



Research article

Behavioral problems and academics of children in inclusive education – A cross-sectional survey

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ABSTRACT

Children with disorders exhibit behavioral issues. Behavioral issues can stem from temporary stressful situations in a person's life or they might also represent more lasting disorders. Special needs children with behavioral disorders can display characteristics such as, inability to learn that is not explained by sensory, health or intellectual factors. The change in behavior can play a significant role in the academic achievements of children placed together in an inclusive environment. This cross-sectional survey is aimed at determining the effect of behavioral issues on academics of children in inclusive education. Purposive sampling technique was used for data collection from Inclusive Education systems of Rawalpindi and Islamabad after getting ethical approval from Internal Review Board in 2018. Sample size consisted of 12 children with special needs and 138 mainstream children. Students of Grade 1 with behavioral problems being reported by their class teachers were included in study after getting parental voluntary consent. Structured classroom activity, behavioral checklist and school routine skills checklist were used for data collection purpose. The result of this study showed that there was a significant difference between the structured activities, school routine skills and overall behavioral checklist of special needs group and main stream children. 75.3% of special needs children struggled with the structured activity whereas 66.7% of the mainstream children faced no difficulty at all. The school routine skills were completed by 89.9% of the children and only 33.3% of the special needs children were able to complete these skills during school hours. The behavior checklist exhibited that 94.9% of mainstream children exhibited no behavioral issues whereas 66.3% of special needs kids displayed behavioral concerns. It is concluded that there is a significant relationship between the overall behavior of the participants of both groups with the structured activity and the school routine skill.

1. Introduction

According to the 2017 Population and Housing Census, 0.48% of Pakistan's population is disabled; this shows a stark decrease from the 2.38% figure in the 1998 census [1]. Other sources, such as the World Bank Report on Disability place the disability ratio in Pakistan at 3.56% [2], whereas the Annual Status of Education Report (ASER) indicates that 22.1% of the government schools have children with disabilities [3]. Children with special needs display different behavioral patterns. Previous literature shows that

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especially abled kids are likely to exhibit more behavioral problems as compared to their peers. These may include hyperactivity, attention difficulties, oppositional behavior, conduct problems, social and peer problems [4]. Children with behavioral disorders may face learning difficulties, a likelihood of developing fears associated with their school and home environment, difficulty maintaining interpersonal relationships with their peers and teachers, difficulty performing daily living activities and in addition to these, they might experience episodes of unexplainable feelings and mood swings under normal circumstances [5]. Self-injurious behaviors are also common in children with Neuro Developmental Disorder, depending on the severity and type of neuro-developmental disorders, the incidence of self-injurious behaviors is nearly 100% [6]. Children on Autism spectrum disorder (ASD) exhibit externalizing problems such as aggression, non-compliance, and disruptiveness and internalizing problems including anxiety and depression. These difficulties may combine with ASD symptoms in an additive or even interactive manner to impede functioning and cause distress [7]. Children with disabilities are unable to find concrete emotional and social ground as they advance through their developmental stage because in disabilities like Autism, Attention Deficit (ADD) and/or Attention Deficit Hyperactivity Disorder (ADHD) children face difficulties in social adjustment. Their way of looking and dealing with their surroundings is different from the traditional norms being followed by everyone around them and this can have an impact on their relationships with peers. An inability to “fit in” can have behavioral manifestations that cause significant difficulty for both children themselves and those around them as children with disabilities are different in the way they interact, think and communicate with people around them [8]. Research has shown that students who are abusive and disturbing tend to be rejected by their peers, which may cause further emotions setbacks by the child. Students exhibiting emotional problems are prone to behavioral disruptions with physically damaging repercussions [9].

As a general perception, it is believed that it is not suitable for children who have behavioral issues to study in the same classroom as their peers. Inclusive education is when children with and without disabilities are educated within the same classroom, they learn and participate together. The behavior of neuro-typical kids can have a positive influence on especially abled kids as they don't have speech delays, sensory issues and can easily adapt to surroundings [10]. Therefore, it can be assumed that good behavior develops if inclusive education is adopted but simply placing the children with and without disability does not produce positive outcomes. Constant monitoring is required along with appropriate planning and execution with full commitment to make the inclusion successful.

