



General Education Teachers' Attitudes toward the Inclusion of Students with Autism in General Education Classrooms in Saudi Arabia

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INTRODUCTION

According to the World Health Organization (2017), one in every 160 children worldwide is diagnosed with autism spectrum disorder. Only a fraction of those children can live independently, while those with severe conditions require care and support throughout their lifespan. Comprehensive education, socialization, and inclusion in society are essential areas to provide these children with the support they need. School integration offers opportunities for autistic children to achieve these goals, and as they are often the subject of bullying, integration also helps them develop compassion and peer connections that can have a significant impact on their adult life (Autism Spectrum Australia, 2013).

Background

Saudi Arabia, along with 60 other countries, recognizes the importance of providing inclusive education for autistic children, as highlighted in The World Health Organization's Resolution. While Saudi Arabia has implemented legislation, such as the Legislation of Disability and The Disability Code, to support individuals with disabilities, students with Autism Spectrum Disorder (ASD) still face barriers to inclusion in public schools. These barriers include a lack of knowledge about ASD and teachers' inability to adapt teaching methods and classroom environments to meet the needs of autistic students. In addition, teachers may experience inclusion phobia, a fear of embracing an inclusive environment due to unfamiliarity and resistance to nonconformity. This study aims to investigate the attitudes of public school teachers in Saudi Arabia towards including autistic students in their classrooms, recognizing the crucial role that teachers' attitudes play in the success of inclusion efforts.

Purpose Statement

Investigating teacher attitudes toward the inclusion of students with Autism Spectrum Disorder in general education classrooms in Saudi Arabia.

Significance of the Study

In Saudi Arabia, The Ministry of Education is responsible for

providing free and appropriate education for all students with disabilities, including those with autism spectrum disorder. However, despite the development of rights for those children to be included in the general classrooms, teachers' attitudes may not align well with acceptance. Therefore, this study plays a role in identifying and addressing the challenges that face the efforts of creating an inclusive classroom environment that welcomes students with autism spectrum disorder, through identifying the opportunities for teachers' training, continuing education, and improving their understanding of the issues related to inclusion.

Research Questions

This study is guided by three questions:

Research Question 1: What are general education teachers' attitudes toward the inclusion of students with autism spectrum disorder in the general education classroom in Saudi Arabia?

Research Question 2: Which of the factors (years of teaching experience, current grade level of teaching assignment, previous experience with inclusion, gender, and previous training regarding autism) affect general education teachers' attitudes toward inclusion of students with autism spectrum disorder in the general education classroom in Saudi Arabia?

Research Question 3: Are there significant differences in the attitudes of general education teachers toward the inclusion of students with autism spectrum disorder in general education classrooms in Saudi Arabia based on years of teaching experience, current grade level of teaching assignment, previous experience with inclusion, gender, and previous training regarding autism?

Research Design & Variables

This study adopts a quantitative, descriptive survey research design to examine associations between variables and describe the phenomenon of teachers' attitudes toward including students with autism in general education classrooms in Saudi Arabia. The research aims to identify



causal relations between variables and gain insights into the nature of the phenomenon before establishing a theory. The variables can be categorized into dependent variables, measuring attitudes using a Likert Scale, and independent variables, including gender, teaching experience, training hours on autism, current grade level, experience with inclusion, and special education coursework. Demographic questions within the survey instrument are used to measure the independent variables.

Study Limitations

Like any research of similar nature, this study has a number of limitations:

1. Limited generalizability, as this study only evaluates general education teachers' attitudes in one of Riyadh's school districts.
2. Inability to generate results related to special education teachers in special education centers.
3. Potential for survey respondents to have difficulty responding to questions or not answering truthfully, leading to results that may not accurately represent the opinions of the school districts.
4. Risk of insufficiently corroborated answers due to the nature of self-reporting in survey research.
5. Lack of empirical evidence when participants are free to answer as they choose, rather than displaying answers through definitive experimental or observational methods.

Definition of Key Terms

Attitude: An individual's psychological response involving feelings, beliefs, and reactions towards an event, phenomenon, object, or person (Hodges & Logan, 2012).

Autism Spectrum Disorder (ASD): A range of complex neurodevelopmental disorders characterized by social impairments, communication difficulties, and restricted and repetitive patterns of behavior (NINDS, 2009).

Inclusion: The education of students with disabilities primarily within general education classrooms, with the general education teacher taking responsibility for their education (Mastropieri & Scruggs, 2000).

Individuals with Disabilities Education Improvement Act (IDEIA, 2004): A US law that promotes accountability, equity, and high standards for education, including provisions for Individualized Education Programs (IEPs) and Least Restrictive Environments (LREs).

Individualized Education Program (IEP): A plan that outlines the educational goals and services for a student with disabilities, including present levels of achievement, annual goals, progress monitoring, related services, and inclusion considerations (Showalter-Barnes, 2008).

Regular Education Classroom Teacher: A certified teacher responsible for teaching a specific grade level or subject according to state standards (Showalter-Barnes, 2008).

LITERATURE REVIEW

Introduction

This section explores scholarship and research related to the challenges of including students with autism spectrum disorder in general classrooms. It is divided into three sections:

1. The Attitudinal Theory, serving as the research's theoretical basis.
2. History of Inclusion of ASD students in the United States, focusing on relevant characteristics influencing teacher attitudes.
3. A review of topics related to inclusion in Saudi Arabia.

Attitudinal Theory

Attitudes encompass an individual's feelings, beliefs, and reactions towards various aspects of life, helping shape their understanding of the world. These learned behaviors can be influenced by education and experiences, leading to changes or reinforcement. McGuire (1986) identified three frameworks for studying inferential processes in social psychology: meaning attribution, person perception, and cognitive ramifications. The stability, accessibility, and direct experience with the attitude object are key factors in how attitudes influence future behavior and decision-making. Education professionals' backgrounds and experiences can impact their perception of special education, affecting their behavior and leadership. Teachers' attitudes and expectations also have a significant impact on student performance, with negative implicit attitudes towards autism correlating with professional burnout and potentially affecting student outcomes.

Promoting Inclusion in the Inclusive Classroom: Systems Theory, Teacher-Student Relationships, and Autism Characteristics

Inclusive education strives to include all students in the same classroom, emphasizing progress within the regular classroom, modifications and supplementary services, and support for regular educators. Systems theory provides a framework for understanding the social context's role in fostering or inhibiting child development. Legislation like the Individuals with Disabilities Education Act (IDEA) in the United States advocates for placing students with disabilities in the least restrictive environment. The teacher-student relationship is crucial, particularly for students with Autism Spectrum Disorder (ASD), and inclusive settings positively impact their academic and social development. Recognizing autism's defining characteristics is essential, with a focus on persistent deficits in social communication

and interaction, along with restricted, repetitive behavior patterns. Understanding these key elements contributes to creating an inclusive classroom environment.

Challenges and Strategies for Inclusion in Education for Students with Autism Spectrum Disorder

Inclusion in the classroom for students with Autism Spectrum Disorder (ASD) faces challenges related to teacher experience, personal biases, training, and curriculum development. Skilled inclusive teachers demonstrate qualities of tolerance, flexibility, and reflection, collaborating effectively with special educators. However, some general education teachers feel unprepared and hold negative perceptions towards addressing ASD-related issues. Teacher training positively influences attitudes towards inclusion, while administrative support and proactive principals play a crucial role in successful implementation. Creating an inclusive school community and empowering educators are key strategies to promote effective inclusion practices.

Inclusion Practices

In order to foster inclusive education, various methods such as co-teaching, accommodations, and Universal Design for Learning (UDL) are employed. Co-teaching involves collaboration between teachers with different expertise to support students with special needs in general education settings. Accommodations provide tailored support to students with disabilities, enabling them to achieve grade-level mastery. UDL focuses on proactive curriculum design and planning, utilizing multiple means of representation, action, and expression, and engagement to cater to diverse learners. These methods contribute to inclusive education by incorporating differentiated approaches and facilitating access to quality education for all students.

Inclusion within Saudi Arabia

Inclusive classrooms in Saudi Arabia face challenges due to a lack of trained professionals and limited resources. Although inclusion for students with Autism Spectrum Disorder (ASD) is required by law, the implementation is difficult. The Ministry of Education has prioritized inclusion and set goals for the next decade to address these challenges.

History of Special Education in Saudi Arabia

Saudi Arabia implemented special education regulations based on US policies in 2001. Individualized Education Plans (IEPs) are used for students with disabilities, and efforts are being made to meet the needs of students with autism. However, there is a lack of support within the country, leading to families seeking treatment abroad in Kuwait and Jordan.

Autism Services In Saudi Arabia

Limited services for Autism Spectrum Disorder (ASD) in Saudi Arabia result in underdeveloped treatment and training options. Families rely on mass media, leading

to misconceptions. Early intervention, particularly speech therapy, is challenging. Teachers need training in differentiated teaching methods like Division TEACCH. However, accessing accurate information and services is difficult, especially in rural areas.

Families encounter obstacles such as a lack of community support, long waiting lists, and a shortage of qualified staff. Mothers express concerns about diagnosis accuracy, individual support, and reliable information. The Jeddah Autism Center offers educational programs and services for individuals with autism in Saudi Arabia.

Special Education Issues, The Inclusion of ASD Students and Teachers' Attitudes to Inclusion in Saudi Arabia

In Saudi Arabia, there are several key issues related to special education and the inclusion of students with disabilities, particularly Autism Spectrum Disorder (ASD). The Ministry of Education aims for inclusive education, but general education teachers lack adequate training to meet the diverse needs of students with disabilities. Cultural and religious factors influence the acceptance of inclusion, and attitudinal barriers hinder its implementation. While mainstream schools follow integrated education, severe disabilities are not yet accommodated. Lack of understanding and knowledge about ASD poses challenges for teachers in adjusting their teaching methods. To develop inclusive programs, policy changes, awareness, and teacher training are crucial.

METHODOLOGY

The methodology employed for this study is a quantitative descriptive survey research design. The purpose of the study is to describe current conditions, focusing on attitudes, preferences, concerns, and practices using large samples, questionnaires, surveys, and tests. The study utilizes statistical analysis conducted on numerical data. Potential problems identified include instrument development, low response rates, and honesty of subjects.

The methods employed in this study include finding participants, research design, and description of the instrument. To ensure validity and reliability of the study, these factors, as well as ethics, will be addressed.

Purpose Statement

The purpose of this research was to investigate teachers' attitudes towards inclusion of students with autism in the general education classrooms in Saudi Arabia.

