

Attitudes of Educators towards the Autistic Children in Developing Countries: Inclusive Education Perspective

Komal Marya and Nazia Mumtaz

Riphah International University, Lahore

Ghazal Awais Butt

Armed Forces Institute of Rehabilitation Medicine

Ghulam Saqulain

Capital Hospital PGMI, Islamabad

Autism spectrum disorder is a common and important developmental condition requiring lifelong support with impact on communication, social interaction and with significant financial burden. Teacher's attitudes, sentiments and concerns are valid determinants of success for inclusive education. Participation of educators for inclusive education of individuals with autism spectrum disorder is essential and with research gap in the area current study was conducted to evaluate the sentiments, attitudes and concerns of educators in inclusive education towards the children with Autism. This cross sectional study using convenience sampling recruited $N = 60$ educators of inclusive education with at least a year of experience, of both genders & aged between 20-50 years from Lahore Autism Center, Autism Resource Centre, Dimensions, Lahore from July to December 2021. The statistical analysis conducted utilizing SPSS-23. Overall, most of the educators have positive attitudes, concerns and sentiments regarding the inclusive education for individuals with Autism spectrum disorder with strong positive correlation between total mean SACIE-R scores with Sentiments, concerns & attitudes, however no significant association was present between the factors sentiments, concerns and attitudes.

Komal Marya, and Nazia Mumtaz, Department of Psychology, Riphah International University, Lahore, Pakistan.

Ghazal Awais Butt, Armed Forces Institute of Rehab Medicine, Rawalpindi, Pakistan.

Ghulam Saqulain, PGMI, Islamabad, Pakistan.

Correspondence concerning this article should be addressed to Ghulam Saqulain, PGMI, Islamabad, Pakistan. Email: ghulam_saqulain@yahoo.com

These findings in the local context can help guide policy makers to plan future strategies for implementation of inclusive education and paving the way for further research while aligning with SGDs for the stakeholders. Since, sample was collected from one city, hence findings cannot be generalized. Similar studies comprising a large sample from all the provinces is recommended.

Keyword. Attitudes, autism spectrum disorder, concerns, inclusive education, SACIE-R scale, sentiments

Autism spectrum disorder (ASD) is a developmental disorder along with genetic and other etiologies. Individuals with ASD are deficient in verbal and non-verbal social communication skills and face difficulties in initiating social interactions ([Constantino & Charman, 2016](#)). The concomitants with communicational difficulties are repetitive behavior, impaired social functioning of individuals with ASD requiring lifelong support of different professionals and significant others like teachers, clinicians, family members as well as support systems in the community which can make a difference in the lives of autistic children ([Lord et al., 2021](#)). Though ASD was considered to be of environmental etiology, however newer researches reveal it to be of a very heterogeneous and complex genetic etiology with possible influence of different modifiers affecting disease severity including gender-linked, epigenetic, copy number variations, other mutations and environmental influences ([Rylaarsdam & Gumez-Gamboa, 2018](#)).

According to [World Health Organization \(WHO\) \(2021\)](#) about 1 in 160 children suffer from ASD worldwide, however some developing countries lack prevalence studies. In absence of population based studies, a prevalence of 8.6% has been reported in a local study involving adult psychiatric cases alone ([Khan et al., 2019](#)). ASD is a source of significant economic burden, since lifelong support is required, especially among adults with ASD who are dependent on their carer-givers resulting in increased healthcare costs, the cost of schooling and care provider's income loss due to additional financial assistance for caregiving ([Lord et al., 2021](#)).

An educator is not a simple information provider and goes way beyond this description in order to link his/her teaching skills to the values of life, mediating between the students and system of education and is not just retraining himself but develops and enriches the relationship with students. Hence students learn the different aspects of life, the teachers' attitude towards problems of life and so forth. This shows that the educators impress upon students, independent of the subject matter ([Ahmad, 2017](#)). A local study

revealed that female educators played a significant role in personality development of their female students (Malik et al., 2017). In developed countries, legislation and implementation have brought both attitudes, concerns and inclusive practices of teacher's towards students with special needs to the forefront as in the United States of America (USA) alone, the People with Disabilities Education Improvement Act ensures that individuals with special needs are educated with mainstream students to the maximum possible level (Bruce & Mary, 2012). With changes in favor of inclusive education of special persons with disabilities (PWDs) on the cards, alignment of the ASD with inclusive education has been suggested, so that they can receive the support in education which they rightfully deserve (Roberts & Simpson, 2016).