Over the last 30 years, the inclusion of students with disabilities in general education contexts has become a worldwide movement [11]. Perhaps the most important milestone was reached in 2006, when the Convention on the Rights of Persons with Disabilities (CRPD) was passed. The CRPD included Article 24 stipulated that signatories must ensure students with disabilities ‘are not excluded from the general education system on the basis of disability’ and ‘receive the support required, within the general education system to facilitate their effective education [12]. There is clear and consistent evidence that inclusive educational settings can have substantial short- and long-term benefits for students with and without disabilities. A large body of research indicates that included students develop stronger skills in reading and mathematics, have higher rates of attendance, are less likely to have behavioral problems, and are more likely to complete secondary school than students who have not been included [13].

Inclusive education in Pakistan is a new concept as compared to the rest of the world. The current participation of children with disabilities in education in Pakistan is only 5% [14]. There are schools in Islamabad, Pakistan that offer inclusive setup like Asas International School Islamabad [15], The Explorer School System [16], Annie's ELC [17], Apples The Grooming School [18] and many more. Pakistan having different societal factors than the west has followed a different policy for people with disabilities. People with disabilities are the most marginalized group within Pakistan and face great stigmatization in society [19]. This may be due to the fact that independent assessments have found a significant lack of information, rules and regulations, rehabilitation centers, and specialized services for people with disabilities. This also may be due to the fact that some in society, particularly those with limited education, view disability as a curse or punishment or view those with a disability as a burden to society. This is all because of lack of awareness by the general population and parents being in denial. Some believe that their children will grow out of their symptoms, while others don't feel necessary for children to be diagnosed so that appropriate intervention can be provided on time. Lack of awareness and education in this particular area makes the diagnosis and intervention difficult [20].

Therefore the aim of this study was to find out the effect of behavioral problems on academics of children in inclusive education studying in different schools of Islamabad, Pakistan. Inclusion is the right of every child who has special abilities, therefore one of the major objectives of the study was to address the misconceptions the general population have about the effect of behavioral issues faced by special needs children and how all of this can have a negative impact on academics of neuro-typical children. . The study results can help minimizing the literature gap and can encourage the much needed inclusive setup by the educational institutions of Pakistan.

1.1. Aims of study

- To measure and compare the academic performance on structured activity, school routine skills and behavior of children with special needs having Teaching Assistance (TA) with their peers in inclusive education.
- To evaluate and compare the parental attitude of children of both groups (special needs with behavioral issues and main streaming) towards the inclusion of children with special needs having behavioral problems.
- To determine the effect (relationship) of Behavioral issues and Parental Attitude on the School Routine Skill and Academic Performance of children with special needs in Inclusive Education with TA along with the performance of children without special needs on the structured activity.

2. Materials and methods

2.1. Research design

This cross-sectional study was conducted after getting approval from the Institutional Review Board of Riphah International University, Islamabad, Pakistan (IRB # Riphah/RCRS//REC/00242).

2.2. Sampling and population

After getting approval from higher management of the schools of Rawalpindi and Islamabad providing inclusive education, this comparative cross-sectional survey was performed over a period of 6 months in 2018. The schools that were selected for study purpose had children with and without disabilities studying together in the same classroom. This study was conducted in private sector partial mainstreaming schools where students with behavioral problems as reported by their class teachers were screened. Purposive sampling technique was used for the selection of 150 participants, which were then divided into two groups, group 1 comprised of 12 children with special needs whereas group 2 comprised of 138 neuro-typical children studying in the inclusive classroom.

All of these schools followed the same schedule and no segregation was observed of the special needs children. They were studying the same curriculum and were tested in a similar way as their peers.

The selected sample included was of school age children of Grade 1, residing in Rawalpindi and Islamabad with special needs primarily having mild to moderate behavioral issues of both gender receiving Inclusive Education in private sector and school age children of Grade 1 with normal development of both gender receiving education in private and public sector. Those students whether normal or special children, were selected for the study purposes that had been admitted in the same school for at least last 6 months and didn't have absences of more than 2 days per month. Children with profound and severe difficulties were not included in the study.