Research Design

The study assessed the attitudes of general education teachers towards including students with autism in classrooms in Saudi Arabia using the research instrument, Attitudes of Regular Educators towards the Inclusion of

Students with Autism Spectrum Disorder. Both inclusive and non-inclusive schools in elementary, middle, and high school levels were included, and the study utilized a quantitative descriptive survey research design. Descriptive designs are used to understand the nature of a phenomenon and establish its characteristics, with the aim of providing insight and discovery paradigms for further exploration.

Research Questions

The study addressed three research questions. Research Question 1 explored general education teachers' attitudes towards including students with Autism Spectrum Disorder (ASD) in Saudi Arabia's general education classrooms. Research Question 2 investigated factors influencing teachers' attitudes, such as years of teaching experience, current grade level of teaching assignment, previous experience with inclusion, gender, and previous training on autism. Research Question 3 examined whether significant differences existed in teachers' attitudes towards ASD inclusion based on the factors mentioned in Research Question 2.

Variables

The study measured the dependent variable of teachers' attitudes towards inclusion of students with autism in general education classrooms using a Likert Scale to create a composite score. The independent variables included gender, years of teaching experience, number of hours of training concerning autism, current grade level of teaching assignment, experience with inclusion, and whether teachers had a course about special education as part of their curriculum. These independent variables were measured using demographic questions in the survey instrument.

Population and Sampling Methods

The study included general education teachers from the North School District in Riyadh, Saudi Arabia, which has over 48,000 teachers (20,366 male teachers and 27,971 female teachers) across all school levels. Both inclusive and non-inclusive regular education schools were included in the study. A minimum sample size of 382 was determined through the use of an online statistical power calculator for a power level of .95, significance at an alpha level of .05, and a confidence level of .95.

Instrument

The survey used in this research study is called "The Attitudes of Regular Educators toward the Inclusion of Students with Autism Spectrum Disorder." It is designed to interview general education teachers and has two sections. The first section asks for demographic information, while the second section contains 22 items that require a Likert-scale response. Each question in the second section focuses on the ability to teach a child with autism, support from administrators, classroom management, as well as social, academic, and philosophical issues. The survey also includes subjective terms such as "enough resources" to assess the teacher's comfort with

available resources. One additional question was added to gather data on whether teachers had taken a course about special education as part of their educational curriculum. The survey was developed by Showalter-Barnes.

Reliability and Validity

The survey instrument underwent review by three professors from Walden University's education department and the neutral answer option was removed. Validity was ensured through factor analysis using the Kaiser-Meyer-Olkin measure and Bartlett's Test of Sphericity. The questionnaire's reliability was measured using Cronbach's Alpha Coefficient, which resulted in a high reliability score of 0.936. KMO and Bartlett's test were also used to assess reliability, with a very high value of 0.919 indicating that the survey was suitable for data collection. Tables 1 and 2 present the results of the Cronbach's Alpha Coefficient and KMO and Bartlett's test, respectively.

Table 1: Cronbach's Alpha Coefficient Statistics

Cronbach's Alpha	N of Items
0.936	22

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.919
Approx. Chi-Square		3306.815
Bartlett's Test of Sphericity	df	231
	Sig.	.000

The study evaluated both internal and external validity. Internal validity focused on the procedures and experiences reported by participants, while external validity considered the representativeness of the collected data. Threats to internal validity included potential issues with response credibility and unpredictable factors that could impact the validity of responses. Threats to external validity involved the applicability and generalizability of the responses. Person's correlation coefficient was utilized to assess the internal validity of the survey questionnaire. The results, presented in Table 3, showed a positive correlation between all survey items and the overall scores, indicating that the items effectively measured the intended constructs.

Table 3: Survey Validity

Item	Correlation coefficient	Item	Correlation coefficient	Item	Correlation coefficient
1	0.740**	9	0.729**	17	0.691**
2	0.636**	10	0.537**	18	0.770**
3	0.592**	11	0.741**	19	0.689**
4	0.612**	12	0.472**	20	0.709**
5	0.595**	13	0.736**	21	0.736**
6	0.707**	14	0.703**	22	0.652**
7	0.777**	15	0.526**		
8	0.457**	16	0.658**		

Data Collection

In the North School District in Riyadh, there are over 48,000 teachers employed across 1,860 schools that are gender-segregated. The district has 906 female schools and 954 male schools, with 20,366 male teachers and 27,971 female teachers. The average number of male teachers per male school is 21.3, and the average number of female teachers per female school is 30.8. To ensure balanced representation in the study, the researcher randomly selected 6 schools of each type (male elementary, female elementary, male middle, female middle, male high, and female high) from within the district.

Principals were contacted to allow teachers to participate in the research, which utilized the Attitudes of Regular Educators toward the Inclusion of Students with Autism Spectrum Disorder survey. This survey contained 22 multiple-choice and Likert-scale questions, including 6 demographic questions, and was translated from English to Arabic using the committee approach technique. A web-based internet survey (Qualtrics) was used to create and distribute the survey to teachers via email. Demographic information, including current teaching placement in elementary, middle, and high school, with separate schools for boys and girls at all levels, was used as independent variables to measure the dependent variables.

Site Description

The study was conducted in the North Schools Public Education District in Riyadh, Saudi Arabia. Teachers were given the option to complete the survey at school during non-instructional time or within their home environments.

Statistical analysis was conducted using SPSS with a significance level of $p \leq .05$. The analysis included two types: descriptive and inferential statistical analysis. Descriptive statistics were used for the demographic section of the survey, which included frequencies, percentages, mean, and standard deviation of teacher demographic information. The descriptive statistics were used to gain insight into understanding the sample and to determine if it is a representative sample.

Research Question 1 aimed to determine the teachers' attitudes towards inclusion using a Likert-type scale. Descriptive statistics, including frequencies, percentages, mean, and standard deviation, were used to analyze the data. The mean values of the composite scores were used to evaluate the teachers' attitudes towards inclusion according to a specific standard.

Standard scale	
1 to less than 1.75	Strongly disagree
1.75 to less than 2.50	Disagree
2.50 to less than 3.25	Agree
3.25 to 4	Strongly agree

Research Question 2 aimed to explore the relationship between teachers' reported demographic qualities (gender, years of teaching experience, hours of training concerning autism, current grade level of teaching assignment, and previous experience of inclusion) and composite scores from the Likert-type scale questions. To analyze the data, Multiple Linear Regressions were used, a statistical technique that models the relationship between two or more explanatory variables and a variable by fitting a linear equation to observed data. The Multiple Linear Regression was used to determine and clarify relationships among multiple variables.

Research Question 3 aimed to investigate whether differences existed in general education teachers' attitudes towards the inclusion of students with autism based on several variables. ANOVA and t-tests were used for the analysis. ANOVA was used to determine the differences in group means in a sample, while t-tests were used to examine whether there was a significant difference between the means of two groups. The variables considered in the analysis were gender, years of teaching experience, current grade level of teaching assignment, previous experience with inclusion, and previous training regarding autism.

Ethics

The ethical considerations in educational research involve protecting participants' rights, such as anonymity, the right to withdraw, and truthful disclosure of the study's nature. The IRB process is responsible for establishing these ethical considerations to ensure adherence to ethical design. Education is a moral enterprise that aims to transform lives and introduce individuals to cultural achievement. Therefore, researchers must question if their aspirations align with what education should be about. In this study, the ethical considerations concerning the educational imperative were satisfied by improving the understanding of the phenomenon.

DATA ANALYSIS & INTERPRETATION

Introduction

The study aimed to investigate teachers' attitudes toward the inclusion of students with Autism Spectrum Disorder (ASD) in general education classrooms in Saudi Arabia. Data was collected through a survey completed by 237 teachers from the North School District in Riyadh. Descriptive statistics were used to measure attitudes, while multiple regression analysis examined the impact of factors like teaching experience, grade level, and training on attitudes. Additionally, ANOVA and t-tests were conducted to identify any significant differences based on demographic characteristics. The analysis was divided into two sections: Demographic Information Analysis and Answering the Research Questions.

Section One: Demographic Information Analysis

This section presents the analysis of participants' demographic information, including variables such as

gender, years of experience, current teaching placement, and having courses on special education. The results of this previous experience with inclusion, training hours on autism, analysis can be found in Table 4.

Table 4: Distribution of Study Subjects According to Demographic Information

Demographic Characteristic	n	%
Gender		
Male	120	50.6
Female	117	49.4
Mean + SD	1.49+.50	
Years of experience including this year		
0 to 5 years	82	34.6
6 to 15 years	92	38.8
16 years +	63	26.6
Mean + SD	1.92+0.78	
Current teaching placement (grades)		
K to 5	118	49.8
6 to 8	55	23.2
9 to 12	64	27.0
Mean + SD	1.77+0.85	
Having previous experience with including child with a disability in regular education classroom		
Yes	79	33.3
No	158	66.7
Mean + SD	1.67+0.47	
Amount of training regarding autism (in hours)		
None	166	70.0
1-5 hours	39	16.5
6-10 hours	18	7.6
11+ hours	14	5.9
Mean + SD	0.49+0.87	
Having any courses about special education as part of your education		
Yes	79	33.3
No	158	66.7
Mean + SD	1.67+ 0.47	

Table 4 presents the distribution of the sample based on demographic information. The gender distribution is nearly equal, with about 50.6% male and 49.4% female teachers. Most teachers fall into the 0-5 years and 6-15 years of experience categories, comprising 73.4% of the participants. Current teaching placements show that around half of the teachers are in K-5, 23.2% teach grades 6-8, and 27.0% teach grades 9-12. Two-thirds of the teachers had no previous experience with inclusion, while 33.3% had prior experience. The majority (70.0%) had no training in autism, and two-thirds (66.7%) did not have any courses on special education as part of their education.

In Table 5, the distribution of teachers by years of experience and gender is shown. Male teachers were represented by 11% with 0-5 years of experience, 26.26% with 6-15 years of experience, and 13.5% with over 16 years of experience. Female teachers accounted for 12.7% with 6-15 years of experience. In the 16+ years of experience group, male and female teachers were almost equal.

In Table 6, the distribution of teachers based on previous experience with including a child with a disability in a regular education classroom is displayed. Male teachers with no previous experience constituted 34.2%, while female teachers represented 32.5%. There were no significant differences between male and female teachers regarding experience of inclusion of a child with a disability in a regular education classroom.

