Social Communication Problems, Social Anxiety, and Mood Problems among Students with Autism Spectrum Disorder from Teachers' Point of View

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Abstract:

This study examined the level of social communication problems, social anxiety, and mood problems among children with ASD (*age 6-13 years*) enrolled in special classes (*n=46*) and regular classes (*n=36*) from teachers' point of view in the schools of a part of Palestine. Teachers responded to three questionnaires - social communication problems, social anxiety and mood problems- that were used to answer the research questions. **Results**: social communication problems, social anxiety and mood problems were of medium rates for students with ASD enrolled in reguler and special classes. No significant differences in the level of social communication problems could be attributed to class type (Regular, Special) or the grade level-(1st – 3rd, 4th - 6th). There were significant differences in social anxiety levels that could be attributed to grade level in favor of the 4th - 6th grades but there were no significant differences according to class type (Regular, Special). There were statistically significant differences in mood problems levels that could be attributed to the class type in favor of special classes, but no differences were found according to grade level. There was a direct significant relationship between communication problems, social anxiety, and mood problems. Conclusion: social communication problems may be an important risk factor for the development of social anxiety and mood problems among students with ASD**.**

Keywords: social communication problems, social anxiety, mood problems, autism spectrum disorders.

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مشكلات التواصل الاجتماعي والقلق الاجتماعي ومشكلات المزاج لدى الطلاب ذوي اضطراب التوحد من وجهة نظر المعلمين

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ملخص:

هدفت الدراسة إلى التعرف الى مستوى مشكلات التواصل الاجتماعي والقلق الاجتماعي ومشكلات المزاج لدى الطلاب ذوي اضطراب التوحد الملتحقين بالصفوف الخاصة *(n=46)* والعامة *(n=36)* من وجهة نظر المعلمين والذين تراوحت أعمارهم بين (6-13) عاما. أجاب معلمو الطلاب على ثلاثة مقاييس، التواصل الاجتماعي والقلق الاجتماعي ومشكلات المزاج، تم تطويرها واستخراج دلالات صدقها وثباتها لأهداف الدراسة. لاستخراج النتائج تم حساب المتوسطات الحسابية والانحرافات المعيارية لأفراد المجموعتين. أشارت النتائج إلى أن مشكلات التواصل الاجتماعي والقلق الاجتماعي ومشكلات المزاج ذات معدلات متوسطة لدى الطلاب ذوي طيف التوحد الملتحقين بالصفوف العامة والخاصة. توجد فروق ذات دلالة إحصائية في مستوى القلق الاجتماعي (بمستوى α=.005) حسب مستوى الصف لصالح الصف الرابع – السادس، ولا توجد فروق ذات دلالة إحصائية حسب نوع الصف (عادي، خاص). توجد فروق ذات دلالة إحصائية (عند مستوى α=0.05) في مستوى مشكلات المزاج تعزى إلى نوع الصف لصالح الملتحقين بالصفوف الخاصة، ولكن لا توجد فروق ذات دلالة إحصائية حسب مستوى الصف. لا توجد فروق ذات دلالة إحصائية في مستوى مشكلات التواصل الاجتماعي يمكن أن تعزى إلى نوع أو مستوى الصف. كما ان هناك علاقة مباشرة ذات دلالة إحصائية (عند مستوى α=0.01) بين مشكلات التواصل الاجتماعي والقلق الاجتماعي ومشكلات المزاج. نستخلص أن مشكلاتالتواصل الاجتماعي قد تكون عاملا خطرا لتطور القلق الاجتماعي ومشكلات المزاج، ونوصي بدمج التدخلات الفعالة بالمهارات الاجتماعية لمنع أو تخفيف أعراض القلق الاجتماعي ومشكلات المزاج بين الطلاب ذوي طيف التوحد.

الكلمات المفتاحية: مشكلات التواصل الاجتماعي، القلق الاجتماعي، مشكلات المزاج، اضطرابات طيف التوحد.

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Introduction

Autism Spectrum Disorder (ASD) is defined as a neurodevelopmental disorder characterized by an impairment of communication and social interaction, typical stereotypes and repetitive behaviors, provided that such symptoms range from simple to severe and appear in early childhood (American Psychiatric Association, 2013). The DSM-5 characterizes Autistic Disorder by impairments in communication, social interactions, and a presence of stereotyped or challenging types of behavior, which result in clinically significant impairments in one's everyday functioning. The manifestations of these categories of impairments vary greatly depending on factors pertaining to developmental level and chronological age of the individual

Individuals with ASD display some unfamiliar patterns of language use, such as repetitive and non-functional language or the child may constantly repeat the words s/he has heard - a condition called echolalia. Some children with ASD sometimes speak in high-pitched voice or use robot-like speech. Other children may use strange phrases to start conversation. (Kasari, Brady, Lord, & Tager-Flusberg, 2013).

Social anxiety (SA), also known as social phobia, is particularly prevalent in children with ASD, with an estimated prevalence of 50% (Maddox & White, 2015; Spain, Happé, Johnston, Campbell, Sin & Daly, 2016). Which is much higher than the estimates of 7-13% mentioned for the non-ASD population.

Mood disorder is a childhood condition of extreme irritability, anger, and frequent, intense temper outbursts. Disruptive mood dysregulation disorder (DMDD) symptoms go beyond being a "moody" child during the last two decades, some literature has especially focused on the relationship between ASD and mood disorder (MD). Hofvander, Delorme, Chaste, Nydén, Wentz & Ståhlberg (2009) pointed out a significant prevalence of MD among children diagnosed with ASD (52 % among subjects with Asperger's disorder and 60 % among subjects with Autistic disorder).

