

Level of Sensory Integration Problems among People with Autism Spectrum Disorder from the Viewpoint of Their Teachers in Jeddah

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Abstract---The study aimed to show the Level of Sensory Integration Problems among People with Autism Spectrum Disorder from the viewpoint of their teachers in Jeddah (Saudi Arabia). The study sample consisted of (63) male and female teachers working in special education centers and societies that deal with people with autism spectrum disorder. The researcher used the descriptive approach and a questionnaire of (45) items and five dimensions including audio dimension, visual dimension, taste dimension, smell dimension, and kinesthetic dimension. The validity and reliability of the instrument was verified. The results showed that there were no differences in determining the level of sensory integration problems for people with autism spectrum disorder from the viewpoint of their teachers in Jeddah, according to the gender variable and the educational qualification and experience.

Keywords: sensory integration, children with autism spectrum disorder, sensory behaviors

Introduction

Autism spectrum disorder is one of the most complex developmental disorders, which impedes the brain's assimilation of information and how to process it, and is characterized by interference with a large number of other different disorders and disabilities. The autism spectrum disorder has recently appeared in the field of special education and the American pediatrician Leo Kanner was the first to introduce this term in 1943, and was the first to specify autism spectrum disorder as a behavioral symptom syndrome and as a separate disorder on its own, and he pointed out to the behaviors that characterize autism spectrum disorder which include: inability to establish relationships with others, delayed speech acquisition, communication deficit, echolalia, typical play, and weak analysis. (Al-Qusayrin, 2008).

Recent years have seen a noticeable increase in the prevalence of autism spectrum disorder, "as the Center of Disease Control (CDC, 2014) indicated that its prevalence was 1 in 68 children (1 in 42 males, 1 in every 189 females). The autism spectrum has severe degrees in females, and it is accompanied by severe intellectual disability" (Al-Shami, 2004, p. 19). To the best knowledge of the researcher, there were no accurate surveys on the prevalence of autism in the Arab world.

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Children with autism spectrum exhibit a large and heterogeneous variety of individual characteristics and traits, varying in intensity from case to case, such as insufficient visual contact, physical gestures, use of language, and the inability to establish and retain friendships (Al-Khatib et al., 2016).

Children with autism spectrum disorder show inconsistent forms of sensory responses or what is known as perceptual disturbance. Their reactions are either exaggerated to certain sounds or strong smell or specific touch and fascination with lights, or an obviously weak reaction marked by indifference, which is evident from the lack of response to pain or heat or cold and their sensory responses may appear in the form of repeated and exaggerated interests, such as their fascination with some visual stimuli, such as lights and colors, or their interest in searching for some sensory stimuli such as jumping, climbing and turning. (Little, et al., 2015; Ausderau, (Sensation Interest) Repetition and Seeking Behaviors - STRK- et al, 2014; 2014; Ben-Sasson, et al., 2013; Schoen, et al., 2009; Fazlioglu & Baran, 2008; Kranowitz, 2006).

Autism spectrum disorder studies indicate that sensory integration disorders are noticeably prevalent accompanied by difficulties in aspects of life that are evident through the delay in the development of fine motor skills, large motor skills, kinesthetic skills, social skills and play skills, as well as low adaptive responses and poor self-confidence and self-esteem, or both. (Schoen, et al., 2009; Fazlioglu & Baran, 2008; Leekam, et al., 2007; Baranek, et al., 2006)

The sensory integration function is for the human body to receive the sensory inputs around it such as images, sounds, contacts, smells, tastes, etc. through the sensory devices (eye, ear, nose, tongue, skin, and vestibular apparatus) and these sensory devices convert them into electrical messages that transmit to the central nervous system and the brain organizes these sensory inputs, merging and interpreting them in a process called sensory integration. The first to indicate the concept of sensory integration was the Functional Therapy Specialist (Jean Ayres) in the sixties of the last century (Ayres, 2004).

The Statistical Manual and Diagnosis of Mental Disorders in its Fifth Edition (DSM5) indicated that unusual responses to sensory inputs are considered one of the accompanying symptoms, so severe reactions to the change of taste, smell, touch, and child stature may be considered features of autism spectrum disorder (Sharon, 2014; American Psychiatric Association, 2013)

Variation in sensory features in children with autism spectrum disorder is a challenge in understanding the nature of the disorder and in the ability to explain its properties and plan possible therapeutic interventions (Little, et al.; 2015; Ausderau, et al., 2014).