Table 5: Distribution of the Sample by Gender According to Years of Experience

Experience		Gender				Total	
		Male		Female		F	%
		F	%	F	%		
0 to 5 years	% of experience	26	31.7	56	68.3	82	100.0
	% gender		21.7		47.9		
	% of total		11.0		23.6		34.6
6 to 15 years	% of experience	62	67.4	30	32.6	92	100.0
	% gender		51.7		25.6		
	% of total		26.2		12.7		38.8
16+	% of experience	32	50.8	31	49.2	63	100.0
	% gender		26.7		26.5		
	% of total		13.5		13.1		26.6
Total	% of experience	120	50.6	117	49.4	237	100.0

Table 6: Distribution by Gender According to Having Previous Experience with Including a Child with a Disability in a Regular Education Classroom

Having previous experience with including child with disability in a regular education classroom		Gender				Total	
		Male		Female			
		F	%	F	%	F	%
Yes	% of previous experience with inclusion	39	49.4	40	50.6	79	100.0
	% gender		32.5		34.2		
	% of total		16.5		16.9		33.3
No	% of previous experience with inclusion	81	51.3	77	48.7	158	100.0
	% gender		67.5		65.8		
	% of total		34.2		32.5		66.7
Total	% of previous experience with inclusion	120	50.6	117	49.4	237	100.0

Table 7 displays the distribution of teachers by gender and their training in autism. 76.6% of male teachers and 63.2% of female teachers reported no training in autism. 12.5% of male teachers and 20.5% of female teachers received one to five hours of training. Both genders had 7.7% receiving training between 6-10 hours. Only 3.3% of male teachers and 8.5% of female teachers had 11+ hours of training. Overall, slightly more female teachers received training in autism compared to male teachers.

Table 7: Distribution of the Study Sample, by Gender, According to the Amount of Autism Training (in Hours)

Amount of training regarding autism		Gender				Total	
		Male		Female			
		F	%	F	%	F	%
None	% of amount of training	92	55.4	74	44.6	166	100.0
	% gender		76.7		63.2		
	% of total		38.8		31.2		70.0
1-5 hours	% of amount of training in autism	15	38.5	24	61.5	39	100.0
	% gender		12.5		20.3		
	% of total		6.3		10.1		16.5
6-10 hours	% of amount of training in autism	9	50.0	9	50.0	18	100.0
	% gender		7.5		7.7		
	% of total		3.8		3.8		7.6
11+ hours	% of amount of training in autism	4	28.6	10	71.4	14	100.0
	% gender		3.3		8.5		
	% of total		1.7		4.2		5.9
Total	% of experience	120	50.6	117	49.4	237	100.0

The distribution of teachers by gender and their attendance of courses on special education is shown in Table 8. Among the male teachers, 36.7% had attended such courses, while the corresponding percentage for female teachers was 29.9%. On the other hand, 32.1% of male teachers had not taken any courses on special education, compared to 34.6% of female teachers. These results indicate that a higher percentage of male teachers received training in special education compared to their female counterparts.

Table 8: Distribution by Gender, of the Study Sample According to Having Courses about Special Education as Part of Education

Having courses about special education as part of education		Gender				Total	
		Male		Female			
		F	%	F	%	F	%
Yes	% of having courses about special education	44	55.7	35	44.3	79	100.0
	% gender		36.7		29.9		
	% of total		18.6		14.8		33.3
No	% of having courses about special education	76	48.1	82	51.9	158	100.0
	% gender		63.3		70.1		
	% of total		32.1		34.6		66.7
Total	% of previous experience with inclusion	120	50.6	117	49.4	237	100.0

Section Two: Answering Research Questions

This section is mainly focused on answering the research questions, by employing different statistical techniques including descriptive statistical methods, regression, and analysis of variance.

Research Question 1

“What are general education teachers’ attitudes toward the inclusion of students with Autism Spectrum Disorder (ASD) in the general education classroom in Saudi Arabia?”

The main objective of this study was to examine the attitudes of general education teachers in Saudi Arabia towards including

students with Autism Spectrum Disorder (ASD) in the general education classroom. The results of teachers' attitudes towards ASD inclusion are presented in Table 9. Descriptive statistical methods, including frequencies, percentages, mean, and standard deviation, were employed to assess these attitudes. The Likert 4-point scale, using the abbreviations SA (strongly agree), A (agree), DA (disagree), and SDA (strongly disagree), was utilized for measurement, as indicated in the table.

Table 9. Attitudes toward the Inclusion of the Students with ASD in the General Education Classroom

Number		SA n (%)	A n (%)	DA n (%)	SDA n (%)	M	SD	Ranking
1	As a regular educator, I believe that inclusion is the most appropriate way to service students with autism.	80 (33.8)	80 (33.8)	48 (20.3)	29 (12.2)	2.89	1.01	10
2	Students with autism have the right to receive all education within the regular education classroom.	102 (41.0)	85 (35.9)	36 (15.2)	14 (5.9)	3.16	0.89	1
3	Including students with autism will benefit typical students as they will learn to accept students with disabilities.	60 (25.3)	108 (45.6)	52 (21.9)	17 (7.2)	2.89	0.87	9
4	The extra attention that will have to be given to a student with autism will take away from the education of the other students.	45 (19.0)	114 (48.1)	64 (27.0)	14 (5.9)	2.80	0.81	16
5	My principal and school administrator promote the philosophy that students with disabilities are the responsibility of all school personnel.	60 (25.3)	133 (56.1)	26 (11.0)	18 (7.6)	2.99	0.82	7
6	A student with autism included in the regular classroom will display academic gains as a result of being included.	83 (35.0)	93 (39.2)	42 (17.7)	19 (8.0)	3.01	0.92	5
7	The behavior of a student with autism can be successfully managed with the regular education classroom.	38 (16.0)	140 (59.1)	44 (18.6)	15 (6.3)	2.85	0.76	12
8	There are enough resources (materials, personnel) in place to support students with autism being placed in my regular education classroom.	37 (15.6)	66 (27.8)	74 (31.2)	60 (25.3)	2.34	1.02	21
9	Should a student with autism be in my classroom, my administrators would provide time for regular education staff and special education staff to discuss and plan for the student.	39 (16.5)	122 (51.5)	52 (21.9)	24 (10.1)	2.74	0.85	17
10	Regular education teachers possess the knowledge and skills to adequately teach the child with autism.	34 (14.3)	56 (23.6)	74 (31.2)	73 (30.8)	2.22	1.04	22
11	The student with autism will develop social skills as a result of being included within the regular education classroom.	96 (40.5)	88 (37.1)	37 (15.6)	16 (6.8)	3.11	0.91	2
12	Including students with autism in regular education classroom will positively impact the academic achievement of typical students	31 (13.1)	95 (40.1)	76 (32.1)	35 (14.8)	2.51	0.90	19
13	I believe that my principal and other administrators provide a supportive, collaborative environment that is conducive to provide inclusive education.	49 (20.7)	124 (52.3)	43 (18.1)	21 (9.0)	2.85	0.85	11
14	It will be more difficult to maintain appropriate classroom behavior when a student with autism is included in my classroom.	45 (19.0)	124 (52.3)	51 (21.5)	17 (7.2)	2.83	0.82	15
15	I am knowledgeable regarding curriculum modifications that have proven helpful in teaching a child with autism spectrum disorder.	33 (13.9)	83 (35.0)	79 (33.3)	42 (17.7)	2.45	0.91	20
16	I believe that I can collaborate effectively with other staff to meet the needs of a child with autism included in my classroom.	52 (21.9)	117 (49.4)	47 (19.8)	21 (8.9)	2.84	0.87	13
17	The behavior of the regular education students will set a positive example for the autistic student included in the regular education classroom.	90 (38.0)	75 (31.6)	57 (24.1)	15 (6.3)	3.01	0.94	6
18	Should a child with autism be placed within my regular education classroom, I believe that my principal would periodically check in to see if assistance is necessary.	50 (21.1)	117 (49.4)	52 (21.9)	18 (7.6)	2.84	0.84	14
19	The student with autism will possess an increased self-esteem as a result of being included within the regular education classroom.	71 (30.0)	115 (48.5)	38 (16.0)	13 (5.5)	3.03	0.83	3
20	Including a student with autism in the regular education classroom will require significant changes in pacing so that I can still meet the district benchmarks within the required times.	39 (16.5)	113 (47.7)	64 (27.0)	21 (8.9)	2.72	0.84	18
21	The student with autism will initiate more interactions with peers and teachers as a result of being included within the regular education classroom.	71 (30.0)	109 (46.0)	46 (19.4)	11 (4.6)	3.01	0.83	4
22	Standardized test scores will be affected by the inclusion of students with autism in the regular education classroom.	59 (24.9)	112 (47.3)	51 (21.5)	15 (6.3)	2.91	0.84	8
Overall						2.82	0.58	

Table 9 displays the attitudes of teachers in Saudi Arabia regarding the inclusion of students with ASD in the general education classroom. The overall mean value of participants' attitudes was $M=2.82$ with $SD=0.58$. The majority of teachers expressed agreement and support for the inclusion of students with ASD in the general education classroom. The researcher further analyzed the significance of these attitudes in relation to the objectives of inclusion in the general education setting.

The researcher assessed how teachers' responses to each statement regarding the advantages of inclusion contribute to the overall goal of inclusive education in the general education classroom.

Statement 2: A majority of participants (78.9%) supported the right of students with autism to receive education in regular classrooms, with a mean value of 3.16 ($SD=0.89$).

Statement 11: The majority of participants (77.6%) expressed positive attitudes towards students with autism developing social skills through inclusion in regular classrooms, with a mean value of 3.11 ($SD=0.91$).

Statement 19: A majority of teachers (78.5%) believed that students with autism would develop increased self-esteem through inclusion in regular classrooms, with a mean value of 3.03 ($SD=0.83$).

Statement 6: The majority of the sample (74.3%) confirmed that students with autism included in regular classrooms would display academic gains, with a mean value of 3.01 ($SD=0.92$).

Statement 17: The majority of teachers (69.6%) supported the idea that the behavior of regular education students would set a positive example for students with autism included in regular classrooms, with a mean value of 3.01 ($SD=0.94$).

Statement 5: The majority of participants (81.4%) agreed that the principal and school administrators promote the philosophy that students with disabilities are the responsibility of all school personnel, with a mean value of 2.99 ($SD=0.82$).

Statement 22: Most teachers (72.2%) agreed that standardized test scores would be affected by the inclusion of students with autism in regular classrooms, with a mean value of 2.91 ($SD=0.84$).