Research Problem and Questions

Since people with ASD exhibit difficulties in communication, social interaction, social anxiety and mood problems at different levels, the current study tries to determine the levels of these difficulties among Palestinian students with ASD in Palestine within. This provides the scientific research with a more in-depth information on the problems of social communication, social anxiety and mood problem that characterize students with ASD. In

addition, they enable professionals and specialists to develop therapeutic programs based on these research results.

Therefore, it is important to examine the levels of social communication, social anxiety problems and mood disorders among students with ASD that appear in the special and regular classes from the point of view of teachers. For that purpose, the following questions are going to be answered:

1. What is the level of communication problems, social anxiety and mood problems shown by students with autism spectrum disorder enrolled in special and regular classes from the teachers' point of view?

2. Are there statistically significant differences at α = 0.05 level in communication problems, social anxiety and mood problems among students with ASD enrolled in special and regular classes?

3. Are there statistically significant differences at α = 0.05 level in communication problems, social anxiety and mood problems among students with ASD according to grade level?

4. Are there statistically significant relationships at α = 0.05 level between communication problems, social anxiety, and mood problems among students with autism spectrum disorder?

Study Significance

Since individuals with ASD exhibit difficulties in communication, social interaction, social anxiety and mood problems at different levels, the current study tries to determine the levels of these difficulties among Palestinian students with ASD in Palestine within, and examine the relationship of these variables with the variable of class type and grade level. This provides the scientific research with a more in-depth information on the problems of social communication, social anxiety and mood problem that characterize students with ASD. In addition, they enable professionals and specialists to develop therapeutic programs based on these research results.

Study Delimitations

− This study is delimited to 82 students diagnosed with Autism Spectrum Disorder enrolled in special and regular classes and their teachers.

− This study is delimited to special and regular classes in the schools of a part of Palestine. (Scattered in the Galilee and Al-Mothallath areas (Northern and the Southern- from Umm al-Fahm to Jaljulia)).

Definitions of the Study Terms

Conceptual and Operational Definitions of Study Terms:

Students with Autism Spectrum Disorder: students with a social communication, interaction impairment, and restricted behaviors, activities and interests (Hallahan, Kauffman & Pullen, 2015). Students with ASD are defined operationally as students diagnosed with Autism Spectrum Disorder and enrolled in special and regular classes in the schools of Palestine within.

Social Communication: A process of students' participation through everyday situations reflected in establishing relationships with others in the social sphere, measured through the social communication scale developed to achieve the research objectives. This includes:

- Communication skills that include verbal and non-verbal skills and gestures.
- Emotional skills that include the ability to exhibit and regulate emotions.
- Perception of self and of others that includes responding to the emotions of others and emotional exchange.

Operational definition for social communication: Laushey and Heflin (2000) provided discrete operational definitions of social skills such as: asking for objects, getting the attention of another, waiting for his/her turn and looking at or in the direction of another person who is speaking to him/her. This is determined by the degree to which students receive the social communication scale used for research.

Social anxiety: is characterized by a strong fear of social situations, which is often accompanied by a fear of being examined by others (American Psychiatric Association, 2013), avoid social situations, including interacting with others, eating in public or in front of a group. Anxiety-related fears are usually associated with negative perceptions and fear of being target for ridicule by others.

Operational definition for social anxiety: It is determined by the score, which students receive on the social anxiety scale used for research.

Mood problem: A childhood condition of extreme irritability, anger, and frequent, intense temper outbursts.

Operational definition for Disruptive mood dysregulation: It is determined by the score, which students receive on the disruptive mood dysregulation scale used for research.

Literature Review

The development of Social Communication Behaviors -SCB skills – is

a fundamental competence for children that allows them to learn about their environment, interact with peers, and develop a sense of individual competence (Gillespie-Lynch, Sepeta, Wang, Marshall, Gomez, Sigman, & Hutman, 2012; McDevitt & Ormrod, 2007). For children with ASD, then, the risk of having SCB difficulties is high. As children with ASD continue to mature, their SCB skills difficulties have greater social outcomes. The large body of research on this issue has shown that SCB skills are crucial for a person to lead an independent and productive life (Koenig, Rubin, Klin, & Volkmar, 2000). Moreover, parents of children with ASD have reported that one of the greatest difficulties in having a child with ASD is the absence of SCB, as expressed by their children when reaching preschool and school age years (Prizant, Wetherby, Rubin, Laurent, & Rydell, 2006). Typical SCB development consists of growth in several key developmental domains, such as (a) communication, (b) emotionality, (c) understanding of self and others, (d) social cognition, and (e) interpersonal behaviors. (Gillespie-Lynch et al., 2012; Cordier, Munro, Wilkes-Gillan, Speyer, & Pearce, 2014).

Social Anxiety (SA) is a common clinical concern in people with ASD (Hurtig, Kuusikko, Mattila, Haapsamo, & Ebeling, Jussila, 2009; Kuusikko, Pollock-Wurman, Jussila, Carter, Mattila, Ebieling, 2008; White & Schry 2011). Most body of research on SA in individuals with ASD has dealt with the physiological symptoms and behavioral avoidance (Corden, Chilvers & Skuse, 2008; Tyson & Cruess, 2012). The main behavioral symptom of SA is abstaining from social situations. Empirical studies of anxiety in children and adolescents with ASD reveal a wide range of comorbidity estimates (i.e.,11–84%)(White & Roberson-Nay, 2009). Of the social anxiety disorders, SAD is the most prevalent among adolescents and adults with ASD who do not have co-occurring intellectual disability (Kuusikko et al. 2008).