Al-Ruwaili study (2019) revealed the level of sensory integration problems among people with autism spectrum disorder in the capital city of Amman from the teachers' viewpoint and methods of treatment, and the results revealed that there were no differences in the level of sensory integration problems among people with autism spectrum disorder.

A study by Al-Ruwaili (2019) on the level of sensory integration problems among people with autism spectrum disorder in Amman Governorate (Jordan) from the teachers' point of view and ways to treat them, revealed that there were no differences in the level of sensory integration problems for people with autism spectrum disorder.

Morsi (2019) conducted a study aimed to verify the effectiveness of a program based on sensory integration activities in reducing the symptoms of autism among a sample of autistic children in Al-Jouf region in the Kingdom of Saudi Arabia, and the results indicated that there were statistically significant differences at the level of (5,.) and below, between the average scores of the experimental group members before and after the application of the program on the dimensions of the sensory problems scale and the overall score of the scale in the post measurement. The study concluded that the activities based on sensory integration reduce the symptoms of autism.

In a study conducted by Aitana, Al-Amr and Malkawi (2018) aimed to investigate the effectiveness of a training program based on sensory integration strategies in reducing the problems of sensory responses in children with autism spectrum disorder; the results indicated the presence of improvements to all dimensions of the scale in children.

Also, Mustafa (2016) conducted a study aimed at revealing the effectiveness of an early intervention program based on sensory integration to improve attention and perception among people with autism spectrum disorder in Saudi Arabia, and the results of the study indicated that there were statistically significant differences between the two groups, and estimation of attention and perception was in favor of the experimental group.

In a study conducted by Abdel Karim and Mohammed (2015), with aims to know the effectiveness of the sensory integration strategy and the development of large and fine motor skills among children with autism spectrum disorder, the results showed effectiveness in developing fine and large motor skills among children.

The study of Schaaf et al. (2014) which aimed to identify the division of sensory integration strategies, showed the effectiveness of sensory integration therapy for autistic children, besides its effectiveness in developing their social and self-care skills.

Stalling-Sahler (1998) indicated that sensory integration is a neurological process that allows reception, regulation and processing of sensory stimuli to achieve an appropriate response to environmental stimuli for children with autism spectrum disorder.

While Musa (2013) defines sensory integration as a process that includes organizing the input stimuli entering the brain for analysis and giving meaning to things, where sensory integration organizes the child's senses to receive information and analyze it in a correct way through the brain, and on the other hand it connects different senses to do their work as an integral system.

The current research seeks to answer and verify the following: the level of sensory integration problems among people with autism spectrum disorder in Jeddah from the teachers' point of view, and the effect of qualification, years of experience, and school in determining sensory integration problems among people with autism spectrum disorder.

The research aims to increase information about children with autism spectrum disorder, and to better understand their characteristics and the consequent behavioral problems affecting their different abilities. It includes many techniques and sensory activities that are used to overcome behavioral problems, and to explore problems of sensory integration, according to children gender and age. It also contributes to providing theoretical literature with information about the problems of sensory integration in children with autism spectrum disorder. Finally it came to clarify the natural sensory disorders in children with autism spectrum disorder.

Study Instruments

The research population consisted of all teachers of people with autism disorder in centers and societies in Jeddah Governorate. The research sample consisted of (63) male and female teachers. It was randomly selected including teachers in centers and special education societies, and the researcher used the descriptive approach for this research.

Table (1): Distribution of sample members according to the study variables

S/N	Qualification	Number of teachers
1	Postgraduate	41
2	BA	22
Total		63
S/N	Experience	Number of teachers
1	Less than 5 years	23
2	6 – 9 years	25
3	More than 10 years	15
Total		63
S/N	Gender	Number of teachers
1	Male	25
2	Female	35
Total		63
S/N	School	Number of teachers
1	Public school	34
2	Private school	29
Total		63

Statistical Processing

To answer the study questions, the following statistical methods were used:

- Arithmetic mean, standard deviations and analysis of variance between groups were used.

Study Instrument:

A Questionnaire on the level of sensory integration problems in people with autism spectrum disorder

The questionnaire was the major tool of the field study, which was prepared with the aim of identifying the problems of sensory integration among people with autism spectrum disorder from the teachers' point of view. The first section of the questionnaire includes a message from the researcher to the study sample to clarify its objectives, and

emphasize the confidentiality of data, while the second section includes a set of independent study variables that are: (experience, qualification, gender, school), and Likert Five-Point Scale has been used (Very much, much, Medium, a Little, somewhat) to record the responses of the study sample to the questionnaire. The said questionnaire was built with the help of previous relative Arab and foreign studies which the researcher has benefited from them. As well as reviewing some of the theoretical literature on the subject of students with autism spectrum disorder. In its final form, the instrument consisted of (5) themes as follows: "Problems related to the visual dimension" consisting of (10) items, "Problems related to the audio dimension, of (10) items," Problems related to the touch dimension ", consisting of (8) items, "Problems related to the smell dimension, consisting of (5) items, "Problems related to the kinesthetic dimension, consisting of (12) items. The total was (45) items.