An inclusive education is the education of all the learners affected by any hindrances like ASD taking place in adequately supported regular educational setup. Therefore, all relevant educators as well as staff need to be specifically trained to focus on significant areas of education including creation of awareness for disability and incorporating the same for, up to the mark, augmentative and alternative techniques, methods and means of communication, educational aids and methods supporting PWDs (Forlin et al., 2011). The researches for ASD have not received attention in the Eastern world when compared to developed countries of Europe and America. As regards the genetic variants in Pakistani population, ASD has been challenging, as individuals with psychiatric disorders are reluctant to report it due to social stigmatization, thus creating ambiguity regarding the exact figures (Khalid et al., 2020).

With inclusive education system becoming common in the world including countries like Turkey in spite of growing number of children with special needs in general education, the classrooms teachers view the individuals with special needs in a negative manner. These teachers report that PWDs present with multiple behavior problems, in comparison to their fellows, creating hurdles in maintaining order in the classrooms (Yildiz, 2015).

Sentiments are common human reactions without which social relationships, since they based on feelings and emotions, would be chaotic, unreliable and shaky with fear and hatred. The affection and love, regard and respect, kindness and gratitude are all types of sentiments which are inherent part of all human beings but sentiments can be presented in varying degrees and forms (Roche, 2020).

The teacher's attitudes are a valid determinant of success in inclusive education classrooms so that behaviors are affected by

teachers' attitudes, in turn influencing the classroom environment and students' opportunities for success. The participation of educators for the success of inclusive education for ASD, including their experience, challenges, conclusions and opinions are essential data sources for the development and progress of inclusive program (Evans, 2016). A study by Lin (2021), focusing on developing nations including China reported that kids suffering from Autism need to be provided education along with ordinary students since it will help these kids integrate into society. However, the progress achieved faces gross variations from country to country (Wang, 2019)

Though some research has taken place in the field however further comprehensive research has been recommended to align with the Fourth sustainable goal for development (SGD) of United nations (UN) which declares that, by 2030, the world ought to "ensure inclusive and quality education for all and promote lifelong learning" (Rambla et al, 2016).

Hence, ASD being quite prevalent worldwide (WHO, 2021; Khan et al., 2019), being a source of economic burden on the families in particular and the community in general (Lord et al., 2021) and with changes in the education sector in favor of inclusive education (Roberts & Simpson, 2016) indicates dire need of research (Aiello et al., 2019). Therefore, this study was conceived to look study the sentiments, attitudes and concerns of educators in inclusive education towards the children with Autism. This study is of immense importance since knowledge of sentiments, attitudes and concerns of educators in inclusive education in the local context can help guide policy makers to plan future strategies to implement inclusive education which will be in the overall benefit of the community and pave the way for further research while aligning with SGDs for the stakeholders.

Objective

To evaluate the sentiments, attitudes and concerns of educators in inclusive education towards the children with Autism.

Method

This Cross-sectional study was conducted following approval of ethical committee of Riphah international University vide Registration No REC/PCR & AHS/21/0611 dated 14th June, 2021. Consent of educators was obtained prior to the study and they were assured regarding confidentiality and the right to withdraw or terminate, at any

point, if required.

Study was conducted over a period 6 months from 1st July 2021 to 31st December, 2021.

Participants

A sample of $N = 60$ educators of inclusion education was recruited using non probability convenience sampling, from Lahore Autism Center, Autism Resource Center, Dimensions, Lahore. Sample included both genders, aged between 20-50 years with minimum one-year experience. Educators of general education were excluded from the study.

Sample of $N = 61$ was calculated using formula: $n = [DEFF^* Np(1-p)] / [(d2/Z21-\alpha/2^*(N-1)+p^*(1-p)]$ with confidence level of 97%, hypothesized % frequency of 15% and Design effect 1.

