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RESEARCH PAPER

Effects of Mothers' Level of Stress on the Academic Performance of Female Children with Intellectual Disabilities

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ABSTRACT

The main purpose of the study was to investigate the stress level in mothers of female students with intellectual disability and its implications for academic performance. In this quantitative examination, a sample of 100 mothers of students with intellectual disabilities was selected by purposive sampling technique from the district of Lahore. Data was collected using a standardized scale, the Depression, Anxiety and Stress Scale (DASS). For the purpose of the study researcher was only selected stress items. The reliability coefficients of stress scale were 0.838. The collected quantitative data were analysed using SPSS. The study's findings revealed that 80% of mothers of female children with intellectual disability exhibited a moderate to severe level of stress, while the remaining 20% experienced normal to mild level of stress. Children level of disability effects the stress of mothers. The children with mild level of disability their mothers' level of stress was 6%. As compared to others, children with moderate level of disability their mothers' level of stress were 24% and severe disability their mothers' level of stress were 4%. Chi-square test for independence revealed that there is a significant association between the stress level of mothers and the academic performance of children. Particularly, mothers with more stress had daughters with worse academic performance. It is recommended that counseling centers should be established in both urban and rural regions, offering mothers of children with ID accessible and affordable services. Parent teacher meetings should be frequently planned in schools because it is very important to communicate each other.

Keywords: Intellectual Disability (ID), Stress, Academic Performance, Disability Level

Introduction

The relationship between academic performance and the maternal stress of female children with intellectual disabilities (ID) is a significant area of inquiry, as it sheds light on the broader implications of caregiving dynamics on educational outcomes. Research consistently indicates that mothers of children with intellectual disability experience elevated levels of stress compared to those with the typically developing children. For instance, a study focusing on mothers of children with Down syndrome revealed that stress of being parents was closely associated with child behavior problems, particularly internalizing and externalizing behaviors, which further exacerbated maternal distress (Fucà et al., 2022). This heightened stress can stem from various factors, including the child's behavioral challenges and the socio-economic context in which the family operates. Mothers facing financial constraints often report higher stress levels, which can impede their ability to engage effectively in the education of their children (Amici et al., 2022).

Moreover, the emotional availability of mothers can be significantly impacted by their stress levels. High maternal stress not only reduces a mother's capacity to provide supportive interactions essential for learning but also correlates with increased behavioral

issues in children, thereby creating a detrimental cycle affecting academic performance (Jess et al., 2018). Furthermore, longitudinal studies have shown that maternal stress tends to increase over time, particularly during critical developmental phases of the child, suggesting that ongoing support for mothers is crucial in mitigating these effects (Berthelon et al., 2021). The understanding of this intricate relationship is important for developing the effective interventions aimed at reducing maternal stress and enhancing educational outcomes for female children with intellectual disabilty. By addressing the sources of maternal stress and promoting supportive environments, it may be possible to improve both maternal well-being and the academic performance of these vulnerable children. Future research should continue to explore targeted strategies that can alleviate stress while fostering a positive educational experience for children with intellectual disabilities.

As a social necessity, education is currently determining Pakistan's future. Particularly in urban areas, educational facilities are expanding quickly. However, when it comes to teaching kids, we occasionally see a noticeable difference between two generations. In Pakistani society, parents make every effort to ensure that their kids attend top-notch schools. Even if some parents are illiterate, they manage their lives to support and pay for their children's education because they recognize the societal requirements (Sain, 2023).

Education becomes increasingly challenging for parents and children due to various causes. These elements include the availability of educational resources, the upholding of cultural standards and social norms, a calm learning environment, parental literacy, children's health and wellbeing, poverty, and social and governmental support. These elements are crucial to the delivery of an educational system and are highly significant (Shah et al., 2019).

Since Pakistan’s education system is developing and changing rapidly, more and more girls are coming to the institutions in dream for a better education. Education of girls is not as popular as education of boys equally in all parts of the country. But still children and parents make big decisions when it comes to the education of the girls (Mehmood et al., 2018). People have come to understand that it is feasible to teach children with intellectual disabilities (ID) and help them become productive members of society (Khan et al., 2023).

Even if a child is physically handicapped, hearing impaired, or intellectually disabled (ID), parents do not give them the chance to work hard for their improvement because they firmly believe in and strive for their children's progress (Antawati & Nurdibyanandaru, 2019). However, parents must work more to teach their child with ID, and when certain issues arise, things might get more challenging. There are numerous other elements that contribute to this difficulty, which is exacerbated if their child is a girl. Parental stress increases as a result (Ntshingila et al., 2021).

