual of mental disorders, (DSM V) on the children enrolled in selected autism centers in Jordan?

### **Study Importance**

The importance of the study is as follows:

1. highlighting the essential global criteria used in diagnosing the autism spectrum disorder;

2. detecting the shortcomings and deficiencies in the diagnosis process in the field.
3. Providing specialists with the right standards used during the diagnosing process;
4. the accurate diagnosis which would help in the provision of qualitative special education.

### **Terminology of the Study**

- Autism spectrum disorder: a neurological developmental disorder represented in the lack of social networking, and a set of behavioral patterns, interests and limited activities, repetition and stereotyping that appear when the child is at his early childhood. (DSM V)
- Diagnostic criteria: the characteristics and conditions that should be met to conduct an accurate diagnosis of the autism spectrum disorder in the diagnostic and statistical manual of mental disorders (APA, 2013).

### **The Procedural Terminology of the Study**

- Children with autism spectrum disorder: the children diagnosed with autism spectrum disorder by the Ministry of Social Development and who receive special education services, are enrolled in the Ministry's centers and institutions of special education in Amman, Irbid and Karak.
- Diagnostic criteria: a set of criteria and characteristics that explain the nature of the symptoms and the type of the problems encountered by the people with autism spectrum disorder.

### **Study Limitations and Determinants**

#### **Study limitations**

- The spatial limitations: the study will be applied on the special education centers in the cities of Amman, Irbid and Karak.
- The temporal limitations: the study will be applied in the second semester of the academic year 2015-2016.
- The human limitations: The study will be applied on the male and female teachers of children with the autism spectrum disorder in the special education centers.

### **Method and Procedures**

#### **Study Sample**

The study samples are represented by (300) children suffering from the autism spectrum enrolled in the program of autism in the institutions and centers of special education centers. They have been diagnosed with the autism disorder spectrum in the following provinces: Amman, Irbid, and Karak. They were chosen deliberately. The study sample will also include

(94) male and female teachers of children with autism spectrum. Those teachers have already educated and trained children with autism spectrum disorder in private training centers. Table (1) shows the distribution of the members of the study according to the variable of the province.

Table (1) Distribution of the study individuals according to the variable of the province

Province	children with autism spectrum disorder	Teachers
Amman	170	55
Irbid	90	29
Karak	40	10
TOTAL	300	94

### Study Tools

For the purposes of this study, the researchers developed a scale to detect the applicability of the diagnostic criteria of autism spectrum in the fifth diagnostic and statistical manual of mental disorders (DSM V) on the students with autism spectrum disorder. The scale consisted of (30) items distributed on two dimensions. The answers to the scale items will be either with (Yes) or (NO). These dimensions include:

1. A lasting impairment in the social communication and interaction;
2. Behavioral patterns and definite, repetitive and stereotyped interests and activities.

And in order to examine the study sample applicability to the scale items, the double scale has been considered by which each item of the scale was given one point in case it is applicable, and if it is not applicable, it is given a zero point.

Table (2) the areas of the scale and the items of each area:

Areas of the scale of the diagnostic Criteria (DSM5)	number of items	items
a lasting impairment in the social communication and interaction	3	1-14
behavioral patterns and definite, repetitive and stereotyped interests and activities	4	15-30
Total	7	30

### The Scale Validity

#### The Preliminary Validity (the arbitrators' validation) of the Scale

The researchers introduced the scale in its preliminary image consisting of (30) items to a number of (10) experts specialized in the field of special education to judge the validity, accuracy, and clarity of items and the degree of the affiliation of each item to the field which included the scale. Depending on the consensus of (80%) of the arbitrators in accepting the item, the arbitration results have led to many procedures such as reformulating (5) items for their lack of clarity.



In the light of the submitted amendments, the number of items reached to (30), and they were divided into the two areas previously mentioned.

**The Construct Validity**

For the purpose of extracting the significance of the construct validity after being applied to the exploratory sample of (20) children of autism spectrum from outside the sample of the current study, the (Pearson) correlation coefficients were calculated among all the scale domains. The correlation coefficient between the items and their domain and the total score ranged between (0.33) and (0.63).