Validity and reliability of the questionnaire:

The validity and reliability of the questionnaire were verified by several methods, including:

Validity of the arbitrators:

To verify the truthfulness of the questionnaire, it was presented to (8) arbitrators -faculty staff- from the departments of special education and educational sciences in colleges of education, as well as was presented to (10) specialists of autism spectrum disorder and were excluded when the questionnaire was finally applied.

Internal Consistency Validity:

The questionnaire was empirically applied to a sample of autistic spectrum disorder specialists in order to calculate the validity and reliability of the questionnaire. Correlation coefficients were calculated between the expressions of each theme of the questionnaire and the overall score of the dimension as all items of the questionnaire correlate with the dimension to which the item belongs and are positive and statistically significant.

Inner consistency between dimensions and overall score:

Likewise, the validity of the questionnaire was verified through the dimensional correlation coefficients of the overall score, as shown below:

All interconnection coefficients are indicated at the level of 0.01., and through correlation coefficients and their statistical significance, it is clear that the questionnaire enjoys high validity, as all dimensions are highly correlated and statistically significant, and all interconnection coefficients are indicated at the level of 0.01.

The correlation coefficient between the scores obtained by respondents in each of the items of the questionnaire and the total score is shown in the following table

Table (2) shows correlation coefficient between the scores obtained by respondents in each of the questionnaire items and the total score

Item number	Correlation coefficient	Item number	Correlation coefficient	Item number	Correlation coefficient
1	0,90**	16	0,76**	31	0,71**
2	0,90**	17	0,66**	32	0,74**

3	0,88**	18	0,73**	33	0,67**
4	0,88**	19	0,70**	34	0,75**
5	0,88**	20	0,70**	35	0,77**
6	0,87**	21	0,72**	36	0,66**
7	0,87**	22	0,72**	37	0,61**
8	0,88**	23	0,68**	38	0,47**
9	0,88**	24	0,71**	39	0,41**
10	0,88**	25	0,70**	40	0,88**
11	0,88**	26	0,73**	41	0,70**
12	0,88**	27	0,77**	42	0,71**
13	0,87**	28	0,73**	43	0,76**
14	0,80**	29	0,72**	44	0,87**
15	0,77**	30	0,74**	45	0,75**

**** Statistically significant at the level of 0.001**

From the results of the table, it appears that all the items are statistically significant, meaning that they are suitable for measuring what they have been intended for.

Reliability of the Questionnaire:

To calculate the reliability of the questionnaire, the Alpha Cronbach coefficient was used for this purpose. All dimensional reliability coefficients were high, and the coefficient values ranged between 0.771 to 0.969, indicating that the instrument has a high reliability and is applicable.

After calculating the validity and reliability coefficients of the questionnaire and making the necessary adjustments based on the suggestions of the arbitrators, the final version of the questionnaire was made, including 5 dimensions; as follows: (Visual dimension, auditory dimension, touch dimension, smell dimension, and kinesthetic dimension). Each theme centers on a number of items expressing it.

Study Results

This chapter deals with the analysis of study results, arranged according to study questions. The following is an explanation of these results.

The answer to the first question:

- The first question reads: What is the level of Sensory Integration Problems among people with autism spectrum disorder in Jeddah (Saudi Arabia) from the teachers' point of view?

To answer this question, the mean of the questionnaire items and their corresponding percentages were calculated, as well as the weighted averages for each dimension of the questionnaire as it is. The hypothetical mean (3) was

adopted, whereas the maximum score for the item is (5). So, if the observed mean exceeds the hypothetical mean (3), then the problem is considered severe. The following tables illustrate these results:

For the first theme: Problems related to the visual dimension

Table (3): Average response per item, deviation and percentage in relation to the first theme: problems related to the visual dimension