Statement 3: The majority of teachers (70.9%) believed that including students with autism would benefit typical students in learning to accept students with disabilities, with a mean value of 2.89 ($SD=0.87$).

Statement 1: A significant proportion of teachers (67.6%) had positive attitudes, believing that inclusion is the most appropriate way to serve students with autism, with a mean value of 2.89 ($SD=1.01$).

Statement 13: A majority (73.0%) believed that their

principals and other administrators provide a supportive, collaborative environment for inclusive education, with a mean value of 2.85 ($SD=0.85$).

Statement 7: The majority (75.1%) confirmed that the behavior of students with autism can be successfully managed in regular classrooms, with a mean value of 2.85 ($SD=0.76$).

Statement 16: The majority of teachers (71.3%) believed they can effectively collaborate with staff to meet the needs of students with autism in regular classrooms, with a mean value of 2.84 ($SD=0.87$).

Statement 18: A majority of teachers (70.2%) believed their principals would periodically check in to see if additional support was necessary for students with autism in regular classrooms, with a mean value of 2.84 ($SD=0.84$).

Statement 14: The majority of teachers (71.3%) believed it would be more difficult to maintain appropriate classroom behavior with a student with autism included, with a mean value of 2.84.

Statement 4: Most teachers (67.1%) believed that the extra attention given to students with autism would take away from the education of other students, with a mean value of 2.86 ($SD=0.88$).

Statement 9: A majority of teachers (68.0%) confirmed that their administrators would provide time for regular education and special education staff to discuss and plan for students with autism in the classroom, with an average response of $M=2.74$ ($SD=0.85$).

Statement 20: Most teachers (63.6%) believed that including students with autism in regular classrooms would require significant changes in pacing to meet district benchmarks, with 35.9% of teachers disagreeing, and a mean value of 2.84.

Statement 12: Only 53.2% of participants agreed that including students with autism in regular classrooms would positively impact the academic achievement of typical students, with a mean value of 2.77 ($SD=0.89$).

Statement 15: The majority of teachers (51.0%) lacked knowledge about curriculum modifications for teaching students with autism spectrum disorder, as indicated by their disagreement, with 35.1% agreeing, and a mean value of 2.74. See Figure 20 for details.

Statement 8: The majority of participants (56.5%) disagreed that there were enough resources in place to support students with autism in regular classrooms, with only 15.6% strongly agreeing and 27.9% agreeing.

Statement 10: Most participants (62.0%) disagreed that regular classroom teachers possess the knowledge and skills to adequately teach students with autism, with 37.5% strongly disagreeing and 25.3% disagreeing, while only 14.3% strongly agreed and 23.6% agreed.

Please refer to Figures 2-22 for detailed statistics on each statement.

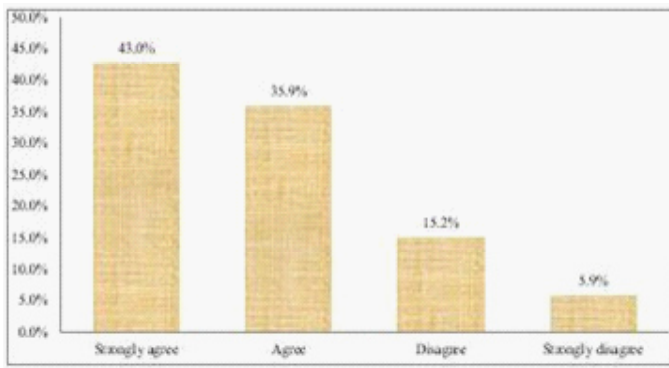


Figure 1. Attitudes regarding the right of students with ASD to receive all education within the regular education classroom.

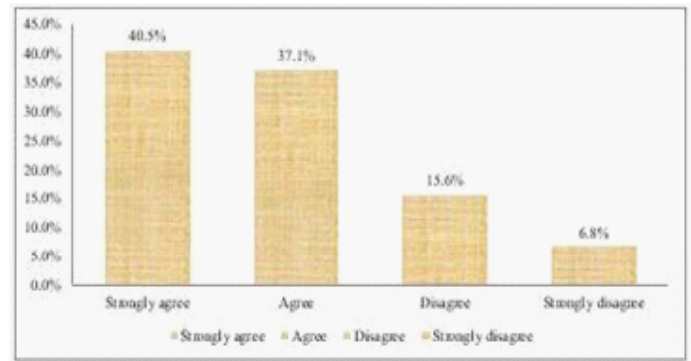


Figure 2. Teachers' opinions whether students with autism will develop social skills as a result of inclusion in a regular education classroom.

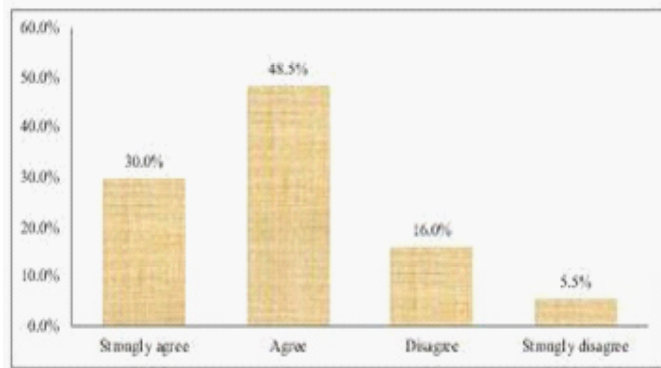


Figure 3. Teachers' attitudes regarding whether the student with autism will possess an increased self-esteem as a result of inclusion in the regular education classroom.

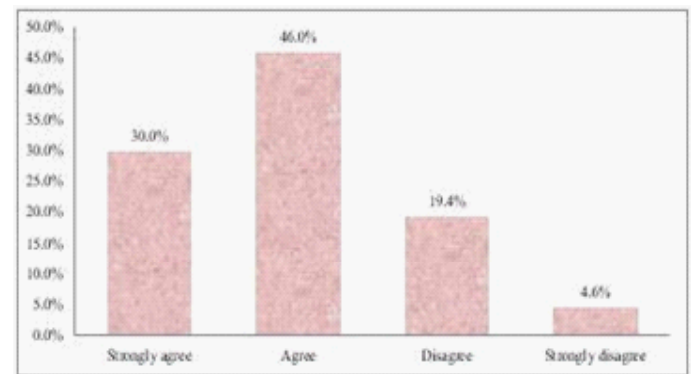


Figure 4. Teachers' attitudes regarding whether the student with autism will initiate more interaction with peers and teachers as a result of inclusion in the regular education classroom.

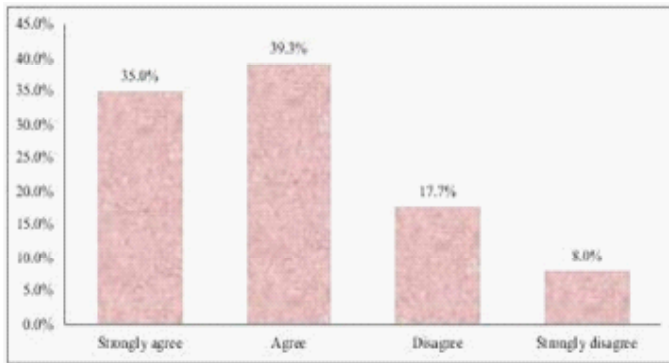


Figure 5. Teachers' attitudes regarding whether a student with autism included in the regular classroom will display academic gains as a result of inclusion.

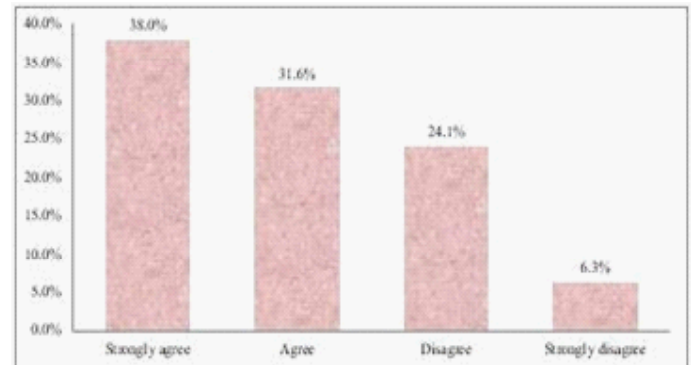


Figure 6. Beliefs that the behavior of the regular education students will set a positive example for the autistic student included in the regular education classroom.

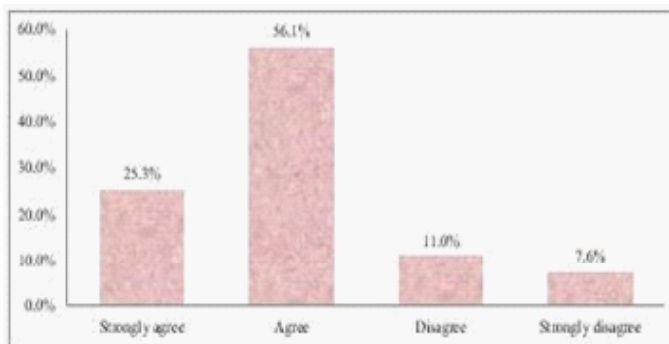


Figure 7. Teachers' attitudes regarding whether their principal and school administrator promote the philosophy that students with disabilities are the responsibility of all school personnel.

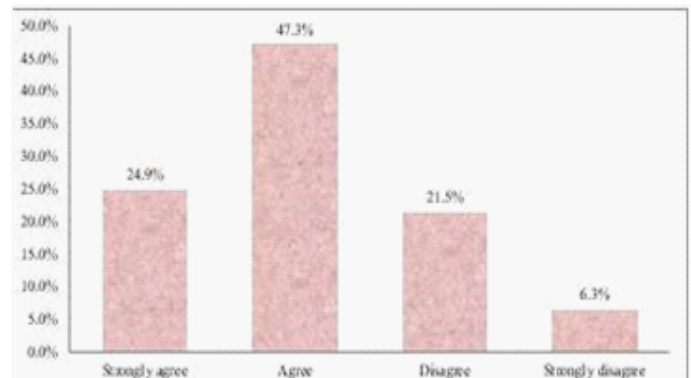


Figure 8. Teachers' attitudes regarding whether standardized test scores will be affected by the inclusion of students with autism in the regular education classroom.