Instruments

The Sentiments, Attitudes, and Concerns about Inclusive Education Revised (SACIE-R) Scale 10 was used for data collection. SACIE-R Scale is a three factor scale to measure sentiments, attitudes and concerns. It is 15 item valid and reliable scale with Cronbach's alpha value of $\alpha = .74$ to measure the psychometric aspects of inclusive education and marked on a Likert scale (AlMahdi, O., & Bukamal, H. (2019)).

Data Collection Procedure

After obtaining written consent from the participants following briefing about the nature and purpose of the study, the participants were assured about their confidentiality.

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Researcher collected the basic demographic information of each participant. Following this the SACIE-R scale was used by researcher to obtain data from the educators.

Statistical Analysis

The data was analyzed using SPSS Version 23 and descriptive statistics were utilized. *T*-test and Anova was used to see any association with educator characteristics and Pearson Correlation was done to observe any correlation among the SACIE-R total score and factors. $P < 0.05$ was considered as significant.

Results

Sacie-R Scores

The current investigation involving 60 educators revealed a total mean SACIE-R score of 36.10 ± 4.50 with highest factor mean score (12.97 ± 2.56) for attitudes and lowest (10.72 ± 2.03) of sentiments (Table 1).

Table 1: *Descriptive Statistics of Sentiments, Attitudes & Concerns About Inclusive Education Revised (SACIE-R) Total and Factor mean scores (N = 60)*

Factors	Mean \pm SD	Minimum	Maximum
Sentiments	10.72 ± 2.03	5	16
Concerns	12.42 ± 2.35	6	16
Attitudes	12.97 ± 2.56	8	18
TOTAL	36.10 ± 4.50	20	49

Demographic Characteristics & SACIE-R Scores

Demographic characteristics (Table-2) revealed that a predominantly female population with majority 33(55%) aged < 25 years of age, and most 58(96.7%) had significant interaction with a special person, however gender and age and interaction level did not reveal any significant association with SACIE-R total and factor mean scores. Most 51(85%) of the educators were teaching special education with least 3(5%) teaching primary/elementary level and level being trained did not reveal significant association with factor scores, however significant association ($p = 0.02$) with total mean SACIE-R score was noted with highest scores (36.75 ± 3.64) for special education.

Table 2: *Educator Characteristics Vs Sentiments, Attitudes & Concerns about Inclusive Education Revised Scale Score. Cross Tabulation with T-Test & Anova Association (N = 60)*

Educator Characteristics		Sentiments		Concerns		Attitude		total	
Variable	Group	Mean ±SD	t/f, P	Mean ±SD	t/f, P	Mean ±SD	t/f, P	Mean ±SD	t/f, P
Gender	Male	11.60	1.0	13.80	1.3	12.60	-	38.00	0.9
	5(8.3)	±	14	±	88	±	0.3	±	86
		1.52	0.3	0.45	0.1	1.52	31	2.83	0.3
	Femal	10.64	15	12.29	7	13.00	0.7	35.93	28
	e	±		±		±	42	±	
	55(91.7)	2.07		2.41		2.65		4.60	
Age (years)	<25	10.67	-	12.82	1.4	13.00	0.1	36.48	0.7
	33(55)	±	0.2	±	81	±	1	±	3
		1.83	09	2.44	0.1	2.68	0.9	4.47	
	26-35	10.78	0.8	11.93	44	12.93	12	35.63	0.4
	27(45)	±	35	±		±		±	68
		2.29		2.17		2.46		4.58	
Significant interactions with a special person	Yes	10.67	-	12.33	-	13.09	1.9	36.09	-
	58(96.7)	±	0.9	±	1.6	±	93	±	0.1
		2.06	06	2.33	05	2.51	0.0	4.57	27
	No	12.00	0.3	15.00	0.1	9.50±	51	36.50	0.8
	2(3.3)	±	69	±	14	2.12		±	99
		0.00		1.41				0.71	
Teaching	Early	9.83±	0.8	11.00	1.9	10.83	2.4	31.67	4.1
	Childhood	3.49	8	±	97	±	3	±	72
			0.4	3.03	0.1	2.48	0.0	7.63	0.0
	6(10)		2	45		97			2
	Primar	10.00		11.00		13.00		34.00	
	y/ Eleme	±		±		±		±	
	ntary	2.00		3.61		2.00		6.56	
	3(5)								
	Specia	10.86		12.67		13.22		36.75	
	l	±		±		±		±	
	Educa	1.83		2.15		2.52		3.64	
	tion								
	51(85)								
Qualification	Bache	10.68	1.9	12.95	0.8	12.63	0.3	36.26	0.0
	lor's	±	28	±	7	±	34	±	66
	19(31.7)	1.64	0.1	2.53	0.4	2.73	0.7	4.48	0.9
			55		25		18		36
	Maste	10.41		12.28		13.22		35.91	
	r's	±		±		±		±	