Mood disorder is a childhood condition of extreme irritability, anger, and frequent, intense temper outbursts. A child with Disruptive mood dysregulation disorder -DMDD experiences: (a) iirritable or angry mood most of the day, nearly every day; (b). Severe temper outbursts (verbal or behavioral) at an average of three or more times per week that are out of keeping with the situation and the child's developmental level; (c) trouble functioning due to irritability in more than one place (e.g., home, school, with peers). (Mayes, Waxmonsky, Calhoun, Kokotovich, Mathiowetz & Baweja, 2015).

Some studies investigated irritability-angry mood, temper outbursts, and related symptoms in autism. Irritability is reported in the majority of children with autism (Mikita, Hollocks, Papadopoulos, Asiani, Harrison & Leibenluft, 2015).

Previous Studies

Chang, Quan & Wood, (2012) conducted a study to investigate the relationship between social anxiety and the degree of impairment of social functioning in children with ASD. Participants were 53 children with ASD with an age ranging between 7-11 years. The results indicated that greater severity of social anxiety disorder was associated with a higher level of social impairment in primary school children with ASD. Specifically, exploratory analyses revealed that higher levels of social anxiety disorder predicted low social skills.

Syriopoulou-Delli, Agaliotis, & Papaefstathiou, (2018) carried out a study that aimed to examine dif-ferences in social skills among 63 students with ASD. In order to investigate these differences, social skills were associated with variables like gender, age, intellectual disability, language development and school type. Their teachers filled out a structured questionnaire. The results showed major differences between children with ASD and intellectual disability and those without, difference was in the social anxiety / fear factor, with girls scoring higher than boys.

Gordon-Lipkin, (2018) compared the comorbidity of anxiety and mood disorders in children with ASD, with and without ADHD among Children ages 6 to 17 years with a parent-reported, professional, and questionnaire-verified diagnosis of ASD were included. Their result at generalized linear model revealed that children with ASD and ADHD had an increased risk of anxiety and mood disorder and increasing age was the most significant contributor to the presence of anxiety disorder and mood disorder.

Comments on the Previous Studies

It has become clear from the review of previous studies that children with ASD exhibit difficulties in meaningful communication and social interaction skills. However, and through the review of many Arabic studies, the levels of social anxiety and mood problems of this group of students and their relationship to social communication problems were not discussed. Most studies did not contribute to a deep understanding of the levels of these variables within this category of ASD students enrolled in regular and special classes

Methodology and Procedure

Study Approach: The study utilized the correlational descriptive approach.

Statistical Processing: A set of statistical methods were used in the statistical analysis including (Arithmetic Mean, Median, and Standard deviation, coefficient of skewness, t-test, percentile ranks and correlations).

Participants

The study sample consisted of 82 students distributed into 46(56.1%) students diagnosed with ASD enrolled in special classes and 36(43.9%) students diagnosed with ASD enrolled in regular classes with an age range of 6-13 years with 69 males (84.1 %) and 13 females (15.9 %) The grade level was divided between 1st - 3rd grade (62.2%) and 4th -6th grade (37.8%). Their teachers were two males (2.4%) and 80 females (97.6%). (See Table 1).

Table 1. Participant Demographics

		Frequency	Percent	Valid Percent	Cumulative Percent
Class type	Regular	36	43.9	43.9	43.9
	Special	46	56.1	56.1	100.0
Students gender	Male	69	84.1	84.1	84.1
	Female	13	15.9	15.9	100.0
Grade level	1st -3rd grade	51	62.2	62.2	62.2
	4th – 6th grade	31	37.8	37.8	100.0
Teachers gender	Male	2	2.4	2.4	2.4
	Female	80	97.6	97.6	100.0
	Total for each detail	82	100.0	100.0	

Study tools:

To achieve the aims of the study, the following tools were used:

Social communication scale:

The researchers conducting this study adaptive and modify the Social Communication Scale from (*The social communication questionnaire: manual* by Rutter, Bailey, & Lord, 2003). This inventory is comprised of 19 items, each of which participants rated on a five-point scale, from 1 ('Never') to 5 ('Always'). The highest score students can get is (95), while the lowest score is (19). In addition, the averages of social communication level were judged as follows: From (1.00- 2.33) low level, from (2. 34-3.66) medium level, and from (3. 67- 5.00) High level.

The Scale's validity and reliability were calculated:

- First, content validity: to verify the content validity of the Social Communication Scale, it was presented to (7) specialists in educational psychology and counselling, to review the scale in terms of the comprehensiveness of scale items, accuracy of language formulation, and item clarity.
- Second: discriminate evidence : to verify the discriminate evidence of the scale, it was applied to a sample of (36) participants (their characteristics were consistent with those of the study sample) , within the community, and the values of Pearson correlation coefficients between responses were calculated on the items and the overall scale, as shown in Table 2, which shows that the values of the item's correlation coefficients with the overall scale ranged from (0.464-0.780), the criterion to accept the item was adopted by being significant at the level of (α=0.05), and so the scale is adopted in its final form which consists of (19) items.

Table (2) Item Correlation Coefficient with the Overall Social Communication Scale

N.	Pearson Correlation	N.	Pearson Correlation	N.	Pearson Correlation	N.	Pearson Correlation
1	.780*	6	.464*	11	.672*	16	.723*
2	.612*	7	.507*	12	.502*	17	.660*
3	.632*	8	.682*	13	.631*	18	.652*
4	.684*	9	.613*	14	.653*	19	.567*
5	.561*	10	.410*	15	.661*		

*. Correlation is significant at 0.05 level

- **Third**: Reliability of the Social Communication Scale: To ensure the reliability of the Social Communication Scale, the internal consistency coefficient of the scale was calculated using the Cronbach Alpha equation, as it was applied to a survey sample consistED of (36) students (their characteristics are consistent with those of the study sample), within the community. The value of the Cronbach Alpha coefficient for the scale was (0.906), thus the scale is adopted in its final form which consisted of (19) items.