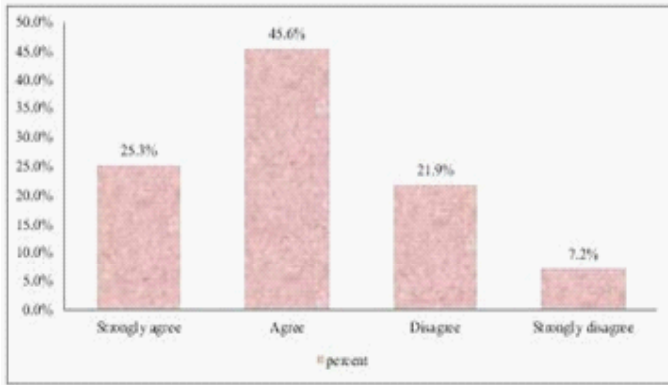


Figure 9. Teachers' attitudes regarding that, including students with autism will benefit typical students as they will learn to accept students with disabilities.

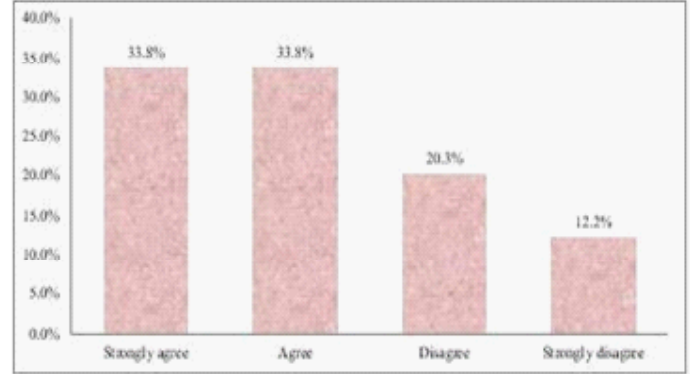


Figure 10. Teachers' attitudes toward the belief that inclusion is the most appropriate way to service students with autism.

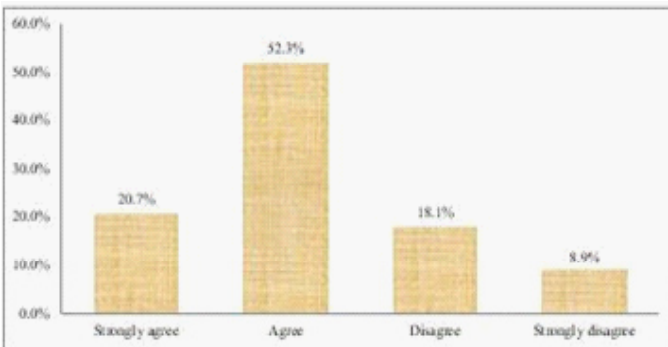


Figure 11. Teachers' attitudes toward the statement that their principal and other administrators provide a supportive, collaborative environment that is conducive to provide inclusive education.

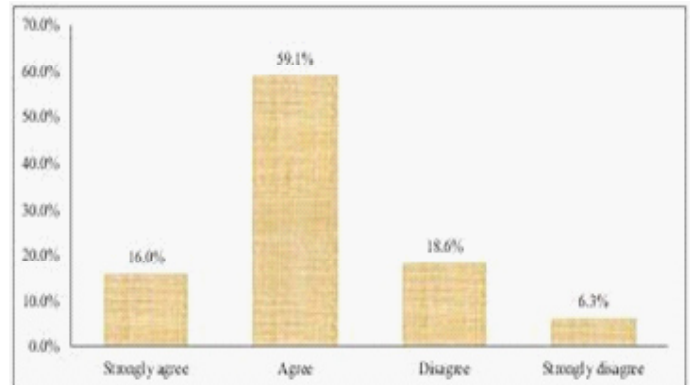


Figure 12. Teachers' attitudes regarding whether the behavior of a student with autism can be successfully managed in a regular education classroom.

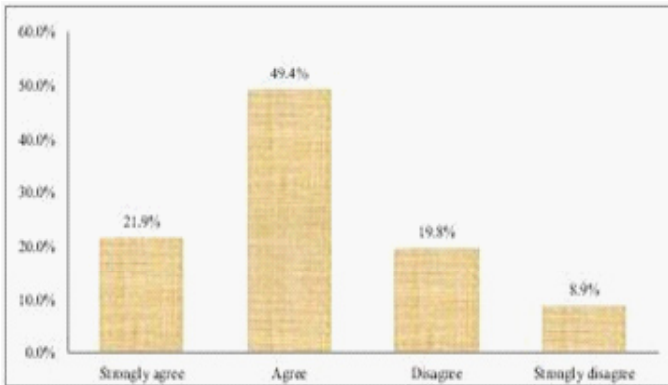


Figure 13. Teachers' attitudes regarding whether they can collaborate effectively with other staff to meet the needs of a child with autism included in their classroom.

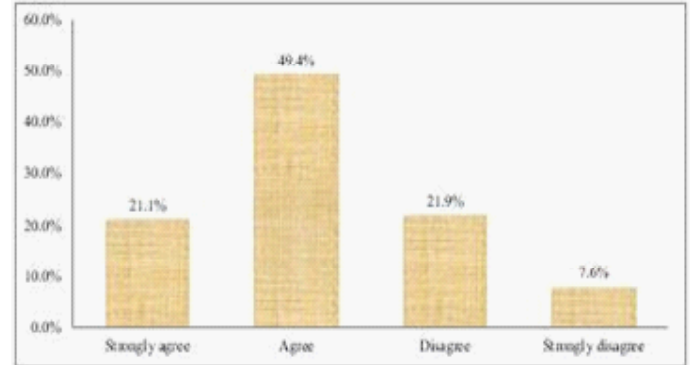


Figure 14. Teachers' opinions about whether a principal would periodically check to see if a teacher needed additional assistance to work with a student with autism placed within the regular education class.

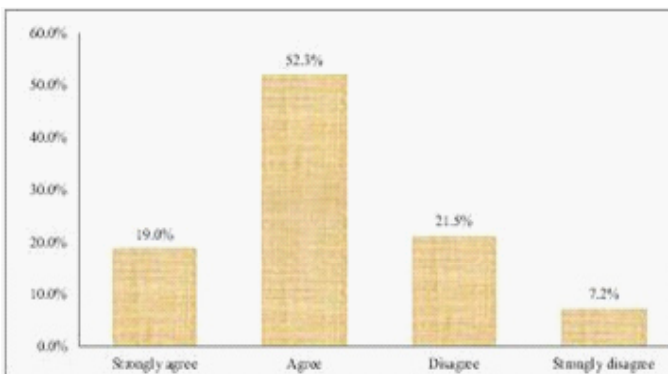


Figure 15. Teachers' attitudes regarding whether it will be more difficult to maintain appropriate classroom behavior when a student with autism is included in their classroom.

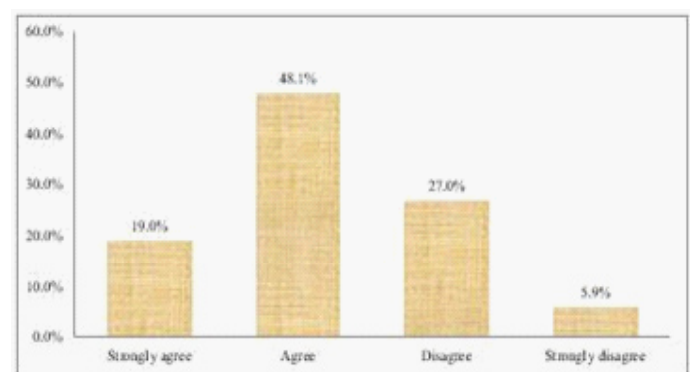


Figure 16. Teachers' opinions about whether the extra attention that will have to be given to a student with autism will take away from the education of the other students.

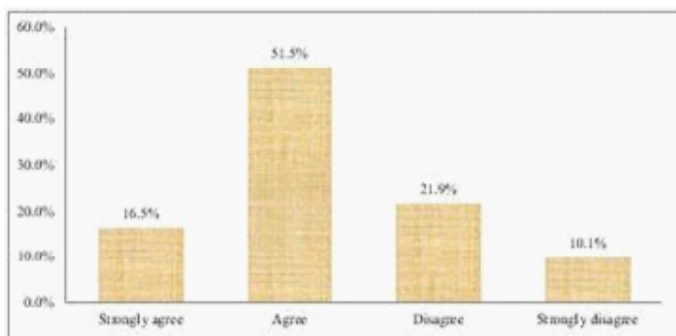


Figure 17. Teachers' opinions regarding whether administrators would provide time for regular education staff and special education staff to discuss and plan for the student included in the classroom.

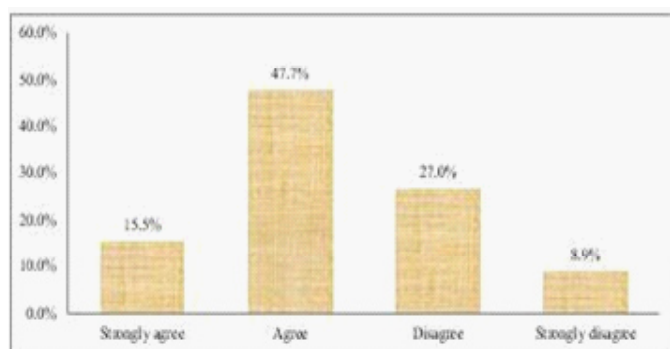


Figure 18. Teachers' attitudes regarding whether including a student with autism in the regular education classroom will require significant changes in pacing.

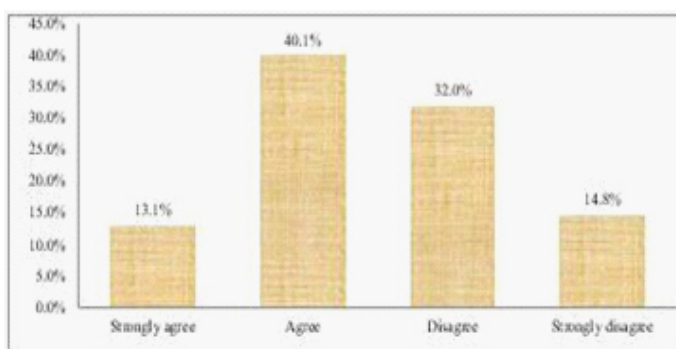


Figure 19. Opinions whether including students with autism in a regular education classroom will positively impact the academic achievement of typical students.