	32(53.3)	2.26		2.29		2.69		5.03	
	Other	11.89		11.78		12.78		36.44	
	9(15)	±		±		±		±	
		1.69		2.17		1.79		2.35	
Trainin	None	11.00	1.5	12.00	0.0	16.00	0.8	39.00	0.6
g	1(1.7)	±	5	±	4	±	49	±	77
receive	.		0.2	.	0.9	.	0.4	.	0.5
d	Some	11.23	21	12.35	61	13.12	33	36.69	12
educati	26(43.3)	±		±		±		±	
ng		2.10		2.30		2.27		4.73	
special	High	10.30		12.48				35.55	
student	(at	±		±				±	
s	least	1.94		2.45				4.35	
	40hrs)								
	33(55)								
Knowle	Avera	12.06	7.6	12.81	2.3	13.13	0.0	38.00	3.8
dge of	ge	±	23	±	08	±	42	±	18
legislati	16(26.7)	1.69	0.0	2.04	0.1	2.73	0.9	3.31	0.0
on			01		09		59		28
pertain	Good	10.00		11.97		12.92		34.89	
ing to	37(61.7)	±		±		±		±	
special		1.97		2.53		2.71		4.88	
childre	Very	11.43		13.86		12.86		38.14	
n	Good	±		±		±		±	
	7(11.7)	1.27		1.07		1.35		2.34	
)								
Confid	Avera	10.75	0.3	13.58	2.2	12.67	1.1	37.00	0.2
ence	ge	±	22	±	58	±	03	±	94
level	12(20)	1.29	0.7	1.56	0.1	2.77	0.3	1.95	0.7
teachin	High	10.84	26	12.27	14	12.76	39	35.86	47
g	37(61.7)	±		±		±		±	
student		1.98		2.39		2.28		4.36	
s with	Very	10.27		11.64		14.00		35.91	
disabili	High	±		±		±		±	
ties	11(18.3)	2.87		2.62		3.19		6.75	
Experie	Some	11.90	4.2	12.40	0.0	13.40	0.3	37.70	1.5
n	10(16.7)	±	86	±	01	±	39	±	32
teachin		2.03	0.0	2.27	0.9	2.68	0.5	4.52	0.2
g	High	10.48	43	12.42	81	12.88	63	35.78	21
special	(at	±		±		±		±	
student	least	1.97		2.38		2.56		4.47	
s	30 full								
	days)								
	50(83.3)								

Correlation among Factors of SACIE-R

Most 32(53.3%) of educators had master's qualification and 33(55%) high level training received for educating special students, however both qualification and training received did not reveal any significant association with factor and total mean SACIE-R scores. Good knowledge of legislation pertaining to disabled was noted in majority 37(61.7%) educators, while very good knowledge was present in least 7(11.7%) and significant association was noted with Sentiments ($p = 0.001$) and total mean SACIE-R score ($p = 0.028$) however no significant association was noted with factor concerns and attitudes. A high confidence level teaching special students was noted in majority 37(61.7%), however no significant association was noted with factors and total mean SACIE-R Score. Most 50(83.3%) educators had teaching experience of > 30 days and on 10(16.7%) had some experience with significant association of experience with factor sentiments ($p = 0.043$), however no significant association with other concerns, attitudes and total mean SACIE-R score was noted.