2.3. Reliable and valid data collection methods

The data was collected using structured classroom activity for academic performance evaluation, behavioral checklist and school routine skill checklist. Keeping in view the objectives of the study, those checklists were used for assessment purposes that were openly available and were used by many researchers for similar research objectives. Also, experts from different fields including general health physician, psychiatrist, pediatrician, researcher, teacher and speech language pathologist were approached and requested to review all three checklists.

- **Structured Classroom Activity for Academic Performance:** This structured activity was designed keeping in mind the academic skills set of children of grade 1 for English, Urdu and Mathematics. The overall content validity of the checklist came out to be 0.935. Different samples of assessments in the respective subject categories were obtained from schools to construct the classroom activity. Measures were taken to ensure to include relevant and already covered academic areas. Responses were made on a 4-point likert scale with anchors ("1 was marked by the assessor on up to 25% of performance by the student, 2 was marked on 26–50% performance, 3 on 51–75% performance and 4 points were given on 76–100% performance by the participant child").
- **Behavioral Checklist:** The Behavioral Checklist selected covered areas such as hyper activeness, withdrawal, disruptive behavior, non-cooperation, poor attention/concentration, manipulation and inappropriate social behavior. The content validity of behavioral checklist was 0.982 and the responses were obtained in all areas by teachers to record the behavioral problems of child exhibited in the classroom. Responses were made on a 3-point scale with anchors ("1 – almost never, 2 – occasionally and 3 – frequently").
- **School Routine Skill Checklist:** This checklist comprises of the step wise activities a child goes through right from entering the class to leaving at home time, tasks like finding one's classroom, to placing bags in their respective place, to transitioning from one subject to another. Their behavior during snack and off time, how organized they are during the day and the level of participation exhibited by them during class. This records the daily activities of the child in school and how independent the child is. The S-CVI scores of School Routine Skill Checklist were 0.862. Responses were made on a 6-point scale with anchor ("0 – Unable to perform any of the skill, 1 – Completes 1–25% of the skill, 2 – Completes 26–50% of the skill, 3 – Completes 51–75% of the skill, 4 – Completes 76–100% of the skill, 5 – Completes the skill independently with verbal cues, occasional prompts or set up and 6 – Completes the skill independently without any assistance").

The responses of all the participants of both groups were documented on their structured classroom activity and school routine skills checklist for academic performance by the assessor. Behavior of all the participants of both groups was documented on the behavior checklist by class teacher. Data was coded for confidentiality.

2.4. Method of data analysis

Descriptive statistics was performed to evaluate percentages whereas *t*-test was performed to assess the difference among both groups i.e. mainstream and children with special needs.

3. Results

Out of 150 children from mainstream schools, 138 were neuro-typical whereas 12 were with special needs. Descriptive analysis including frequencies, mean and standard deviation were calculated to assess the prevalence rates. The mean age of students was 6.27 with 1.2 Standard Deviation. [Table 1](#) indicates the 61.33% participants of the study were male, their school type and grades. It can be seen that half of the students were students of kindergarten whereas remaining 50.0% were from Grade 1. Furthermore, majority of population which is 76.0% were students studying in Rawalpindi, whereas remaining students were from Islamabad, Pakistan. This table further shows that of the 12 children with special needs, highest number of participants had Autism. Further details on other disorders are mentioned in the same table.

[Table 2](#) given below indicates the frequency of the structured activity given to both the groups of participating children of the study. According to the grouping, structured activity revealed that out of a total of 138 mainstream participants, 40 (29.0%) children faced mild difficulty, 6 (4.3%) had moderate difficulty and none of them faced severe difficulty attempting the structured activity given to them for their academic performance. The results also revealed that, out of a total of 12 special children, 5 (41.7.0%) children faced mild difficulty, 4 (33.3%) had moderate difficulty and only 1 (8.3%) had severe difficulty attempting similar structured activity ([Table 2](#)).