The main main of this researcch study was to examining the stress levels of mothers of children with intellectual disabilities. Additionally, it was meant to explain how their stress levels impact their daughters' academic achievement that has intellectual challenges. The hypothesis of this study is there is a significant association between children academic performance and level of stress in mothers of children with intellectual disability. All things considered, the dissemination of this study will have major implications, promoting more knowledge, comprehension and assistance for Pakistani mothers of female children with intellectual disabilities.

Literature Review

The female children with an intellectual disability may have significantly below-average mental functions and altered adaptive behavior because mental health is crucial for improved mental functions. In addition to her academic performance, she also exhibits deficiencies in general intellectual functioning, conceptual, social, and practical skills. Understanding the two fundamental components of this study stress and intellectual disability is crucial before delving deeper into these elements (Shree & Shukla, 2016). Cognitive skills, social skills, adaptive behavior, general intellectual functioning, practical skills, memory, reasoning, and perception are among the mental functions that can be mildly to severely impaired in people with intellectual disabilities (ID) or mental retardation (MR) (Van Nieuwenhuijzen & Vriens, 2012). Mentally challenged people also have ID or diminished mental performance. Numerous factors, including genetic, psychological, and physiological ones, could be responsible (Shree & Shukla, 2016).

Education is a mental process that is related to a peaceful and calm environment so the teachers and learners can completely focus on exploring and memorization of daily tasks and lessons (Kassah et al, 2018). Another study carried by the researcher's societies like Pakistan, where mental support as treatment is not equally available it is hard for the females to acquire self-supports like changing environment, occupation, or place. Moreover, it is even harder for the women to make better decisions for her (Shaukat, 2023). Educational and financial gaps including community support, teachers training, availability of teaching aids, proper information to parents, social assistance, transportation and other little or major factors can bring positive change for both parents and ID children if these facilities are provided, but on the other hand, unavailability of these factors play key role in effecting following components of educational cycle (Bornstein, 2023). These are: Rehabilitation of Child Suffering from ID, Increasing or Sustaining Educational output of Child, coping with stress of parents, Successful implementation of strategies for special children, dealing with additional issues that arise when the child suffering from ID is girl, Support, training, and awareness of mothers of girl child suffering from ID (Singal, 2015).

As the world of education is changing and expanding, it is opening doors for new opportunities as well as new problems. In west specially, it is seen that lot of research work has been done, followed by Asian countries like Japan and India (Minhas et al., 2015). All the researches have indicated some basic aspects, which are: The stress of parents with ID children is a real and existing phenomenon, this stress increases if the ID child is girl, Mothers of the ID child take more stress than any other member of the family, this stress level increases with unavailability of resources (Aldosari & Pufpaff, 2014). Problems are present all over the world but they are intense in developing countries, In Pakistan, these issues are even more intense due to certain social norms and by and large unsafe environment for females (Sajjad, 2011). Consequently, it increases mother's stress as well as decreases her stamina to fight against daily problems. In result it halts or slows down the educational progress of child suffering from ID.

Material and Methods

Research Design

This research study is descriptive in nature and data collected by using a survey research approach. The researcher employed the quantitative method to ensure the objectivity, reliability, generalizability of the findings.

Population

The population of this study was the mothers of female children with intellectual disabilities. The researcher selected the population from both public and private sector institutes of Lahore district, Pakistan.

Sample Size and Sampling Technique

Using a purposive sampling approach, the researcher chose 100 mothers of female children with intellectual disabilities (ID). This sampling technique, also known as judgmental sampling, relies on the researcher's discretion in determining and choosing the subjects, circumstances, or occurrences that can yield the greatest amount of information to meet the goals of the study.

Research Instrument

The researcher was used the instrument "Depression Anxiety and Stress Scale" based on 42 items but the researcher used only 14 items that measure stress to collect quantitative data.

Data Collection Procedure

The data for this study was collected from the mothers of female children with intellectual disability. Prior to data collection, written permission was obtained from the relevant head of the institutions and also from the mothers. The majority of the data was collected through in-person visits to the institutions. The data was collected in the form of organized questionnaire table with appropriate information of participants. Simple and easy to understand format of collecting information was used through a hard copy form filled by participants in less than 10 minutes. This data was carefully uploaded on computer for evaluation. The personal information of the respondents is kept confidential. Later it was combined and evaluated after calculation. The data is now accessible for all readers and it is made possible for everyone to read and understand the given data and results for further use.

Validity and Reliability

The reliability of the instruments was measured by using SPSS and the value of Cronbach alpha (.838) was determined by the sample of 100 mothers of female children with intellectual disability from the city Lahore, Pakistan.