Strong positive correlation was present between total mean SACIE-R score with Factor Sentiments, Concerns and attitudes, however no significant association present between factor sentiments, concerns and attitudes (Table 3).

Table 3: *Pearson Correlation Matrix for Sentiments, Attitudes & Concerns About Inclusive Education Revised Total and Factor Scores (N = 60)*

SACIE-R Tool		Sentiments	Concerns	Attitudes	Total
Sentiments	Pearson Correlation	1	0.153	0.226	.661**
	P-Value		0.243	0.083	0.000
Concerns	Pearson Correlation	0.153	1	0.016	.600**
	P-Value	0.243		0.901	0.000
Attitudes	Pearson Correlation	0.226	0.016	1	.681**
	P-Value	0.083	0.901		0
TOTAL	Pearson Correlation	.661**	.600**	.681**	1
	P-Value	0	0	0	

Note. ** $p < .01$.

Discussion

The current study employed SACIE-R Scale to determine the sentiments, attitudes and concerns of educators regarding inclusive education for students with autism spectrum disorder (ASD). The results revealed that the educators with different demographic characteristics as well as different educational background, and experience are aware about the ASD and their educational requirements with total mean SACIE-R score of 36.10 ± 4.50 with highest factor mean scores (12.97 ± 2.56) for attitudes and lowest (10.72 ± 2.03) in the sentiments. A strong positive correlation was present between total mean SACIE-R score with factors sentiments, concerns, attitudes, however no significant association was present between the factors sentiments, concerns and attitudes. Similarly, a Spanish study by Navarro-Mateu et al. (2020) reported high score for attitudes 4.09 ± 0.89 compared to moderate scores for sentiments (2.94 ± 1.06) and concerns (2.92 ± 0.83) for teachers. While, a Kazik study by Agavelyan et al. (2020) revealed neutral attitude of educators for inclusion. Also their interaction with special people did not result in positive attitude towards inclusion. The training of teachers to work with special children was said to increase the positive attitude towards inclusion (Agavelyan et al., 2020).

A Malaysian study by Low et al. (2018) to evaluate the attitude of pre-service teachers revealed that special education teachers compared to mainstream were less in favor of inclusive education, compared to a positive responses of the educators towards the inclusion of individuals with ASD in the current study. Similarly, a Russian study by Chepel et al. (2016) reported positive attitudes of teachers towards inclusive education. While another local study by Qureshia & Razzaq (2019) reported that teachers have both positive and negative attitudes directed towards inclusive education 4 and resistance might be due to lack of support and issues related to competence. A survey involving 437 educators to calculate attitudes, sentiments and concerns among educators who were directly involved in implementing inclusive education because this is considered as predictive element of successful inclusion revealed positive attitudes, sentiments and concerns regarding inclusion of special students regardless of their difficulties or disabilities (Aiello, 2019). In contrast, Gidlund (2018) noted in their systematic synthesis that educators have negative attitudes towards inclusive education for children with emotional and behavioral problems because they think the perquisites for properly including these special students were not being catered to.

The current study revealed that a predominantly female population with majority 33(55%) aged < 25 years of age, with 58(96.7%) having significant interaction with a special person. However, gender did not reveal any significant association with SACIE R total and factor scores. In contrast, a Spanish study by [Navarro-Mateu et al. \(2020\)](#) reported significant association with attitudes dimension with higher scores for females (4.02 ± 0.88) compared to males $3.70 \pm .91$).

In current study, the interaction level was not associated with SACIE-R total and factor mean scores, however higher scores were seen in the Attitudes dimension. Similarly, [Navarro-Mateu et al. \(2020\)](#) also did not find any significant association except for the fact that scores were higher for Attitudes and Concerns dimensions. Another local study also revealed positive attitude of educators towards inclusive education for special students and were of the view that increasing social interaction can reduce negative attitude towards special students (Girlund, 2018).

The age of educator did not reveal any significant association with SACIE-R total and factor mean scores in current investigation. In contrast in another study significant positive association was observed ($p < 0.01$) with all the three dimensions of SACIE-R ([Navarro-Mateu et al., 2020](#)).