[Table 3](#) indicates the frequency of the school routine skills checklist by the class teacher for both groups of participants from different inclusive education systems. While analyzing the results of School Routine Skills Checklist as reported by teacher, out of a total of 12 special needs children, none completed the skill independently without any assistance or with verbal cues and occasional prompts, whereas 72.5% neuro-typical children completed the skill independently without any assistance. Likewise, 89.9% a typical students and 33.3% children with special needs completed 76–100% of the skill assigned ([Table 3](#)).

While assessing the behavioral issues on behavioral checklist, results in [Table 4](#) revealed that out of the 8.3% children with special needs exhibited behavioral problems frequently whereas no child from mainstream schools showed any behavioral concern.

To assess the difference among groups, t-test was performed. Results of t-tests show that there was a significant difference observed among both groups in all of the three assessments performed i.e. p value of mainstream and special needs structured activity was 0.03 ([Table 5](#)), whereas p value of mainstream and special needs school routine skills checklist was 0.00 ([Table 6](#)) and lastly, p value of mainstream and special needs behavioral checklist was 0.02 ([Table 7](#)).

4. Discussion

The purpose of the study was to find out the effect of behavioral issues on academic achievements of children in inclusive environment. The analysis highlights notable differences in the academic achievement, school routine skills and behavior among a-typical and typical population of children in inclusion as discussed in [Table 5](#). Previous literature indicates a neutral or mostly positive effect on academic achievements of typically developing children when placed in inclusive setups and they also benefit socially by being a part of inclusion as highlighted by Ayse kart in a review of literature [21]. The behavior of special needs children is different from mainstream children, this can be an important reason behind the difficulties they face in building friendships with their peers in inclusive setup. The lack of appropriate social skills seems to be a hindrance in building and maintaining friendships for them [22].

Majority of the typically developing children faced no difficulty in completing the structured activity as 67% mainstream children faced no difficulty at all in solving the structured activity. This however differs from the special needs population as 83% special needs children faced problems in completing the activity even when provided with assistance and prompts. Past literature indicates mostly positive or neutral effects of inclusion on the academic achievement of typically developing children in the lower grades. This has been supported by the results of our study aswell. No association was observed between the behavioral issues of special needs children and

Table 1
Demographic details of study participants.

Variables		N (%)
Gender	Male	92 (61.33)
	Female	58 (38.66)
Schools	School A	12 (8.0)
	School B	7 (4.7)
	School C	17 (11.3)
	School D	14 (9.3)
	School E	20 (13.3)
	School F	31 (20.7)
	School G	49 (32.7)
City	Rawalpindi	114 (76.0)
	Islamabad	36 (24.0)
Grades	Kindergarten	75 (50)
	Grade 1	75 (50)
Groups	Mainstream	138 (92)
	Special needs	12 (8.0)
Disorders	Autism	8 (66.7%)
	Hearing impairment	3 (25.0)
	Down syndrome	1 (8.3%)

Table 2
Frequency table of structured activity.

Structured Activity	Severity level	Mainstream N (%)	Special Needs N (%)
	Severe Difficulty (Problem: 76–100%)	–	1 (8.3%)
	Moderate Difficulty (Problem: 51–75%)	6 (4.3%)	4 (33.3%)
	Mild Difficulty (Problem: 26–50%)	40 (29.0%)	5 (41.7%)
	No Difficulty (Problem: 1–25%)	92 (66.7%)	2 (16.7%)

Table 3
Frequency table of school routine skills checklist by class teacher.

Variables	Mainstream N (%)	Special Needs N (%)	Variables	Mainstream N (%)	Special Needs N (%)
School Routine Skills Checklist	Completes 26–50% of the skill	3 (2.2)	Doesn't complete independently	14 (10.1)	12 (100.0)
	Completes 51–75% of the skill	11 (7.9)	Completes the skill independently with verbal cues, occasional prompts or set up	24 (17.4)	–
	Completes 76–100% of the skill	124 (89.9)	Completes the skill independently without any assistance	100 (72.5)	–

Table 4
Frequency table of overall behavior.