Ethical Consideration

The Ministry of Special Education had to first officially approve the study's conduct. Additionally, permission was obtained from the administrators of each institute where data was collected. All participants were informed that their participation in the study would remain confidential. The research protocol did not specify any personal information that would have allowed any participant to be identified. Participating in the research entailed zero risk. Each participant in the research gave their verbal agreement after being told of the study's objectives**.** All participants received assurances that the information they gave would only be used for the current study.

Data Analysis

The data analyzed through SPSS version 22 and initially, the analysis started by investigating the condition of data before running the study analysis, including the data in the form of descriptive, statistics such as mean, SD, frequencies, correlation and one-way analysis of variance was used. And the most importantly to measure the degree of stress

experienced by mothers of girls the researchers were used and interpreted the data according to the Depression, Anxiety, and Stress Scale.

Results and Discussion

Section 1: Descriptive Statistics

The study included 100 mothers of female children with ID from three different institutions in Lahore, Pakistan, as its sample. The descriptive statistic is illustrated in this section as the frequency distribution of the demographic characteristics of the sample participants:

Table 1
Frequency Distribution of Number of Special Children

Number of Special Children	*f*	%
1	93	93.0
2	06	6.0
3	01	1.0
Total	100	100.0

Table 1 describe that 93.0% (93) parents having one female child with intellectual disability while 6.0 % (6) some parents having more than one female children with intellectual disability and in this data that is collected one parent 1.0% (1) having three female children with intellectual disability. Therefore, it is concluded that majority of the parents having one female child with intellectual disability.

Table 2
Frequency of Qualification Basis on Distribution of Mothers

Qualification	*F*	%
Primary	45	45.0
Secondary	44	44.0
Higher	11	11.0
Total	100	100.0

Table 2 describe that 45% (45) mothers' qualification were primary level, 44% (44) mothers' qualification were secondary level and 11% (11) some mothers qualifications were higher level so it is concluded that majority of the mother's qualification were primary.

Table 3
Frequency Distribution on the Basis of Mothers Marital Status

Marital Status	F	%
Married	90	90.0
Divorced	4	4.0
Widow	6	6.0
Total	100	100.0

Table 3 illustrate that 90% (90) mothers were married, 4.0% (4) mothers were divorced and 6.0% (6) mothers were widow so majority of the mothers were married.

Table 4
Frequency Distribution on the Basis of Child Institution

Institution	*F*	Percentage %
Public	73	73.0
Private	27	27.0
Total	100	100.0

Table 4 describe that 73% (73) female children's institutions were public and 27% (27) female children's institutions were private so majority of the female children's were studying in the public institutions.

Table 5
Frequency Distribution on the basis of Child Level of Disability

Intensity	F	Percentage %
Mild	45	45.0
Moderate	47	47.0
Severe	8	8.0
Total	100	100.0

Table 5 shows that 45% (45) female children's were suffering from Mild level of disability, 47% (47) female children's were moderate and 8% (8) female children's were severe so majority of female children level of disability were Mild.

Table 6
Frequency Distribution on the basis of Family System

Family System	**F**	**Percentage %**
Joint family	52	52.0
Nuclear family	48	48.0
Total	100	100.0

Table 6 illustrate that 5.2% (52) family system were joint, 48% (48) family system were nuclear so it is concluded that majority of the family system were joint.

Table 7
Frequency Distribution on the Basis of Mother Employment Status

Employment Status	**F**	**Percentage %**
Housewife	86	86.0
Employee	14	14.0
Total	100	100.0

Table 7 illustrate that 86% (86) mothers were housewife, and 14% (14) mothers were employee so it is concluded that most of the mothers or majority of mothers were housewife.

Table 8
Frequency Distribution on the Basis of Financial Status

Financial Status	**F**	**Percentage %**
Low	22	22.0
Middle	74	74.0
High	4	4.0
Total	100	100.0

Table 8 describes that 22% (22) family financial status were low, 74% (74) family financial status were Middle and 4% (4) family financial status were high so it is concluded that most of the mothers are belong to middle class family.

Table 9
Frequency Distribution on the basis of Annual Income

Income Range	**F**	**%**
0-10k	8	8.0
11-20k	26	26.0
21-30k	49	49.0
31-40k	6	6.0
Above 40k	11	11.0
Total	100	100.0

Table 9 describe that 8% (8) family annual income in between 0-10k, 26% (26) family annual income in between 11-20k, 49% (49) family annual income in between 21-30k, 6% (6) family annual income in between 31-40k and 11% (11) family annual income Above 40k so it is concluded that majority of the mother's family income in between 21-30k.