Training has significant effect on educators' attitudes, sentiments and concerns thus improving efficacy for provision of ASD children in inclusive education (Hannah & Nolan, 2019). [Navarro-Mateu et al. \(2020\)](#) reported significant association for experience/training related to special education, training frequency, frequency of teaching special students, with SACIE-R factors with positive relationship with attitudes and negative with concerns and sentiments domains. In contrast, in the current study, no significant association was noted with level, being trained though majority 51(85%) of the educators were teaching special education with at least 5 teaching primary/elementary level, however significant association ($p = 0.02$) with total mean SACIE-R score was noted with highest scores (36.75 ± 3.64) for special education. Similarly, in a Hong Kong study by [Au and Lau \(2021\)](#) involving music teachers revealed that those with special education training had better attitude towards ASD compared to those who did not have this training experience. Similarly, another local study by et al. revealed that with sufficient knowledge, experience and collaboration of other specialists improves the teachers concerns as well as attitude towards inclusive education ([Ehsaan et al., 2018](#)).

In current study though most 32(53.3%) educators had master's

qualification and 33(55%) high level training received for educating special students, however both qualification and training received, did not reveal any significant association with the factors and total mean SACIE-R scores. A high confidence level for teaching special students was noted in majority 37(61.7) participants but no significant association was noted with factors and total mean SACIE-R Scores. Most 50(83.3%) educators had teaching experience of > 30 days and on 10 (16.7%) had some experience with significant association of experience with factor sentiments ($p = .043$), however no significant association with other concerns, attitudes and total mean SACIE-R score was noted. A study conducted by Li et al. (2021) has highlighted the significance of pre-service education and training to teachers dealing with developmental disabilities in inclusive education.

In present study, good knowledge of legislation pertaining to disabled was noted in majority 37(61.7%) educators, while very good knowledge was present in least 7(11.7%) and significant association was noted with the sentiments ($p = .001$) and total mean SACIE-R score ($p = .028$) however no significant association was noted with factor concerns and attitudes.

Conclusions

The study has significance, since most of the educators have positive attitudes, concerns and sentiments regarding the inclusive education for individuals with Autism spectrum disorder. In the local context can help guide policy makers to plan future strategies to implement inclusive education which will be in the overall benefit of the community and pave the way for further research while aligning with SGDs for the stakeholders.

References

- Agavelyan, R. O., Aubakirova, S. D., Zhomartova, A. D., Burdina, E. I. (2020). Teachers' Attitudes towards inclusive Education in Kazakhstan. *Integration of Education*, 24(1), 8-19.
- Ahmad, A. (2017). Role of teacher in student's personality development. *Psychology and Behavioral Science International Journal*, 2, 1-2
- Aiello, P., Sharma, U., Di Gennaro, D., Dimitrov, D., Pace, E. M., Zollo, I., & Sibilio, M. (2019). A study on Italian teachers' sentiments, attitudes and concerns towards inclusive education. *Formazione, lavoro, persona*, 20, 10-24.
- AlMahdi, O., & Bukamal, H. (2019). Pre-service teachers' attitudes toward inclusive education during their studies in Bahrain Teachers College. *Sage Open*, 9(3), 2158244019865772.