Social Anxiety Scale:

The researchers conducting this study adaptive and modify the Social Anxiety Scale from (La Greca & Stone 1993). The inventory is comprised of 18 items, each of which participants rated on a five-point scale, Higher scores reflect a higher level of Social anxiety. In order to correct the scale, the five-Likert scale was adopted to measure the level of Social anxiety,

where the answer was given always (5 points), frequently (4 points), sometime (3 points) seldom (2 points), and never (1 point), the highest reached degree that the student can get (90), and the lowest score (18). In addition, the means of Social anxiety level were judged as follows: From (1.00- 2.33) low level. From (2. 34- 3.66) moderate level. From 3. 67- 5.00) High level.

The validity and reliability were extracted: First: The content validity: To verify the content validity of the measure of Social anxiety, it was presented to (7) specialist in educational psychology and counselling, to arbitratE the scale in terms of the comprehensiveness of the scale items, the accuracy of the language formulation, the clarity of the items. Second: the discriminate evidence: To verify the discriminate evidence of the scale, it was applied to a sample of (36) participants (their characteristics WERE consistent with those of the study sample), within the community, and the values of Pearson correlation coefficients between responses were extracted on the items and the overall scale, as shown in table 3.

Table (3).items correlation coefficient with the overall scale of the Social anxiety scale

N.	Pearson Correlation	N.	Pearson Correlation	N.	Pearson Correlation	N.	Pearson Correlation
1	.753*	6	.830*	11	.708*	16	.752*
2	.791*	7	.547*	12	.545*	17	.716*
3	.356*	8	.636*	13	.558*	18	.609*
4	.770*	9	.652*	14	.437*		
5	.770*	10	.579*	15	.777*		

*. Correlation is significant at the 0.05 level

As it was clarified in table (2) that the values of the item's correlation coefficients with the overall scale ranged from (0.356-0.830), the criterion to accept the item was adopted to be significant at the level of (α=0.05), thus the scale stay contain of (18) items. Third: Reliability of the Social anxiety: To ensure the reliability of the Social anxiety scale, the internal consistency coefficient of the scale was calculated by the Cronbach Alpha equation. As it was applied to a survey sample consisting of (36) students (their characteristics were consistent with those of the study sample), within the community, and the value of the Cronbach Alpha coefficient for the scale (0.922), thus the scale is adopted in its final form consisting of (18) items.

Mood problems scale:

The researchers conducting this study adaptive and modify the Mood problems scale from (Hirschfeld, Williams, Spitzer, Calabrese, Flynn, Keck, Lewis, McElroy, Post, Rapport, Russell, Sachs, & Zajecka, 2000). This

inventory is comprised of 22 items, each of which participants rated on a five-point scale, from 1 ('Never') to 5 ('Always'). Higher scores reflect a higher level of Mood problems. In order to rate the scale, the five-point Likert scale was adopted to measure the level of mood problems, where the response "always" was given (5 points), "frequently" (4 points), "sometimes" (3 points) "seldom" (2 points), and "never" (1 point). The highest score students can get is (90), while the lowest score is (22). The means of mood problem level were judged as follows: From (1.00- 2.33) low, from (2. 34- 3.66) medium and from (3. 67- 5.00) high. The scale validity and reliability were calculated: First: content validity: to verify the content validity of the Mood Problems Scale, it was presented to (7) specialists in educational psychology and counselling to review the scale in terms of comprehensiveness of scale items, accuracy of language formulation, and item clarity. Second: discriminate evidence: to verify the discriminate evidence of the scale, it was applied to a sample of (36) participants (their characteristics were consistent with those of the study sample), within the community, and the values of Pearson correlation coefficients between responses were calculated on the items and the overall scale, as shown in Table 4.

Table (4) Correlation Coefficient with the Overall Mood Problem Scale

N.	Pearson Correlation	N.	Pearson Correlation	N.	Pearson Correlation	N.	Pearson Correlation
1	.728*	7	.591*	13	.743*	19	.440*
2	.735*	8	.611*	14	.655*	20	.772*
3	.675*	9	.598*	15	.813*	21	.541*
4	.497*	10	.514*	16	.679*	22	.585*
5	.652*	11	.703*	17	.242*		
6	.401*	12	.799*	18	.641*		

*. Correlation is significant at 0.05 level

It's clear from Table (4) that the values of the item's correlation coefficients with the overall scale ranged from (0.242-0.813), the criterion to accepting the item was adopted by being significant at the level of (α=0.05), and so the scale is adopted in its final form consisting of (22) items. Third: reliability of the Mood Problems Scale: To ensure the reliability of the Mood Problems Scale, the internal consistency coefficient of the scale was calculated by the Cronbach Alpha equation. It was applied to a survey sample consisting of (36) students (their characteristics were consistent with those of the study sample), within the community, and the value of the Cronbach Alpha coefficient for the scale (0.922), thus the scale

is adopted in its final form consisted of (22) items

Study Implementation Procedures:

To implement this study, the following steps was be followed:

1. Develop the study scales which were the Scale of Social Communication Skills and the Scale of Social Anxiety. The study tools validity and reliability will be confirmed (being presented to reviewers and conducting the exploratory sample to confirm validity) and (reliability by using the Cronbach alpha equation).

2. Determine the study sample from students with ASD enrolled in special and regular classes.

3. Apply the study scales on the teachers of the students designated as the study sample.

4. Enter the answers of the study population to the study scales into the computer and analyze them using the SPSS program.