Table 10

Descriptive Statistic on the basis of Age Ranges

Age	Minimum	Maximum	Mean
Mother age	25	60	42.67
Child age	6	22	13.27

Table 10 describe the age ranges of both the mothers and their female children with intellectual disability. Mothers age range started from the 25 to 60 with the mean score 42.67 and the child age rage started from 6 to 22 with mean score 13.27.

Section 2: Inferential Statistic

This part of the SPSS contains the analysis of the body of the questionnaire here we can see the answers of the objectives and the research questions of the study.

Table 11
Level of Stress among Mothers

Mothers Stress Level	%
Normal	6
Mild	13
Moderate	38
Severe	36
Extra Severe	7

In figure it is shown that mothers with female children with intellectual disability facing different level of stress. Majority of mothers are facing moderate level of stress followed by severe level of stress. There are only 6% mothers reported that they face normal level of stress.

Table 12
Mothers Level of Stress of children with Mild ID

Level of Stress	%
Normal	1
Mild	6
Moderate	14
Severe	21
Extra Severe	3

Table 13
Mothers Level of Stress of Children with Moderate ID

Level of Stress	%
Normal	4
Mild	6
Moderate	24
Severe	11
Extra Severe	2

Table 14
Mothers Level of Stress OF Children with Severe ID

Level of Disability	%
Normal	1
Mild	1
Severe	4
Extra Severe	2

In tables it is shown that mother's level of stress change on the basis of children level of disability. In this figure shows that mother whose children with mild disability they face low level of stress as compared to those children who have moderate and severe level of disability their mothers face high level of stress. Children level of disability effects the stress of mothers. Children with mild level of disability their mothers' level of stress was 6 %. As compared to others, children with moderate level of disability their mothers'

level of stress were 24%. Children with severe disability their mothers' level of stress were 4%.

Hypotheses 1: Mothers' stress levels and students' academic achievement are significantly correlated. One-way analysis of variance was employed to evaluate the hypothesis. The following is the analysis:

Mothers' Level of Stress and their Children's Academic Performance

The degree of stress experienced by mothers has a significant impact on the academic achievement of their children. Mothers with normal, mild, moderate, severe, and extra severe levels of stress were divided into five groups based on their overall questionnaire ratings. SPSS was used to calculate the cutoff scores. To determine the relationship between moms' stress levels and their kids' academic achievement, chi square analysis was used.

Table 15
Cross-tabulation of Mothers' Level of Stress and Students' Academic Performance

	Level of Stress				
Student Academic performance	Normal	Mild	Moderate	Severe	Extra Severe
	Count (exp)	Count (exp)	Count (exp)	Count (exp)	Count (exp)
Poor	0 (1.0)	1 (2.2)	4 (6.5)	7 (6.1)	5 (1.2)
Good	3 (3.4)	10 (7.3)	21 (21.3)	20 (20.2)	2 (3.9)
Very Good	3 (1.2)	2 (2.6)	10 (7.6)	5 (7.2)	0 (1.4)
Excellent	0 (.4)	0 (.9)	3 (2.7)	4 (2.5)	0 (.5)

x^2=25.346, df=12, P-value = .023

Table 15 describe the cross-tabulation indicates that there is an association between the level of mothers' stress and students' academic performance. The comparison between the expected and observed values reveals that student academic performance was poor if their mothers fall under the moderate and severe category. On the contrary, students' academic performance was good if mothers fall under the mild and moderate category. If the mothers stress level was moderate their children academic performance was very good. On the basis of association found between the level of mothers' stress and students' academic performance, the hypotheses are accepted.

Findings

Following are the main findings of this study.

1. Mothers of female children with intellectual disability facing different level of stress. Some mothers facing normal level of stress which is 6%, some of the mothers facing mild level of stress which is 13%, some mothers facing moderate level of stress which is 38%, some mothers facing severe level of stress which is 36% and some of these facing extra severe level of stress which is 7% so when we concluded according to the analysis so we can see that most of the mothers or majority of the mothers facing stress in between the moderate to severe.

2. Mothers whose children with mild disability they face low level of stress as compared to those children who have moderate and severe level of disability their mothers face high level of stress. Children level of disability effects the stress of mothers. Children with mild level of disability their mothers' level of stress was 6 %. As compared to others, children with moderate level of disability their mothers' level of stress were 24%. Children with severe disability their mothers' level of stress were 4%.