Variables	Mainstream N (%)	Special Needs N (%)
Behavioral Checklist	Almost Never	131 (94.9%)
	Occasionally	7 (5.1%)
	Frequently	–

Table 5
t Test Result of Structured Activity.

Groups	N	Df	Mean	Std. dev.	t-value	p-value	Decision
Mainstreaming	138	148	3.623	0.569	5.307	0.003	Significant
Special Needs	12	11.800	2.666	0.887	3.668		

Table 6
t Test Result of School Routine Skills Checklist.

Groups	N	df	Mean	Std. dev.	t-value	p-value	Decision
Mainstreaming	138	148	5.579	0.808	10.844	0.000	Significant
Special Needs	12	12.593	2.916	0.900	9.905		

Table 7
t Test Result of Behavior Checklist.

Groups	N	df	Mean	Std. dev.	t-value	p-value	Decision
Mainstreaming	138	148	1.050	0.220	8.564	0.002	Significant
Special Needs	12	11.241	1.750	0.621	3.876		

academic performance of their peers as most of the atypical children were successfully able to complete the structured activity. Peter Farrell in 2006 also concluded in his study that level of inclusivity had no significant change in the academic performance of children [23].

The special needs children faced difficulties in completing the school routine skills checklist, none of them could complete it even with assistance whereas 72.5% of the typically developing children were successfully able to complete the skills without any assistance. This proves that the behavioral difficulties exhibited by the special needs children has no influence on the functioning of mainstream children in school. They could easily carry out their day to day classroom activities and follow the rules and regulations set by the administration. The school routine skills checklist basically monitors the activities of children in school other than academics, right from entering the school to leaving at home time. The results show that no difficulties were incurred by the atypical children,

however the transitions during the day proved to be challenging for the special needs kids.

The results of our study indicate that the behavioral issues were exhibited by 66.7% of the special needs children whereas 94.9% mainstream children exhibited no behavioral issues. This is further supported by a study carried out by Silvia Molina Raldon, Jesus Marauri, Adriana Aubert and Ramon Flecha in 2021 which highlight the benefits of inclusive interactive learning environments and how it can benefit students without special needs in areas of social skills, academic learning and cognitive development [24]. Another finding observed in the past by Allison E. Evins revealed that students with presenting complaints of behavioral issues do not necessarily learn more acceptable behavior just by being placed in general education placements [25].

5. Conclusion

This study aimed at assessing behavioral problems and academics of children getting education in Inclusive education schools. The results of this study concluded that there was a significant difference between the structured activities for academic performance, school routine skills and overall behavioral of special needs group and main stream group. There was also a significant relationship between the overall behavior of the participants of both groups with the structured activity and the school routine skill as the group exhibiting slight to none behavioral concerns were able to complete the school routine and structured activity. It was also observed that behavioral issues exhibited by special needs children had no influence on the behavior of mainstream children. These findings pave the way in favour of inclusion in Pakistan as its still an emerging concept in this part of the world and can make a difference in changing perceptions of people, perceptions about behaviours having a negative impact on nondisabled children studying in inclusion.

6. Limitations and recommendations

The study limitations were the identification of inclusive schools. This was a primary barrier as most of the schools in the twin cities did not want to be associated with the inclusion of special needs or behavioral disorders in main stream schooling. Locating the Inclusive schools was itself very challenging as the schools claiming to be "inclusive" were not actually including the special needs children in the classroom. In addition to this, data extraction was a major hurdle, as most of the schools even after signing the consent forms failed to document the information required and refused to give data. The sample size selected also proved to be a limitation as only 12 students with disabilities could be included Furthermore, this study was conducted for the schools of twin cities of Rawalpindi and Islamabad only, the study area can be expanded in future to other cities of Pakistan to find out about the impact of behavioral issues on academic achievements of children in inclusive setup. Studies like these can prove to be a major step towards including the special needs children with the general population. These findings will help create more awareness and acceptance of the special needs population by the institutions.

Author contribution statement

Nida Zahid: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Anam Jamil: Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Irum Nawaz: Conceived and designed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data.

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Data availability statement

The data that has been used is confidential.

Declaration of interest's statement

The authors declare no competing interests

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