- Au, T. C., Lau, N. S. (2021). Private music teachers' knowledge of and attitudes toward students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 51, 4551-4559.
- Bruce, A. G., Mary, A. H. (2012). Attitudes, Sentiments, and Concerns of Pre-Service Teachers after Their Included Experience. *International Journal of Special Education*, 27, 27-36.
- Chepel, T., Aubakirova, S., Kulevtsova, T., (2016). The study of teachers' attitudes towards inclusive education practice: The case of Russia. *The New Educational Review*, 45(3), 235-248.
- Constantino, J. N., Charman, T. (2016). Diagnosis of autism spectrum disorder: Reconciling the syndrome, its diverse origins, and variation in expression. *Lancet Neurology*, 15, 279-291.
- Ehsaan, F., Khan, M. S. G., & Gulzar, S. (2018). Comparison of Attitude of Teachers and Concerns Towards Inclusive Education of Special Need Children. *Asian Journal of Allied Health Sciences*, 3(1), 51-56
- Evans, S. D. (2016). "General Education Teachers' Perceptions About Teaching Students with Autism in Urban Schools". Walden Dissertations and Doctoral Studies, 2481. <https://scholarworks.waldenu.edu/dissertations/2481>
- Gidlund, U. (2018). Teachers' Attitudes towards Including Students with Emotional and Behavioural Difficulties in Mainstream School: A Systematic Research Synthesis. *International Journal of Learning, Teaching and Educational Research*, 17(2). <https://doi.org/10.26803/ijlter.17.2.3>
- Khan, S., Qayyum, R., & Iqbal, J. (2019). Prevalence of autism spectrum disorders (ASD) and attention deficit hyperactivity disorders (ADHD) among adult psychiatric patients reporting at a tertiary care hospital, *Pakistan Armed Forces Medical Journal*, 69, 419-423.
- Khalid, M., Raza, H., M. Driessen, T., J. Lee, P., Tejjwani, L., Sami, A., Nawaz, M., Mehmood Baig, S., Lim, J., & Kaukab Raja, G. (2020). Genetic Risk of Autism Spectrum Disorder in a Pakistani Population. *Genes*, 11(10), 1206. <https://doi.org/10.3390/genes11101206>
- Lord, C., Elsabbagh, M., Baird, G., & Veenstra-Lin, Y. (2021). Education of Autistic Children in Developing Countries. *Open Journal of Social Sciences*, 9, 109-117. <https://doi.org/10.4236/jss.2021.910008>
- Low, H. M., Lee, L. W., Ahmad, A. C. (2018). Pre-service teachers' attitude towards inclusive education for students with Autism Spectrum Disorder in Malaysia. *International Journal of Inclusive Education*, 22(3), 235-251.
- Malik, M., Fatima, G., & Chaudhry, A. H. (2017). Role of Female Teachers in Personality Development of Secondary School Students in Lahore: A Quantitative Exploration. *Journal of Educational Research*, 20, 161-169.
- Li, K. M., & Cheung, R. Y. (2021). Pre-service teachers' self-efficacy in implementing inclusive education in Hong Kong: The roles of attitudes,

- sentiments, and concerns. *International Journal of Disability, Development and Education*, 68(2), 259-269.
- Navarro-Mateu, D., Franco-Ochoa, J., Valero-Moreno, S., & Prado-Gascó, V. (2020). Attitudes, Sentiments, and Concerns About Inclusive Education of Teachers and Teaching Students in Spain. *Frontiers in Psychology*, 11, 521. <https://doi.org/10.3389/fpsyg.2020.00521>
- Qureshia, R., & Razzaq, F. (2019). I am not against Inclusive Education but...: Teachers' Voices from Pakistan. *Journal of Inclusive Education*, 3(1), 63-84.
- Rambla, X., & Langthaler, M. (2016). *The SDGs and inclusive education for all: From special education to addressing social inequalities*, (No. 14). ÖFSE Briefing Paper
- Roberts, J., & Simpson, K. (2016). A review of research into stakeholder perspectives on inclusion of students with autism in mainstream schools. *International Journal of Inclusive Education*, 20(10), 1084-1096.
- Roche, H. (2020). "Why sentiments have a place in the law." *International Journal of Social Sciences and Economic Research*, 5, 744-770.
- Rylaarsdam, L., Guemez-Gamboa, A. (2018). Genetic Causes and Modifiers of Autism Spectrum Disorder. *Front Cell Neurosci*, 20(13), 385.
- Vanderweele, J. (2018). Autism spectrum disorder. *Lancet*, 392, 508-520.
- Wang, M. (2019). Editorial for the special issue 'Autism and inclusive education research and practice in the Asia-Pacific region', *International Journal of Developmental Disabilities*, 65(5), 315-318. <https://doi.org/10.1080/20473869.2019.1658402>
- World Health Organization (2021). Autism spectrum disorders. <https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders>
- Yildiz, N. G. (2015). Teacher and Student Behaviors in Inclusive Classrooms. *Educational Sciences: Theory and Practice*, 15(1), 177-184.

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