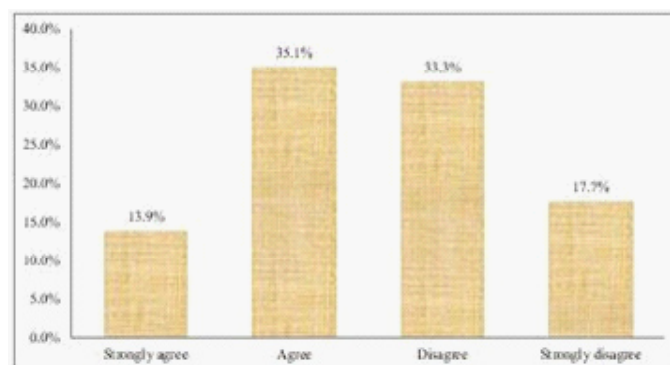


Figure 20. Teachers' attitudes toward whether they are knowledgeable regarding curriculum modifications that have proven helpful in teaching a child with autism spectrum disorder.

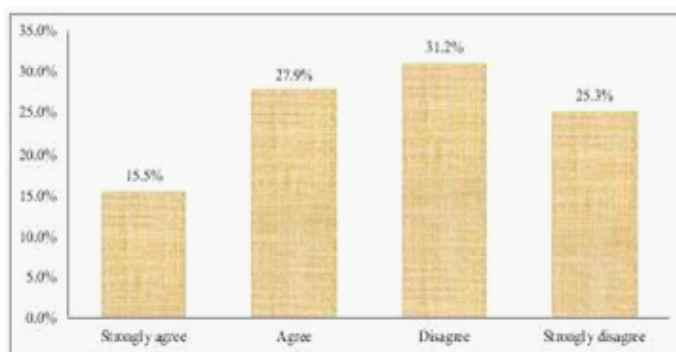


Figure 21. Teachers' attitudes regarding whether there are enough resources in place to support a student with autism being placed in a regular education classroom.

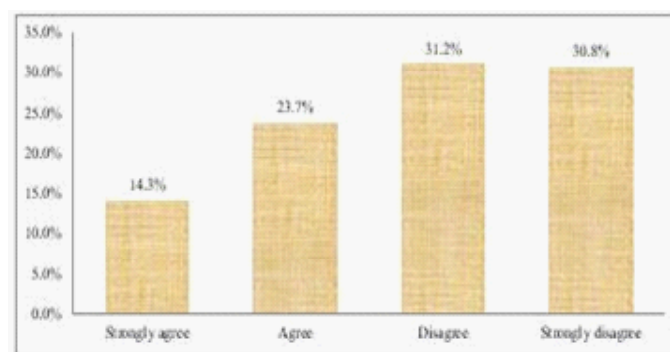


Figure 22. Teachers' opinions regarding whether regular education teachers possess the knowledge and skills to adequately teach a child with autism.

This concludes to that teachers in Saudi Arabia generally hold positive attitudes towards the inclusion of students with autism in the general education classroom. They recognize the rights of students with autism to receive education alongside their peers and believe that inclusion can have positive effects on their social skills, self-esteem, and academic performance. However, there are areas where teachers express negative opinions. They believe that standardized test scores will be affected by the inclusion of students with autism, and they are concerned that the extra attention given to these students may impact the education of other students. Teachers also feel that regular classroom teachers are not adequately prepared to teach students with autism and that there is a lack of resources to support their inclusion. Additionally, teachers reported a lack of knowledge regarding curriculum modifications that could be beneficial for teaching students with autism.

Research Question 2

Which of the factors (years of teaching experience, current grade level of teaching assignment, previous experience with inclusion, gender, and previous training regarding autism) affect general education teachers' attitudes toward inclusion of students with Autism Spectrum Disorder (ASD) in the general education classroom in Saudi Arabia?

A multiple linear regression analysis was conducted to investigate the influence of several factors on general education teachers' attitudes towards the inclusion of students with Autism Spectrum Disorder (ASD) in Saudi Arabia. The analysis

aimed to determine the level of impact that factors such as years of teaching experience, current grade level of teaching assignment, previous experience with inclusion, gender, and previous training regarding autism have on teachers' attitudes towards ASD inclusion in the general education classroom. The results of the analysis, presented in Table 10, provide valuable insights into how these factors affect teachers' attitudes and perceptions regarding the inclusion of students with ASD.

Table 10: Results of Multiple Linear Regression Analysis to Assess the Effects of Teachers' Demographic Information on their Attitudes Regarding Inclusion of Students with ASD in General Education Classroom

Factors (demographic information)	Unstandardized coefficients		Standardized coefficients		p-value
	B	Std. Error	Beta	t-test	
Constant	72.318	5.433		13.31***	0.00
Gender	-2.795	1.687	-0.11	-1.657*	0.099
Years of experience	-1.481	1.098	-0.091	-1.348*	0.18
Current grade level	1.295	0.993	0.087	1.308*	0.19
Previous experience regarding autism	-3.179	1.996	-0.118	-1.593*	0.11
Previous training regarding autism	-0.577	1.097	-0.040	-0.528*	0.60
$F(5,231) = 1.577^*$					
Prob. $F = 0.17$					
$R = 0.182$					
$R^2 = 0.033$					
Adj. $R^2 = 0.012$					
***indicated statistically significant at the (0.01) level					
*indicated statistically significant at the (0.10) level					

The results in Table 10 show that the multiple regression analysis did not find a significant effect of teachers' demographic information on their attitudes towards the inclusion of students with ASD in general education classes ($F = 1.577, p = 0.17$). The model had a low R^2 value of 0.033, indicating that only 3.3% of the variation in attitudes was explained by the independent variables. The adjusted R^2 value was even lower at 0.012, suggesting that only 1.0% of the variation could be attributed to the demographic factors. Thus, the demographic information of teachers is not a reliable predictor of their attitudes towards ASD inclusion in the Saudi Arabian general education classroom.

Research Question 3

Are there significant differences in the attitudes of general education teachers toward the inclusion of students with autism spectrum disorder in general education classrooms in Saudi Arabia based on years of teaching experience, current grade level of teaching assignment, previous experience with inclusion, gender, and previous training regarding autism?

Table 11 displays the results of analyzing the attitudes of general education teachers in Saudi Arabia towards including students with autism in regular classrooms. While no overall significant differences were found based on years of experience, significant variations emerged for specific attitude elements. Table 12 reveals that teachers with 6-15 years of experience held more positive attitudes. Table 13 shows that, although no overall significant difference was found based on the current grade level of teaching assignment, significant variations were observed for specific attitude elements related to the right of inclusion and resource availability.

Table 11: Analysis of variances (ANOVA) to examine if there are significant differences in Attitudes toward inclusion of Students with ASD based on Years of Teaching Experience

No	As a regular educator, I believe that inclusion is the most appropriate way to service students with autism.	Mean by years of experience			F statistic	p-value
		0-5	6-15	16+		
1	As a regular educator, I believe that inclusion is the most appropriate way to service students with autism.	2.71	3.15	2.75	5.255**	0.006
2	Students with autism have the right to receive all education within the regular education classroom.	3.05	3.28	3.13	1.556	0.21
3	Including students with autism will benefit typical students as they will learn to accept students with disabilities.	2.77	3.07	2.79	3.136*	0.05
4	The extra attention that will have to be given to a student with autism will take away from the education of the other students.	2.83	2.91	2.60	2.84	0.06
5	My principal and school administrator promote the philosophy that students with disabilities are the responsibility of all school personnel.	2.90	3.09	2.97	1.139	0.32
6	A student with autism included in the regular classroom will display academic gains as a result of being included.	2.88	3.24	2.86	4.679**	0.01
7	The behavior of a student with autism can be successfully managed with the regular education classroom.	2.82	2.96	2.73	1.772	0.17
8	There are enough resources (materials, personnel) in place to support a student with autism being placed in my regular education classroom.	2.59	2.11	2.35	4.866**	0.008
9	Should a student with autism being in my classroom, my administrators would provide time for regular education staff and special education staff to discuss and plan for the student.	2.76	2.79	2.65	0.538	0.59

No		Mean by years of experience			F statistic	p-value
		0-5	6-15	16+		
10	Regular education teachers possess the knowledge and skills to adequately teach the child with autism.	2.38	2.13	2.13	1.552	0.21
11	The student with autism will develop social skills as a result of being included within the regular education classroom.	2.99	3.22	3.13	1.404	0.25
12	Including students with autism in regular education classroom will positively impact the academic achievement of typical students.	2.61	2.49	2.43	0.781	0.46
13	I believe that my principal and other administrators provide a supportive, collaborative environment that is conducive to provide inclusive education.	2.87	2.98	2.63	3.13*	0.05
14	It will be more difficult to maintain appropriate classroom behavior when a student with autism is included in my classroom.	2.78	2.89	2.81	0.428	0.65
15	I am knowledgeable regarding curriculum modifications that have proven helpful in teaching a child with autism spectrum disorder.	2.60	2.29	2.49	2.374	0.10
16	I believe that I can collaborate effectively with other staff to meet the needs of a child with autism included in my classroom.	2.76	2.83	2.98	1.268	0.28
17	The behavior of the regular education students will set a positive example for the autistic student included in the regular education classroom.	2.93	3.11	2.98	0.856	0.43
18	Should a child with autism be placed within my regular education classroom, I believe that my principal would periodically check in to see if assistance is necessary.	2.96	2.78	2.76	1.365	0.26
19	The student with autism will possess an increased self-esteem as a result of being included within the regular education classroom.	3.12	2.99	2.97	0.796	0.45
20	Including a student with autism in the regular education classroom will require significant changes in pacing so that I can still meet the district benchmarks within the required times.	2.83	2.65	2.67	1.110	0.33
21	The student with autism will initiate more interactions with peers and teachers as a result of being included within the regular education classroom.	3.10	3.01	2.90	0.971	0.38
22	Standardized test scores will be affected by the inclusion of students with autism in the regular education classroom.	2.95	2.90	2.86	0.223	0.80
	Overall attitudes towards inclusion of students with ASD in general education classroom.	2.82	2.86	2.75	0.690	0.50

Note. N = (2,734)

Table 12: Results of Multiple Comparison to Examine Differences in Teachers' Attitudes Based on Years of Experience

Years of experience	Mean values	Difference by years of experience		
		0-5	6-15	16+
As a regular educator, I believe that inclusion is the most appropriate way to service students with autism.				
0-5	2.71	-	-0.44*	-
6-15	3.15	0.44*	-	0.41*
16+	2.75	-	-0.41*	-
Including students with autism will benefit typical students as they will learn to accept students with disabilities.				
0-5	2.77	-	-0.30*	-
6-15	3.07	0.30*	-	-
16+	2.79	-	-	-
A student with autism included in the regular classroom will display academic gains as a result of being included				
0-5	2.88	-	-0.36*	-
6-15	3.24	0.36*	-	0.38*
16+	2.86	-	-0.38*	-
There are enough resources (materials, personnel) in place to support a student with autism being placed in my regular education classroom				
0-5	2.59	-	0.48*	-
6-15	2.11	-0.48*	-	-
16+	2.35	-	-	-
I believe that my principal and other administrators provide a supportive, collaborative environment that is conducive to providing inclusive education.				
0-5	2.87	-	-	-
6-15	2.98	-	-	0.34*
16+	2.63	-	-0.34*	-

*Indicated that difference is significant at the (0.05) level.