Results

In order to answer the first question, we used the fellowing statistical analysis: (Arithmetic Mean, Median, Standard Deviation, Coefficient of Skewness, as shown in the table 5and table 6.

Table 5. Means and Standard Deviations of the Responses of Teachers of Students with ASD Enrolled in Regular Classes and Special Classes to the Items of the Communication Problems Scale, the Social Anxiety Scale and Mood Problems Scale in Descending Order

	Regular Classes				
	Rank	Range	M	SD	Estimate
Total Degree of Communication Problems among ASD Students	1-19	2.28 -3.44	2.94	.644	Medium
Total Degree of Social Anxiety among ASD Students	1-18	4.082.33-	2.94	.875	Medium
Total Degree of Mood Problems among ASD Students	1-22	-3.641.75	2.76	.680	Medium

The level of communication problems shown by students with ASD enrolled in special and regular classes from the teachers' point of view shows that the means of the responses of teachers of students with ASD enrolled in regular classes to the items of the Communication Problems Scale ranged between 2.28 and 3.44. The mean of the total Communication Problems Scale degrees was (2.94), and standard deviation was (0.64), with a "medium" level. And the level of social anxiety shown by students with

ASD enrolled in special classes and regular classes shows that means of the responses of teachers of students with ASD enrolled in regular classes to the items of the Social Anxiety Scale ranged between 4.08 and 2.33. The mean of the total Social Anxiety Scale degrees was (2.94) and Standard deviation was (0.875) with a "medium" level. The level of mood problems shown by students with ASD enrolled in special classes and regular classes from the teachers' point of view shows that means of the responses of teachers of students with ASD enrolled in regular classes to the items of the Mood Problems Scale ranged between 3.64 and 1.75. The mean of the total Mood Problems Scale degrees was (2.76), and standard deviation was (0.680) with a "medium" level. (See table 5)

Table 6. Means and Standard Deviations of the Responses of Teachers of Students with ASD Enrolled in Special Classes to the Items of the Communication Problems Scale, the Social Anxiety Scale and Mood Problems Scale in Descending Order

	Special Classes				
	Rank	Range	M	SD	Estimate
Total Degree of Communication Problems among ASD Students	1-19	3.48-2.80	3.04	.852	Medium
Total Degree of Social Anxiety among ASD Students	1-18	2.48 -3.63	3.09	.900	Medium
Total Degree of Mood Problems among ASD Students	1-22	-2.632.57	3.13	.835	Medium

The means of the responses of teachers of students with ASD enrolled in special classes to the items of the Communication Problems Scale ranged between (3.48-2.80). The mean of the Communication Problems Scale degrees was (3.04), standard deviation was (0.852) with a "medium" level.

The means of the responses of teachers of students with ASD enrolled in special classes to the items of the Social Anxiety Scale ranged between 2.48 and 3.63. The mean of the total Social Anxiety Scale degrees was (3.09), and standard deviation was (0.900) with a "medium" level.

The means of the responses of teachers of students with ASD enrolled in special classes to the items of the Mood Problems Scale ranged between 2.63 and 2.57. The mean of the total Mood Problems Scale degrees was (3.13), and standard deviation was (0.852) with a "medium" level. . (see table 6)

In order to answer the second and third question, we used the statistical analysis that included t-test and Percentile Ranks, as shown in table 7, table 8 and table 9.

Table 7. t-test Results of Independent Samples to the Communication Problems Scale According to the Variables of Class Type and Grade Level

Variable	No.	M	SD	t Value	df	α	
Class Type	Regular	36	2.9386	.64393	-.621	79.922	.536
	Special	46	3.0412	.85184			
Grade Level	1st – 3rd	51	2.9876	.77878	-.130	65.115	.897
	4th -6th	31	3.0102	.75374			

The result showed that there were no statistically significant differences at the level of communication problems that can be attributed to class type-(regular, special) or grade level-(1st – 3rd , 4th -6th) . The *t value* of the class type was -.621 which is not statistically significant at (α=.536). Also, the *t value* of the grade level was -.130 which was not statistically significant at (α=.897). (See table 7)

Table 8. t-test Results of Independent Samples to the Social Anxiety Scale According to the Variables of Class Type and Grade Level

Variable	No.	M	SD	t-Value	df	α	
Class Type	Regular	36	2.9398	.87503	-.752	76.275	.454
	Special	46	3.0882	.89990			
Grade Level	1st – 3rd	51	2.8159	.88684	-2.912	69.393	.005
	4th -6th	31	3.3638	.78683			

The result showed that there were no statistically significant differences at the level of α = 0.05 in social anxiety level that can be attributed to class type-(regular, special), the *t value* of the class type was -.752 which is not statistically significant at (α=.454). There are statistically significant differences in social anxiety level that can be attributed to grade level for the benefit of the 4th-6th grades. The *t value* was -2.912 and statistically significant at (α=.005). While the mean of ASD students enrolled in grades 1st-3rd was (2.82), and the mean of ASD students enrolled in grades 4th -6th is (3,36). (see table 8)

Table 9. t-test Results of Independent Samples to Mood Problems Scale According to the Variables of Class Type and Grade Level

Variable	No.	M	SD	t-Value	df	A	
Class Type	Regular	36	2.7576	.67952	-2.240	79.862	.028
	Special	46	3.1324	.83539			
Grade Level	1st – 3rd	51	2.9920	.73612	.338	54.981	.736
	4th -6th	31	2.9282	.87997			

The results indicated that there were statistically significant differences at the level of α = 0.05 in mood problems level that can be attributed to class type for the benefit of ASD students enrolled in special classes, t *value* was -2.240 which is statistically significant at (α=.028). While the mean of ASD students enrolled in regular classes was (2.76), and the mean of ASD

students enrolled in special classes was (3.13). There were no statistically significant differences in the mood problems level that can be attributed to grade level, *t value* was .338 which was not statistically significant at (α=.736). (See table 9).