#	Item	Average	Standard Deviation	Percentage
1	Looking for a desirable object that is hidden under a cover	3.157	1.359	63.16
2	Chooses shining and eye-catching games	3.707	1.149	74.14
3	Using laser pens for lighting	3.734	2.395	74.68
4	Using luminous toys in different colors	3.734	1.618	74.68
5	Using cut and paste games with specific colors	3.581	1.229	71.621
6	Completes a dotted graphic	3.374	1.408	67.48
7	Matches shapes	3.802	1.224	76.04
8	Color matching (matching one color / or more at the same time)	3.784	1.251	75.68
9	Visually pay attention to the speaker	3.469	1.261	69.38
10	Looking for a desirable object that is hidden under a cover	3.414	1.283	68.28

It is clear from Table (3) that the results of the analysis of the first theme “problems related to the visual dimension”, are confined between a high arithmetic mean of (3.8) with a percentage of (76.04) and a low arithmetic mean of (3.15) with a percentage of (63.16). The order of items in terms of severity of problems is as follows: (7, 8, 3, 4, 2, 5, 9, 10, 6, 1).

The problem (matching between shapes) topped the problems of the visual dimension.

The second theme: Problems related to the audio dimension

Table (4) Average response per item, deviation and percentage in relation to the second theme: Problems related to audio dimension

#	Item	Average	Standard Deviation	Percentage
1	Distinguish between sounds	3.374	1.294	68.48
2	pastes a picture on the expressive word after hearing it	3.423	1.287	68.46
3	Responds to familiar sounds like bell ringing	3.613	1.197	72.26
4	Can receive and imitate a series of voices	3.892	1.096	77.84

5	Can perform acoustic activities	3.676	2.652	73.52
6	Chooses games that make striking sounds	3.770	1.354	75.40
7	Pointing to things in the hand (lovely things)	3.752	1.261	75.04
8	Link movement with sound (stops activity when hearing the bell sound, Ta Tata sound with clapping, bim bimbim non-applause)	3.239	1.379	64.78
9	Linking a music clip with handclapping.	3.455	1.264	69.10
10	Imitating the sounds of things (clock, bell, game, car).	4.144	1.628	82.88

It is clear from Table (4) that the results of the analysis of the third theme “Problems related to the audio dimension”, are confined between a high arithmetic mean of (4.144) with a percentage of (82.88) and a low arithmetic mean of (3.23) with a percentage of (64.78). The order of items in terms of severity of problems was as follows: (10, 4, 6, 7, 5, 3, 9, 2, 1, 8), where the problem (imitating the sounds of things (clock, bell, game, car) topped the problems of audio dimension.

The third theme: problems related to the touch dimension.

Table (5) Average response per item, deviation and percentage in relation to the third theme “Problems related to the touch dimension”.

#	Item	Average	Deviation Standard	Percentage
1	Using towels and covers with different textures	4.099	1.225	81.98
2	plays with putty	4.243	2.299	84.86
3	Walking barefooted	3.649	1.284	72.98
4	Drawing on paper with different texture	3.892	2.471	77.84
5	Moves small balls with different contacts from one box to another	4.261	1.611	85.22
6	Touching objects in different status (rough / soft).	4.090	1.106	81.80
7	Forming clay in various shapes	4.086	1.049	81.72
8	Hitting their head on a table, bench or wall.	3.905	1.136	78.10

It is clear from Table (5), that the results of the analysis of the third theme are centralized between a high arithmetic mean of (4.26) with a percentage of (85.22) and a low arithmetic mean of (3.64) with a percentage of (72.98) in the problems related to the touch dimension and the order of items in terms of severity of the problems was as follows: (5, 2, 1, 6, 7, , 8, 4, 3), where the problem (moving small balls with different contacts from one box to another) topped the problems of the touch dimension.

The fourth theme: Problems related to the smell dimension

Table (6) Average response per item, deviation and percentage in relation to the fourth theme: Problems related to the smell dimension

#	Item	Average	Deviation Standard	Percentage
1	Using soap in different scents	3.176	1.566	63.52
2	Using different types of food with different smells	3.518	3.713	63.60
3	Sniff foods before eating them	3.234	1.294	64.68
4	Smells tools and things reached by his hands	3.374	1.218	67.48
5	refuses to use soap and shampoo	3.509	1.290	70.18

It is clear from Table (6) that the results of the analysis of the fourth theme are centralized between a high arithmetic mean of (3.518) with a percentage of (63.60) and a low arithmetic mean of (3.17) with a percentage of (63.52), and the order of the items in terms of severity of the problems was as follows: (2, 5, 4, 3, 1) where the problem (using food types with different aromas) topped the problems of the smell dimension.