3. There is significant association between the mothers' stress level and their children academic performance. Cross tab shows that Mothers level of stress influence the student academic performance. If the condition of the mother's stress level fall under moderate and severe their children academic performance was poor. On the contrary, if the mothers stress level fall under the mild or normal their children academic performance was good.

Discussion

This research study was aimed to investigate the stress level of mothers of female children with intellectual disability and its implications for academic performance. The mothers of female children with ID related foremost stress intensity. Psychological stress is not always a perfect hassle for mothers. The surroundings originate from Vigor and difficulty but often come from the human mind in the form of deploring, fearful, fear, despair, and confusion.

The present study found that mothers of female children with ID facing stress because of the circumstances or lack of the resources. Cheng et al. (2021) supported the findings that parents of children with developmental disability facing high level of stress because of the circumstances. Parents characteristics is one of the important factors like their family income, educational level, age, either they are mother or father, family background, disability level, job category all these factors' reasons of their stress. These elements also affect the children's academic or behavioral lives. Baldwin's findings were corroborated by another study, which found that the frequency of symptomatic behavior in ADHD children explained up to 18% of the variation in caregivers' overall stress levels, with family income and other financial stressors accounting for the largest portion of the variation (up to 42%). According to the research, parents from lower socioeconomic backgrounds are more likely to feel stressed out, which makes their ADHD-afflicted kids show more symptoms.

The present study found that mothers of female children with ID facing high level of stress moderate and severe. So, it is very important to provide the support to reduce the stress level or cope in stressful circumstances. Gupta (2007) supported the findings that parents of kids who need special medical attention are more stressed out than those of kids who are typically growing. The total stress levels of parents of children with attention deficit hyperactivity disorder (ADHD) and developmental disabilities (DD) were greater than those of parents of children with HIV infection, asthma, and typically developing children. To what extent parents of children with special needs experience stress depends on the degree of the disorder; for instance, parents of children with developmental issues and ADHD report higher levels of parenting stress than parents of children with HIV infection, asthma, and healthy controls.

The present study found that there is a significant association between mothers' stress level of female children with intellectual disability and their children academic performance. Mothers stress level effect their children academic performance. Sohail (2013), 7.5% of the students (scoring 150), 71.67% (score between 150 and 300), and 20.83% (score 300) of the students (score 300) had low levels of stress, moderate levels of stress, and severe levels of stress, respectively.

Academic success and stress sources have a moderately negative (-0.583) and significant (p 0.01) association. Academic performance and stress levels also had a moderately negative (-0.478) and significant (p 0.01) association. A substantial and positive link between the quantity of stress sources and stress levels was found (r = 0.799, p 0.01). According to the study, medical students experienced a significant level of stress from a variety of sources. The findings also demonstrate a link between higher levels of stress and subpar academic achievement.

In summary, the current investigation uncovered a number of facts that had not been previously investigated in the context of Pakistan. This study will help future researchers choose and investigate the necessary areas of ID research in Pakistan. The study focused on moms' stress levels and how they affect their academic achievement. It is necessary to investigate the underlying causes of the stress level in detail and create strategies to lower it. The large-scale population research will be generalizable and help policymakers make better decisions for children with ID in the future.

Conclusion

The purpose of this research was to investigate the stress level of mothers of female children with intellectual disability and its implications for academic performance. Results shows that normal level of stress was found in 6%, mild level of stress 13%, moderate level of stress was present in 38%, Severe level of stress in mothers 36%and Extra severe level of stress was observed in 7% of the mothers of female children with intellectual disability. Another result revealed that Children level of disability effects the stress of mothers. Children with mild level of disability their mothers' level of stress was 6 %. As compared to others, children with moderate level of disability their mothers' level of stress were 24%. Children with severe disability their mothers' level of stress were 4%.

Academic performance and stress level are significantly correlated, according to the results of the chi-square test for independence. Academic performance and stress level were significantly correlated. Mothers of female children with intellectual disabilities reported significant levels of stress and a variety of stressors, according to the study. The findings also indicate a correlation between academic success and a higher level of stress.

Recommendations

In the light of findings of the study the researcher has made following recommendations:

1. In Pakistan, counseling centers should be established in both urban and rural regions, offering mothers of female children with ID accessible and affordable services.

2. Parent teacher meetings should be frequently planned in schools because it is very important to communicate each other. Teachers must collaborate with the parents on finding solutions and strategies that will help the student succeed and overcome any difficulties or obstacles.

3. In order for mothers and their families to collaborate with mental health specialists for a better overall result, psycho-education regarding the condition and its treatment must be given to them. Mothers are more cognizant of their children's degree of handicap and the impact of their stress levels on their academic performance thanks to psychological education.

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