In order to answer the forth question, we used in the statistical analysis including Pearson Correlation coefficient. Which were shown in the table 10

Table 10. Values of Pearson Correlation Co-Efficient between Communication Problems, Social Anxiety, and Mood Problems

		Social Communication	Social. Anxiety	Mood Problems
Social Communication	Pearson Correlation	1	.481**	.417**
	Sig. (2-tailed)		.000	.000
	N	82	82	82
Social Anxiety	Pearson Correlation	.481**	1	.363**
	Sig. (2-tailed)	.000		.001
	N	82	82	82
Mood Problems	Pearson Correlation	.417**	.363**	1
	Sig. (2-tailed)	.000	.001	
	N	82	82	82

**Correlation is significant at 0.01 level (2-tailed).

The results demonstrated that there was a direct significant relationship between communication problems, social anxiety, and mood problems. This indicates that the higher the level of one variable rises, the higher the level of the two other variables rises among individuals. The highest correlation between variables (0.481) is between social communication problems and social anxiety. Therefore, they interpret a rate of (23%) of each other. The lowest correlation (0.363) is between social anxiety and mood problems. Therefore, they interpret a rate of (13%) of each other. Correlation between communication problems and mood problems is (0.417), which interprets a rate of (17%). All the values are significant at α = 0.01 level. (See table 10)

Discussion

This study aims to investigate the social communication problems, social anxiety, and mood problems among students with Autism Spectrum Disorder enrolled in special and regular classes from teachers' perspective. The study concluded a set of results in light of what was reviewed, based on the literature and related studies

Social communication problems indicate medium rates for students with ASD enrolled in reguler and special classes, which means that students with ASD show problems with social communication, regardless of the educational environment they learn at (Duffy & Healy, 2011). They also

have a limited range of social communication skills to initiate interactions, sustain reciprocity, and respond to others to interact successfully (Jones and Schwartz 2009).   This indicates that integrating ASD students in regular classes along with their peers without any disabilities does not mitigate the social communication difficulties they encounter. These results are consistent with the results concluded that students with ASD social communication difficulties at the medium from the studies carried out by Mubaydin & Zuraikat (2018), Robertson (1999), and Abu Fakher& Mardini (2016).

Social anxiety indicate medium rates for students with ASD enrolled in reguler and special classes. These results show that the difficulties, which students with ASD encounter, are also accompanied with social anxiety. This can be attributed to their fear from facing different social situations and their fear from addressing them. This is consistent with the results concluded from the studies carried out by White et al. (2009), Hurtig et al. (2009), Kuusikko et al. (2008), and White and Schry (2011). This result can also be attributed to fear of being rejected or of other individuals' judgment, as observed in typically functioning individuals with social anxiety (Beidel & Turner 2007).

As with the previous variables, mood problems showed medium rates for students with ASD enrolled in reguler and special classes. These results show that the difficulties, which students with ASD encounter, are also accompanied with the mood problems that are correlated with ASD traits. The results of mood problems are at medium level and they are consistent with the results concluded by the studies carried out by Mikita et al. (2015). Other studies pointed to high levels of mood problems in individuals with ASD (Dell'Osso, Carpita, Muti, Morelli, Salarpi, Salerni, & Maj, M. 2019).

The results of the fourth question indicated that there were no statistically significant differences at the level of social communication problems that can be attributed to class type-(regular, special) and the grade level-(1st – $3^{rd,}$ 4th -6th). Despite having social problems, which appeared at a medium level among students with ASD as shown in the responses to Question (1), there were no significant differences between the groups in terms of social communication problems. It should be pointed out that social communication problems are correlated with the ASD traits of having communication difficulties. Kasari, Locke, Gulsrud, & Rotheram-Fuller, (2011), Macintosh & Dissanayake (2006). This result may interpret the reason why there was no significant differences between students with ASD enrolled in special classes and regular classes and grade level-(1st - 3rd, 4th -

6th).This proves that there is no significance of the variable of educational framework or even grade level on social communication problems

The results indicated that there were no statistically significant differences at the level of α = 0.05 in social anxiety level that can be attributed to class type-(regular, special), but there were statistically significant differences in social anxiety level that can be attributed to grade level in favor of the 4th-6th grades. These results indicate that despite having medium levels of social anxiety among ASD students relative to class type, there are statistically significant differences between the two groups in social anxiety level in favor of older students. This can be attributed to the fact that this age range marks the beginning of adolescence, during which students have fears of how other look upon them. This is consistent with the previous studies which concluded that social anxiety usually begins between late childhood and early adolescence (Grant, Hasin, Blanco, Stinson, Chou, Goldstein, & Huang, 2005). Van Steensel & Heeman (2017) also pointed out that anxiety levels among children with ASD increase with age and with high functioning at the mental/cognitive level.