**The Scale Reliability**

The scale reliability significations were extracted in two ways. The first of which was through the reliability coefficient via the re-application of the (test- retest) where the scale was re-applied on (20) male and female students from outside the study sample that has already answered the items by the timeframe of two weeks. The correlation coefficient in this way was (0.88). However, the second way was conducted through the internal consistency by applying the scale on (20) male and female students where Cronbach's coefficient alpha was calculated and the variation coefficient in this way was (0.94). Table (3) shows the variation coefficients of both ways on the performance areas and the overall performance:

<b>The diagnostic criteria</b>	<b>Repetition reliability</b>	<b>internal consistency</b>
a lasting impairment in the social communication and interaction	0.84	0.91
behavioral patterns and definite, repetitive and stereotyped interests and activities	0.89	0.85
Total	0.88	0.94

- **Study Design and Statistical Treatment:**

To achieve the objectives of the study, the survey method was used, and the study included the following variables:

- **Study Variables:**

First, the independent variable:

- The Diagnostic criteria of the autism spectrum.

Second, The dependent variable:

- The students enrolled in the centers of autism spectrum disorder in Jordan.

- **Study Results and Discussion:**

The study aims to determine the applicability of the diagnostic criteria of autism spectrum in the diagnostic and statistical manual of mental

disorders (DSMV) for the children enrolled in selected centers of autism in Jordan. After being collected, the data was statistically processed through extracting the percentages of the first and second criteria which are represented with: a lasting impairment in the social communication and interaction and the behavioral patterns and definite, repetitive and stereotyped interests and activities.

The following is a presentation of the findings of the study. The question that is concerned with the applicability of the diagnostic criteria of autism spectrum disorder in the diagnostic and statistical manual of mental disorders (DSMV) for the children enrolled in the autism centers in Jordan finds its answer in the frequencies which include the conditions of both the applicability and non-applicability. They were calculated in addition to the percentages for each diagnostic criteria applied on the study sample were calculated. Table 4 illustrates this:

Table (4): The Frequencies and Percentages of the Applicability Degree of the Diagnostic Criteria of Autism Spectrum Disorder:

Criterion	applicability		Non-applicability		total
	Number	Percentage	Number	Percentage	
a lasting impairment in the social communication and interaction	197	65.7%	103	34.3%	300
behavioral patterns and definite, repetitive and stereotyped interests and activities	135	45%	165	55%	300

Table (4) shows that the percentage of the applicability of the diagnostic criteria on the students enrolled in the autism centers was low in both criteria where the number of the children suffering from autism on whom the first criterion was not applicable as follows: a lasting impairment in the social communication and interaction included (103) children by (34.3%). As for the second criterion, the behavioral patterns and definite, repetitive and stereotyped interests and activities, there were (165) children by (55%).

Table (5) refers to the applicability degree of the diagnostic criteria in (DSM V) to the students of the autism spectrum disorder in the special education centers through frequencies and percentages. Table 5 illustrates this as follows:

### **The Frequencies and Percentages for Determining the Applicability Degree of Each Criterion on the Children of the Autism Spectrum Disorder – the Diagnosis of the Autism Spectrum Disorder:**

<b>the applicability degree of the diagnostic criteria</b>	<b>number of children</b>	<b>percentage</b>
Applicability among criteria	109	36.3%
Non-applicability among criteria	191	63.7%
Total	300	100%

Based on table (5), we notice that the percentage of the applicability of both diagnostic criteria on the children enrolled in the autism centers is (36.3) by (109) children who have the two criteria in addition to the percentage of (63.7) on whom the criteria were not applicable by a total of 191 children. These results indicate that many children with autism spectrum disorder enrolled at the autism centers were not subject to the proper diagnosis due to the low percentages showing the lack of the effectiveness of the diagnosis based on the diagnostic criteria of the autism spectrum in the diagnostic and statistical manual of mental disorders (DSM V).

From such results, we conclude that the degree of the applicability of the diagnostic criteria of the autism spectrum disorder in the diagnostic and statistical manual of mental disorders (DSM V) on children with autism spectrum disorder in selected autism centers in Jordan was low as was concluded by the two researchers.

### **Recommendations**

In the light of the results of the study, the researchers recommend the following:

1. Conducting further studies on the diagnostic criteria and studying the variables that have not been addressed in the current study.
2. Educating and training the staff in the autism centers on the accurate diagnosis of the disorder based on the diagnostic criteria in the diagnostic and statistical manual of mental disorders (DSM V).
3. The importance of the presence of a multidisciplinary team that performs the detection and diagnosis of children with autism spectrum disorder.
4. The need for developing certain criteria for the category of autism spectrum disorder suitable to the Jordanian environment.

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