Table (7): Average response per item, deviation and percentage in relation to the first theme: problems related to the kinesthetic dimension.

#	Item	Average	Standard Deviation	Percentage
1	Jumps in colored lines	3.157	1.359	63.16
2	Playing on swing	3.707	1.149	74.14
3	Chooses activities that require the child to move his body in all directions	3.734	2.395	74.68
4	Jumping in different positions (for example: with both feet on the stairs / in succession ten times in a row / with closing and opening feet / off the rope).	3.734	1.618	74.68
5	Imitation of hand movements: (wave, rotation, directions)	3.581	1.229	71.621
6	Imitating the movement of the lips and mouth (opening / closing / blowing).	3.374	1.408	67.48
7	Following the line regularly (eye contact).	3.802	1.224	76.04
8	Sitting on a chair properly.	3.784	1.251	75.68
9	Gets things without help (game).	3.469	1.261	69.38
10	Hold things properly (pen / cup / bucket).	3.414	1.283	68.28
11	Pick up things off the ground in balance.	3.459	1.271	69.18
12	Jumps on colored lines	3.365	1.317	67.30

It is clear from Table (7) that the results of the analysis of the first theme “Problems related to the kinesthetic dimension, are centralized between a high arithmetic mean of (3.8) with a percentage of (76.4) and a low arithmetic

mean of (3.15) with a percentage of (63.16), and the order of the items in terms of severity of the problems was as follows: (7, 8, 3, 4, 2, 5, 9, 11, 10, 6, 12, 1) where the problem “following a line regularly (visual contact) topped the problems related to the kinesthetic dimension.

Table (8) Average response for each dimension deviation and the percentage thereof

#	Dimensions	Number of items	Average	Standard Deviation	Weighted average
1	Visual dimension problems	10	46.959	13.103	3.612
2	Audio dimension problems	10	49.982	8.895	4.165
3	Touch Dimension Problems	8	51.554	12.738	3.966
4	Smell Dimension Problems	5	44.941	13.060	3.457
5	Kinesthetic Dimension Problems	12	47.857	13.210	3.548
The questionnaire as a whole		45	193.436	47.796	3.800

It is clear from Table (8) that the descending order of dimensions based on the weighted averages was as follows: The second dimension (m = 4.165) ranked first in the problems, i.e. problems related to the audio dimension, and the third dimension (m = 3.966) ranked second in the problems relating to the Touch Dimension, while the first dimension (3.612), came in the third place which relates to the visual dimension, and the fifth dimension (m = 3.548) came in the fourth place which relates to the kinesthetic dimension, and in the fifth place there came the fourth dimension (m = 3.457), which relates to the smell dimension.

Given the weighted averages of all the dimensions of the questionnaire, they range between (3.457-4.165) and therefore all values clearly exceed the hypothetical average (3), which shows that all these problems represent real problems in the sensory integration of people with autism spectrum disorder, as well as the general weighted average of the questionnaire as a whole is equal to 3,800, which reflects the importance of these problems, entailing efforts to provide solutions for them.

Answer to the second question: What is the effect of the qualification in determining the sensory integration problems among people with autism spectrum disorder?

To answer this question, the difference between autistic specialist groups was analyzed according to the effect of qualification in determining the sensory integration problems for people with autism spectrum disorder.

Table (9): Autism specialist's performance in determining the sensory integration problems for people with autism spectrum disorder classified according to their qualification

Qualification	Number	Average	StandardDeviation
BA	41	371.697	74.101
Postgraduate studies	22	369.771	77.289
	63	373.104	73.076

Table (10): Analysis of variance between groups of autistic teachers according to the effect of qualification in determining the sensory integration problems for people with autism spectrum disorder

	Total squares	Degrees of freedom	Average squares	Calculated deviation	Significance level
Between groups	9507.746	1	4753.873	0.889	0.412
Within groups	1170649	61	5345.429		
Total	1180157	62			
					* Not significant

It is clear from Table (10) that there are no differences between the specialists in determining the sensory integration problems for people with autism spectrum disorder according to their qualifications.