Table 13: Analysis of Variances (ANOVA) to Examine if There are Significant Differences in Attitudes toward Inclusion of Students with ASD based on Current Grade Level Teaching Assignment

No		Mean by current grade level of teaching assignment			F statistic	p-value
		K-5	6-8	9-10		
1	As a regular educator, I believe that inclusion is the most appropriate way to service students with autism.	2.77	3.05	2.97	1.749	0.18
2	Students with autism have the right to receive all education within the regular education classroom.	3.03	3.18	3.38	3.11*	0.05
3	Including students with autism will benefit typical students as they will learn to accept students with disabilities.	2.91	2.80	2.94	0.413	0.66
4	The extra attention that will have to be given to a student with autism will take away from the education of the other students.	2.75	2.87	2.83	0.444	0.64
5	My principal and school administrator promote the philosophy that students with disabilities are the responsibility of all school personnel.	2.92	3.02	3.09	0.933	0.39
6	A student with autism included in the regular classroom will display academic gains as a result of being included.	2.89	3.07	3.19	2.34	0.10
7	The behavior of a student with autism can be successfully managed with the regular education classroom.	2.81	2.75	3.00	1.913	0.15
8	There are enough resources (materials, personnel) in place to support students with autism being placed in my regular education classroom.	2.35	2.07	2.55	3.249*	0.04
9	Should a student with autism being in my classroom, my administrators would provide time for regular education staff and special education staff to discuss and plan for the student.	2.75	2.71	2.75	0.056	0.95
10	Regular education teachers possess the knowledge and skills to adequately teach the child with autism.	2.17	2.11	2.39	1.321	0.27
11	The student with autism will develop social skills as a result of being included within the regular education classroom.	3.05	3.20	3.16	0.601	0.55
12	Including students with autism in regular education classroom will positively impact the academic achievement of typical students.	2.61	2.31	2.52	2.119	0.12
13	I believe that my principal and other administrators provide a supportive, collaborative environment that is conducive to provide inclusive education.	2.81	2.85	2.91	0.247	0.78
14	It will be more difficult to maintain appropriate classroom behavior when a student with autism is included in my classroom.	2.71	2.91	2.98	2.676	0.07
15	I am knowledgeable regarding curriculum modifications that have proven helpful in teaching a child with autism spectrum disorder.	2.36	2.44	2.63	1.611	0.20
16	I believe that I can collaborate effectively with other staff to meet the needs of a child with autism included in my classroom.	2.86	2.84	2.81	0.077	0.93
17	The behavior of the regular education students will set a positive example for the autistic student included in the regular education classroom.	2.97	3.05	3.05	0.194	0.82
18	Should a child with autism be placed within my regular education classroom, I believe that my principal would periodically check in to see if additional support is needed.	2.80	2.84	2.92	0.456	0.63
19	The student with autism will possess an increased self-esteem as a result of being included within the regular education classroom.	3.05	2.95	3.06	0.374	0.66
20	Including a student with autism in the regular education classroom will require significant changes in pacing so that I can still meet the district benchmarks within the required times.	2.69	2.84	2.67	0.717	0.49

21	The student with autism will initiate more interactions with peers and teachers as a result of being included within the regular education classroom.	3.05	2.89	3.05	0.777	0.46
22	Standardized test scores will be affected by the inclusion of students with autism in the regular education classroom.	2.88	2.85	3.00	0.548	0.58
Overall attitudes towards inclusion of students with (ASD) in general education classroom		2.78	2.80	2.90	0.984	0.38

Note. $N = (2,234)$

Table 14 reveals that teachers in the highest grade level (9-12) hold more positive attitudes towards the inclusion of students with autism, believing in their right to be educated in regular classrooms and the availability of sufficient resources. On the other hand, Table 15 shows that while there were no overall significant differences based on previous training in autism, teachers with 1-5 hours of training displayed more positive attitudes in specific areas, such as confidence in teaching students with autism and knowledge of helpful curriculum modifications. Further details can be found in Table 16, which presents the results of the multiple comparison analysis.

Table 14: Results of Multiple Comparison to Examine Differences in Teachers' Attitudes Based on Current Grade Level of Teaching Assignment

Current grade level	Mean values	Current grade level		
		K-5	6-8	9-12
Students with autism have the right to receive all education within the regular education classroom.				
K-5	3.03	-	-	-0.34*
6-8	3.18	-	-	-
9-12	3.38	0.34*	-	-
There are enough resources (materials, personnel) in place to support students with autism being placed in my regular education classroom.				
K-5	2.35	-	-	-
6-8	2.07	-	-	-0.47*
9-12	2.55	-	0.47*	-

Note. * indicated that difference is significant at the (0.05) level.

Table 15: Analysis of Variances (ANOVA) to Examine if There are Significant Differences in Attitudes toward Inclusion of Students with ASD Based on Previous Training Regarding Autism

No		Mean by previous training in autism				F statistic	p-value
		0	1-5	6-10	11+		
1	As a regular educator, I believe that inclusion is the most appropriate way to service students with autism.	2.92	2.77	3.06	2.64	0.677	0.57
2	Students with autism have the right to receive all education within the regular education classroom.	3.28	2.82	3.17	2.71	4.160**	0.007
3	Including students with autism will benefit typical students as they will learn to accept students with disabilities.	2.92	2.90	2.72	2.79	0.339	0.80
4	The extra attention that will have to be given to a student with autism will take away from the education of the other students.	2.82	2.79	2.72	2.71	0.137	0.94
5	My principal and school administrator promote the philosophy that students with disabilities are the responsibility of all school personnel.	2.99	2.92	3.28	2.79	1.123	0.34
6	A student with autism included in the regular classroom will display academic gains as a result of being included.	3.11	2.72	3.00	2.71	2.456	0.06
7	The behavior of a student with autism can be successfully managed with the regular education classroom.	2.86	2.92	2.94	2.43	1.661	0.18
8	There are enough resources (materials, personnel) in place to support a student with autism being placed in my regular education classroom.	2.19	2.90	2.44	2.36	5.349**	0.001
9	Should a student with autism being in my classroom, my administrators would provide time for regular education staff and special education staff to discuss and plan for the student.	2.71	2.92	2.72	2.64	0.725	0.54
10	Regular education teachers possess the knowledge and skills to adequately teach the child with autism.	2.08	2.59	2.39	2.50	3.18*	0.03
11	The student with autism will develop social skills as a result of being included within the regular education classroom.	3.16	2.97	3.22	2.86	0.890	0.45
12	Including students with autism in regular education classroom will positively impact the academic achievement of typical students.	2.42	2.92	2.50	2.57	3.472*	0.017

13	I believe that my principal and other administrators provide a supportive, collaborative environment that is conducive to provide inclusive education.	2.89	2.74	2.93	2.83	0.367	0.78
14	It will be more difficult to maintain appropriate classroom behavior when a student with autism is included in my classroom.	2.80	2.87	2.94	2.93	0.286	0.84
15	I am knowledgeable regarding curriculum modifications that have proven helpful in teaching a child with autism spectrum disorder.	2.26	2.82	3.00	3.00	8.730**	0.00
16	I believe that I can collaborate effectively with other staff to meet the needs of a child with autism included in my classroom.	2.81	2.87	3.22	2.71	1.367	0.25
17	The behavior of the regular education students will set a positive example for the autistic student included in the regular education classroom.	3.10	2.74	3.06	2.71	2.028	0.11
18	Should a child with autism be placed within my regular education classroom, I believe that my principal would periodically check in to see if additional assistance is needed.	2.80	2.92	2.94	3.00	0.539	0.66
19	The student with autism will possess an increased self-esteem as a result of being included within the regular education classroom.	3.03	3.00	3.06	3.07	0.034	0.99
20	Including a student with autism in the regular education classroom will require significant changes in pacing so that I can still meet the district benchmarks within the required times.	2.69	2.92	2.56	2.64	1.078	0.36
21	The student with autism will initiate more interactions with peers and teachers as a result of being included within the regular education classroom.	3.02	2.90	3.22	3.00	0.640	0.59
22	Standardized test scores will be affected by the inclusion of students with autism in the regular education classroom.	2.87	2.97	3.06	2.93	0.356	0.79
Overall attitudes towards inclusion of students with ASD in general education classroom		2.80	2.86	2.90	2.74	0.310	0.82

Note. $df = (2,234)$

Table 16: Results of Multiple Comparisons to Examine Differences in Teachers' Attitudes Based on Previous Training in Autism

Previous training in autism by hours	Mean values	Difference by previous training in autism			
		0	1-5	6-10	11+
Students with autism have the right to receive all education within the regular education classroom.					
0	3.28	-	0.46*	-	0.56*
1	2.82	-0.46*	-	-	-
1-5	3.17	-	-	-	-
6-10	2.71	-0.56*	-	-	-
There are enough resources (materials, personnel) in place to support a <u>students</u> with autism being placed in my regular education classroom.					
0	2.19	-	-0.70*	-	-
1	2.90	0.70*	-	-	-
1-5	2.44	-	-	-	-
6-10	2.36	-	-	-	-
Regular education processes the knowledge and skills to adequately teach the child with autism.					
0	2.08	-	-0.51*	-	-
1	2.59	0.51*	-	-	-
1-5	2.39	-	-	-	-
6-10	2.50	-	-	-	-
Including students with autism in regular education classroom will positively impact the academic achievement of typical students.					
0	2.42	-	-0.51*	-	-
1	2.92	0.51*	-	-	-
1-5	2.50	-	-	-	-
6-10	2.57	-	-	-	-
I am knowledgeable regarding curriculum modifications that have proven helpful in teaching a child with autism spectrum disorder.					
0	2.26	-	-0.56*	-0.74*	-0.74*
1	2.82	0.56*	-	-	-
1-5	3.00	0.74*	-	-	-
6-10	3.00	0.74*	-	-	-

Note. * indicated that difference is significant at the (0.05) level.