The results of mood problems indicate that there were statistically significant differences at the level of α = 0.05 in mood problems levels that can be attributed to class type in favor of ASD students enrolled in special classes. There are no statistically significant differences in the mood problems level that can be attributed to grade level (Gordon-Lipkin 2018). These results indicate that despite having medium levels of mood problems among ASD students enrolled in regular classes and special classes, (Kim, Szatmari, Bryson, Streiner & Wilson, 2001) pointed out that there were high levels of moodiness and anxiety among ASD individuals. There were significant differences between the two groups that can be attributed to students enrolled at special classes. This can be attributed to the fact that the mood of ASD students enrolled at special classes is influenced by their environment, through which they were exposed to different stimuli (Mayes et a., 2015), such as the behavior of their class mates which may include undesirable behaviors, tantrums, or sudden disturbances. In comparison, their peers who are enrolled in regular classes show less mood problems. This indicates that the class environment doesn't cause mood problems to them (Gordon-Lipkin2018).

The results demonstrated that there was a direct significant relationship between communication problems, social anxiety, and mood problems. The highest correlation between the variables (0.481) was between social

communication problems and social anxiety. This relation is attributed to the fact that social anxiety increases barriers of social participation, and so, it acts as a risk factor for elevating social impairment in students with ASD. Chang et al. (2012) pointed out that greater severity of social anxiety disorder was associated with a higher level of social impairment in primary school children with ASD, and that higher levels of social anxiety disorder predicted low social skills. Having a relationship between social communication problems, social anxiety and mood problems in students with ASD increases the risk impact. If an ASD student scored in the affected range of any of these scales, it is likely for that student to score an impact range on the other scales (Towbin, Pradella, Gorrindo, Pine, & Leibenluft, 2005). Individuals with high-functioning ASD often receive treatment for anxiety or mood states (Martin et al. 1999). Mood rates and symptoms of anxiety may be elevated among autistic individuals (Kim et al., 2001). Gordon-Lipkin, (2018) pointed out that children with ASD and ADHD had an increased risk of anxiety and mood disorders (compared with children with ASD alone). Dell'Osso et al. (2019) also pointed out that there was a strong relation between mood problems and ASD.

Conclusion

Social communication problems may be an important risk factor for the development of social anxiety and mood problems among students with ASD. We recommend:

- The potential usefulness of incorporating social skills interventions to prevent or alleviate symptoms of social anxiety and mood problems among students with ASD.
- Further studies, employing qualitative and quantitative methodologies are needed to enhance understanding of causal, maintaining and protective mechanisms from social communication problems, social anxiety and mood problems in students with ASD.

References

Abu Fakher, G., & Mardini, G. (2016). The *level of social communication difficulties in Autism Spectrum children from the viewpoint of their teachers. A field study at Future Center, Damascus,* Tishreen University.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders*, 5th ed., (DSM-5). Washington, DC, London, England.

Beidel, D. C., & Turner, S. M. (2007). *Shy children, phobic adults: Nature*

and treatment of social anxiety disorder, 2nd ed. Washington, DC: American Psychological Association

Chang Y, Quan J, Wood J. (2012). Effects of anxiety disorder severity on social functioning in children with autism spectrum disorders. *Journal of Developmental and Physical Disabilities*, 24:235-245.

Corden, B., Chilvers, R., &Skuse, D. (2008). Avoidance of emotionally arousing stimuli predicts social-perceptual impairment in asperger's syndrome. *Neuropsychologia*, 46, 137–147.

Cordier, R., Munro, N., Wilkes-Gillan, S., Speyer, R., & Pearce, W. M. (2014). Reliability and validity of the pragmatics observational measure (POM): A new observational measure of pragmatic language for children. *Research in Developmental Disabilities*, *35*(7), 1588-1598.

Dell'Osso, L., Carpita, B., Muti, D., Morelli, V., Salarpi, G., Salerni, A., & Maj, M. (2019). Mood symptoms and suicidality across the autism spectrum. *Comprehensive psychiatry*, *91*, 34-38.

Duffy, C. & Healy, O. (2011). Spontaneous communication in autism spectrum disorder: A review of topographies and interventions. *Research in Autism Spectrum Disorders*, 5, 977–983.

Gillespie-Lynch, K., Sepeta, L., Wang, Y., Marshall, S., Gomez, L., Sigman, M., & Hutman, T. (2012). Early childhood predictors of the social competence of adults with autism. *Journal of Autism and Developmental Disorders*, *42*(2), 161-174.

Gordon-Lipkin, E., Marvin, A. R., Law, J. K., & Lipkin, P. H. (2018). Anxiety and mood disorder in children with autism spectrum disorder and ADHD. *Pediatrics*, *141*(4), e20171377.

Grant, B. F., Hasin, D. S., Blanco, C., Stinson, F. S., Chou, S. P., Goldstein, R. B., & Huang, B. (2005). The epidemiology of social anxiety disorder in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *The Journal of Clinical Psychiatry*, *66*(11), 1351-1361.

Hallahan, D. Kauffman, J.Pullen, P. (2015). *Exceptional Learners: Introduction to special education, Boston*, New York: Allyn & Bacon.

Hirschfeld, R.M., Williams, J.B., Spitzer, R.L., Calabrese, J.R.,Flynn, L., Keck Jr., P., Lewis, L., McElroy, S.L., Post, R.M.,Rapport, D.J., Russell, J.M., Sachs, G.S., Zajecka, J.,(2000). Development and validation of a screening instrument for bipo-lar spectrum disorder: The Mood Disorder Questionnaire. *Am. J. Psychiatry* 157, 1873–1875.

Hofvander B, Delorme R, Chaste P, Nydén A, Wentz E, Ståhlberg O, et al. (2009) Psychiatric and psychosocial problems in adults with normal-intelligence autism spectrum disorders. *BMC Psychiatry*. 9 (1):35.

Hurtig, T., Kuusikko, S., Mattila, M., Haapsamo, H., Ebeling, H., Jussila, K., et al. (2009). Multi-informant reports of psychiatric syndrome or autism. *Autism*, 13(6), 583–598.