Answer to the third question: What is the effect of the years of experience in determining the sensory integration problems for people with autism spectrum disorder? To answer this question, the analysis of variance was used as shown below:

Table (11): Performance of sample members according to years of experience in determining the sensory integration problems for people with autism spectrum disorder

Years of Experience	Number	Average	Standard Deviation
Less than 5 years	23	366.559	74.654
From 6 to 9 years	25	374.040	76.202
More than 10 years	15	377.848	69.087
Total	63	373.104	73.076

Table (12): Analysis of variance of specialists groups according to years of experience in determining the sensory integration problems for people with autism spectrum disorder

	Total squares	Degrees of freedom	Average squares	F	Significance level
Between groups	4756.795	2	2378.398	0.443	0.643
Within groups	1175400	60	5367.122		
Total	1180157	62			
					* Not significant

It is clear from Table (12) that there are no statistically significant differences between the autistic specialists' categories according to years of experience in determining the sensory integration problems for people with autism spectrum disorder.

Answer to the fourth question: What is the effect of gender in determining the sensory integration problems for people with autism spectrum disorder? To answer this question, the difference between the autistic specialist groups was analyzed according to gender in determining the sensory integration problems for people with autism spectrum disorder.

Table (13): Autism specialist's performance in determining the sensory integration problems for people with autism spectrum disorder classified by gender

Gender	Number	Average	Standard Deviation
Male	28	368.647	73.631
Female	35	371.472	78.209
Total	63	373.104	74.156

Table (14): Analysis of variance between groups of autistic teachers according to gender in determining the sensory integration problems for people with autism spectrum disorder

	Total squares	Degrees of freedom	Average squares	F	Significance level
Between groups	9610.396	1	4658.653	0.856	0.429 * Not significant
Within groups	1169548	61	5298.825		
Total	1180157	62			

It is clear from Table (14) that there are no differences between the specialists in determining the sensory integration problems for people with autism spectrum disorder according to gender.

Answer to the fifth question: What is the effect of the school on determining the problems of sensory integration among people with autism spectrum disorder? To answer this question, the difference between the autistic specialist groups was analyzed according to the school in determining the sensory integration problems for people with autism spectrum disorder.

Table (15): Autism specialist's performance in determining the sensory integration problems for people with autism spectrum disorder classified according to the school

School	Number	Average	Standard Deviation
Public school	34	341.942	74.689
Private school	29	395.370	77.849
Total	63	366.192	73.550

Table (16): Analysis of variance between groups of autistic teachers according to the school in determining the sensory integration problems for people with autism spectrum disorder

	Total squares	Degrees of freedom	Average squares	Calculated deviation	Significance level
Between groups	9813.807	1	4498.952	0.871	0.407 * Not significant
Within groups	1126545	61	5395.126		
Total	1098159	62			

It is clear from Table (16) that there are no differences between specialists in determining the sensory integration problems for people with autism spectrum disorder, according to the school.

Discussion of the results

Results of the research on “Level of Sensory Integration Problems among People with Autism Spectrum Disorder in Jeddah (Saudi Arabia) from the Teachers’ Point of View”.

These results indicate that male and female teachers in centers and special education societies have sufficient practical experience in identifying and dealing with sensory integration problems among people with autism spectrum disorder. They indicate that children receive information, receive stimuli, process it in their brains, and issue appropriate responses. The results also indicate the care the centers render to children with autism spectrum disorder, as these problems arise from the brain's inability to integrate and process specific information received from sensory systems (Ayres, 1972), and that the centers and associations involve parents and qualify them to deal with people with spectrum disorder Autism.

This study is consistent with the Al-Ruwaili study (2019), Mustafa study (2016) and the study of (Morsi, 2019; Aitana, Al-Amr, Malkawi, 2018; Mustafa, 2016; Abdul Karim and Muhammad, 2016; as well as Shaf’s, 2016) that the sensory integration problems are not related to the gender of the child as it appears in males and females and that children have a defect in sensory inputs, which affects communication and social skills, poor focus and attention, difficulty in distinguishing between sounds, and sensitivity to sounds. Also this study is consistent with previous studies in claiming that qualification, years of experience, and the school have no impact on the spread of sensory and motor problems, as well as with Mustafa study (2016) and (Morsi’s, 2019; Aitana, Al-Amr, Malkawi, 2018; Mustafa, 2016; Abdul Karim and Muhammad, 2016; and Shaf, 2016) in dealing with the category of children with autism spectrum disorder, addressing sensory integration problems among them which is one of the most used therapeutic interventions and it can be applied to all People with autism spectrum disorder.

Recommendations

Based on the results of the current study, the researcher has recommended the following:

- Conduct more studies dealing with different aspects and skills of people with autism spectrum disorder.
- Training of workers and specialists, who deal with people with autism spectrum disorder to acquire skills necessary to deal with these problems.
- Hold workshops and courses to help parents how to deal with people with autism spectrum disorder and solve their sensory problems.

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