Table 17 reveals that there were no overall significant differences in the attitudes of general education teachers towards the inclusion of students with autism based on gender. However, specific elements of attitudes showed statistically significant differences. Male teachers exhibited more positive attitudes in certain areas, while female teachers had a more positive perception of resource availability.

In Table 18, although there were no significant overall differences, teachers with previous experience in inclusion demonstrated more positive attitudes in specific areas. They showed greater positivity regarding resource availability, impact on academic achievement, knowledge of curriculum modifications, and effective collaboration with staff.

These findings emphasize the importance of addressing gender and prior experience with inclusion when considering teachers' attitudes towards the inclusion of students with autism.

Table 17: Results of t-test to Examine if There are Significant Differences in Attitudes toward Inclusion of Students with ASD Based on Gender

No		Mean by gender				t-statistic	P-value
		Male		Female			
		M	SD	M	SD		
1	As a regular educator, I believe that inclusion is the most appropriate way to service students with autism.	3.11	0.99	2.67	0.99	3.439**	0.001
2	Students with autism have the right to receive all education within the regular education classroom.	3.33	0.80	2.98	0.95	3.08	0.002
3	Including students with autism will benefit typical students as they will learn to accept students with disabilities.	2.97	0.78	2.81	0.95	1.377	0.17
4	The extra attention that will have to be given to a student with autism will take away from the education of the other students.	2.84	0.71	2.76	0.91	0.767	0.44
5	My principal and school administrator promote the philosophy that students with disabilities are the responsibility of all school personnel.	3.02	0.78	2.97	0.86	0.478	0.63
6	A student with autism included in the regular classroom will display academic gains as a result of being included.	3.31	0.85	2.71	0.90	5.27**	0.01
7	The behavior of a student with autism can be successfully managed with the regular education classroom.	2.98	0.70	2.72	0.80	2.634**	0.009
8	There are enough resources (materials, personnel) in place to support a student with autism being placed in my regular education classroom.	2.20	1.02	2.48	1.01	-2.112*	0.04
9	Should a student with autism be in my classroom, my administrators would provide time for regular education staff and special education staff to discuss and plan for the student.	2.78	0.83	2.71	0.87	0.592	0.56
10	Regular education teachers possess the knowledge and skills to adequately teach the child with autism.	2.13	1.0	2.31	1.06	-1.358	0.18
11	The student with autism will develop social skills as a result of being included within the regular education classroom.	3.22	0.96	3.01	0.84	1.775	0.08
12	Including students with autism in regular education classroom will positively impact the academic achievement of typical students.	2.46	0.94	2.57	0.85	-0.977	0.33

13	I believe that my principal and other administrators provide a supportive, collaborative environment that is conducive to provide inclusive education.	2.96	0.82	2.74	0.86	2.04*	0.04
14	It will be more difficult to maintain appropriate classroom behavior when a student with autism is included in my classroom.	2.93	0.79	2.73	0.84	1.962*	0.05
15	I am knowledgeable regarding curriculum modifications that have proven helpful in teaching a child with autism spectrum disorder.	2.43	0.94	2.47	0.94	0.300	0.76
16	I believe that I can collaborate effectively with other staff to meet the needs of a child with autism included in my classroom.	2.90	0.80	2.79	0.93	1.01	0.31
17	The behavior of the regular education students will set a positive example for the autistic student included in the regular education classroom.	3.13	0.95	2.90	0.91	1.88	0.06
18	Should a child with autism be placed within my regular education classroom, I believe that my principal would periodically check in to see if additional assistance is needed.	2.88	0.77	2.80	0.91	0.652	0.52
19	The student with autism will possess an increased self-esteem as a result of being included within the regular education classroom.	3.04	0.79	3.02	0.86	0.229	0.82
20	Including a student with autism in the regular education classroom will require significant changes in pacing so that I can still meet the district benchmarks within the required times.	2.81	0.85	2.62	0.83	1.688	0.09
21	The student with autism will initiate more interactions with peers and teachers as a result of being included within the regular education classroom.	3.06	0.82	2.97	0.83	0.862	0.39
22	Standardized test scores will be affected by the inclusion of students with autism in the regular education classroom.	2.92	0.83	2.90	0.86	0.175	0.86
	Overall attitudes towards inclusion of students with ASD in general education classroom	2.88	0.57	2.75	0.58	1.714	0.09

Note. *df* = 235

Table 18: Results of t-test to Examine if There are Significant Differences in Attitudes toward Inclusion of Students with ASD Based on Experience with Inclusion

No		Mean by gender				t-statistic	P-value
		Male		Female			
		M	SD	M	SD		
1	As a regular educator, I believe that inclusion is the most appropriate way to service students with autism.	2.89	1.04	2.89	1.00	-0.045	0.96
2	Students with autism have the right to receive all education within the regular education classroom.	3.11	0.96	3.18	0.86	-0.565	0.57
3	Including students with autism will benefit typical students as they will learn to accept students with disabilities.	3.04	0.95	2.82	0.81	1.865	0.06
4	The extra attention that will have to be given to a student with autism will take away from the education of the other students.	2.73	0.94	2.84	0.74	-0.904	0.37
5	My principal and school administrator promote the philosophy that students with disabilities are the responsibility of all school personnel.	2.96	0.99	3.01	0.72	-0.392	0.70
6	A student with autism included in the regular classroom will display academic gains as a result of being included.	2.92	1.03	3.06	0.86	-1.045	0.30
7	The behavior of a student with autism can be successfully managed with the regular education classroom.	2.81	0.98	2.87	0.63	-0.543	0.59
8	There are enough resources (materials, personnel) in place to support students with autism being placed in my regular education classroom.	2.57	1.06	2.22	0.99	2.479*	0.013

9	Should a student with autism being in my classroom, my administrators would provide time for regular education staff and special education staff to discuss and plan for the student.	2.73	1.01	2.75	0.76	-0.108	0.91
10	Regular education teachers possess the knowledge and skills to adequately teach the child with autism.	2.37	1.12	2.14	0.99	1.599	0.11
11	The student with autism will develop social skills as a result of being included within the regular education classroom.	3.13	0.97	3.11	0.88	0.152	0.88
12	Including students with autism in regular education classroom will positively impact the academic achievement of typical students.	2.75	0.98	2.40	0.84	2.849**	0.005
13	I believe that my principal and other administrators provide a supportive, collaborative environment that is conducive to provide inclusive education.	2.84	0.99	2.85	0.77	-0.162	0.87
14	It will be more difficult to maintain appropriate classroom behavior when a student with autism is included in my classroom.	2.84	0.98	2.83	0.72	0.056	0.96
15	I am knowledgeable regarding curriculum modifications that have proven helpful in teaching a child with autism spectrum disorder.	2.77	0.97	2.29	0.88	3.817**	0.00
16	I believe that I can collaborate effectively with other staff to meet the needs of a child with autism included in my classroom.	3.10	0.89	2.72	0.83	3.30**	0.001
17	The behavior of the regular education students will set a positive example for the autistic student included in the regular education classroom.	3.06	0.92	2.99	0.94	0.588	0.56
18	Should a child with autism be placed within my regular education classroom, I believe that my principal would periodically check in to see if additional assistance is needed.	2.96	1.01	2.78	0.75	1.584	0.11
19	The student with autism will possess an increased self-esteem as a result of being included within the regular education classroom.	3.10	0.96	2.99	0.75	0.946	0.35
20	Including a student with autism in the regular education classroom will require significant changes in pacing so that I can still meet the district benchmarks within the required times.	2.84	0.98	2.66	0.76	1.528	0.13
21	The student with autism will initiate more interactions with peers and teachers as a result of being included within the regular education classroom.	3.11	0.91	2.96	0.78	1.337	0.18
22	Standardized test scores will be affected by the inclusion of students with autism in the regular education classroom.	2.96	0.97	2.88	0.78	0.707	0.49
	Overall attitudes towards inclusion of students with ASD in general education classroom	2.88	0.74	2.78	0.47	1.286	0.20

Note. $n = 235$.

RESULTS

Research Final Results

Teachers in Saudi Arabia generally support inclusion of students with autism in regular classrooms for social and academic benefits. Concerns exist about standardized test scores and attention given to students with autism. Lack of training, knowledge of curriculum adaptations, and resources are challenges. Demographics did not predict attitudes significantly, but differences were found based on inclusion aspects and previous training. Male and female teachers showed varying attitudes. Experience with inclusion positively influenced attitudes regarding resources, academic achievement, curriculum modifications, and collaboration.

Limitations of the Study

The study's generalizability is limited to one school district

in Riyadh. A nationwide study is needed, including urban and rural areas. Exclusion of special education teachers in special education centers limited the scope. Survey limitations included response bias and question difficulties. The study represents perceived truth, not absolute truth. Further research should explore attitudes in rural areas and investigate training and attitudes of administrators and principals. The impact of increased instruction on teacher attitudes also requires examination.

Recommendations for Future Research

More research is needed on nationwide attitudes toward inclusion, especially in rural areas, and administrators' and principals' attitudes and training. Further research is necessary with teachers who have received specialized instruction. Additionally, the effects of inclusive classrooms on academic and social skills of students with autism should

be studied compared to more restrictive environments. Determining the best approach to integrate special education and inclusion classes into the curriculum for all teachers is essential.

Discussion and Implications

In Saudi Arabia, inclusion of students with ASD is new, and teachers lack preparation. Teacher training can be improved through workshops, conferences, and organizations. Mixed attitudes toward inclusion exist, with concerns about time management and educational standards. The influence of disability severity on attitudes and class dynamics requires further research. Teachers feel unprepared and lack necessary skills and resources, particularly in curriculum modifications. Teacher attitudes and training are crucial for successful inclusion. Preparatory colleges should provide minimal exposure to working with special needs students. Inclusive curricula are being developed in education-focused universities. Some teachers exhibit inclusion phobia due to fear of the unknown. Improved training can reduce fear and promote comfort with inclusion.

CONCLUSION

The Ministry of Education in Saudi Arabia mandates inclusion of all students, including those with ASD, in general education classes. However, many teachers feel unprepared and uncertain about resources. Teacher preparatory colleges should provide minimal exposure to working with special needs students. Inclusive education is developing, and with better preparation, future teachers can have a standard toolkit that includes inclusive education.

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