Jones, C. D., & Schwartz, I. S., (2009). When asking questions is not enough: An observational study of social communication differences in high functioning children with autism. *Journal of Autism and Developmental Disorders*, 39(3), 432–443.

Kasari, C., Brady, N., Lord, C., & Tager-Flusberg, H. (2013). Assessing the minimally verbal school-aged child with autism spectrum disorder. *Autism Research*, 6(6), 479–493.

Kasari, C., Locke, J., Gulsrud, A., &Rotheram-Fuller, E. (2011). Social networks and friendships at school: Comparing children with and without ASD. *Journal of Autism and Developmental Disorders*, 41, 533–544.

Kim, J. A., Szatmari, P., Bryson, S. E., Streiner, D. L., & Wilson, F. J. (2001). The prevalence of anxiety and mood problems among children with autism and Asperger syndrome. *Autism*, *4*(2), 117-132.

Koenig, K., Rubin, E., Klin, A., & Volkmar, F. (2000). Autism and the pervasive developmental disorders. In C. H. Zeanhah (Ed.), *Handbook of infant mental health* (2nd ed., pp. 298- 310). New York: Guilford Press.

Kuusikko, S., Pollock-Wurman, R., Jussila, K., Carter, A. S., Mattila, M., Ebieling, H., et al. (2008). Social anxiety in high-functioning children and adolescents with autism and asperger syndrome. *Journal of Autism and Developmental Disorders*, 38, 1697–1709.

La Greca, A. M., & Stone, W. L. (1993). The Social Anxiety Scale for Children-Revised: Factor structure and concurrent validity**.** *Journal of Clinical Child Psychology***,** 22, 17–27.

Laushey, K. M., & Heflin, L. J. (2000). Enhancing social skills of kindergarten children with autism through the training of multiple peers as tutors. *Journal of Autism and Developmental Disorders*, 30, 183–193.

Macintosh, K., & Dissanayake, C. (2006). A comparative study of the spontaneous social interactions of children with high-functioning autism and children with Asperger's disorder. *Autism***,** 10, 199–220.

Maddox, B. B., & White, S. W. (2015). Comorbid social anxiety disorder in

adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders,* 45, 3949–3960.

Martin A, Scahill L, Klin A, Volkmar FR. (1999). Higher functioning pervasive developmental disorders: Rates and patterns of psychotropic drug use. *JAm Acad Child Adolesc Psychiatry* 38:923–931,

Mayes, S. D., Waxmonsky, J., Calhoun, S. L., Kokotovich, C., Mathiowetz, C., Baweja, R. (2015). Disruptive mood dysregulation disorder (DMDD) symptoms in children with autism, ADHD, and neurotypical development and impact of co-occurring ODD, depression, and anxiety. *Research in Autism Spectrum Disorders*, 18, 64-72.

McDevitt, T. M., & Ormrod, J. E. (2007). *Child Development*, 3rd ed, Upper Saddle River, NJ: Merrill Prentice Hall.

Mikita, N., Hollocks, M. J., Papadopoulos, A. S., Asiani, A., Harrison, S., Leibenluft, E., et al. (2015). Irritability in boys with autism spectrum disorders: An investigation of physiological reactivity. *Journal of Child Psychology and Psychiatry* 56:10, 1118–1126

Mubaydin, B.; & Zuraikat, I. (2018), Evaluation of the level of Cognitive Performance and Social Interaction Among a Sample of Children with ASD in Jordan, *Jordan Educational Journal*, issued by Jordan Association for Educational Sciences, Amman- Jordan.

Prizant, B. M., Wetherby, A., Rubin, E., Laurent, A. C., & Rydell, P. J. (2006). The SCERTS *model a comprehensive educational approach for children with autism spectrum disorders*, (Vol. 1). Baltimore: Paul H. Brooks Publishing.

Robertson, J. (1999). Domains of social communication handicap in autism spectrum disorder. *J. Academy of Child and Adolescent Psychiatry*, 38(6): 357-367.

Rutter, M., Bailey, A., & Lord, C (2003). *The social communication questionnaire: manual.* Los Angeles: Western Psychological Services

Spain, D., Happé, F., Johnston, P., Campbell, M., Sin, J., Daly, E, et al (2016). Social anxiety in adult males with autism spectrum disorders. *Research in Autism Spectrum Disorders*, 32, 13–23.

Syriopoulou-Delli, C. K., Agaliotis, I., & Papaefstathiou, E. (2018). Social skills characteristics of students with autism spectrum disorder. *International Journal of Developmental Disabilities*, *64*(1), 35-44.

Towbin, K. E., Pradella, A., Gorrindo, T., Pine, D., & Leibenluft, E. (2005). Autism Spectrum traits in children with mood and axiety

disorders. *Journal of Child and Adolescence Psychopharmacology, 15*(3), 452–464.

Tyson, K. E., & Cruess, D. G. (2012). Differentiating high - functioning autism and social phobia. *Journal of Autism and Developmental Disabilities*, 42, 1477–1490.

Van Steensel, F.J. A., & Heeman, E. J. (2017). Anxiety levels in children with autism spectrum disorder: A meta-analysis. *Journal of Child and Family Studies*, 26, 1753–1767

White, S. W., & Roberson-Nay, R. (2009). Anxiety, social deficits, and loneliness in youth with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39, 1006–1013.

White, S. W., & Schry, A. R. (2011). Social anxiety in adolescents on the autism spectrum. In C. A. Alfano & D. C. Beidel (Eds.), *Social anxiety disorder in adolescents and young adults: Translating developmental science into practice* (pp. 183–201). Washington, DC: American Psychological Association.