

**CO-MORBIDITY AMONG MIDDLE SCHOOL
STUDENTS: A CROSS SECTIONAL EXPLORATION ON
ACADEMIC PROBLEMS, ACADEMIC SELF-EFFICACY
AND ACADEMIC ACHIEVEMENT**

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in

Education

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**LOVELY PROFESSIONAL UNIVERSITY, PUNJAB
2025**

DECLARATION

I, hereby declared that the presented work in the thesis entitled “**CO-MORBIDITY AMONG MIDDLE SCHOOL STUDENTS: A CROSS SECTIONAL EXPLORATION ON ACADEMIC PROBLEMS, ACADEMIC SELF-EFFICACY AND ACADEMIC ACHIEVEMENT**” in fulfilment of degree of **Doctor of Philosophy (Ph.D.)** is outcome of research work carried out by me under the supervision of **Dr. Harish Mittu** working as **Associate Professor**, in the **School of Education** of Lovely Professional University, Punjab, India. In keeping with general practice of reporting scientific observations, due acknowledgements have been made whenever work described here has been based on findings of other investigator. This work has not been submitted in part of or full to any other University or Institute for the award of any degree.



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CERTIFICATE

This is to certify that the work reported in the Ph.D. thesis entitled “**CO-MORBIDITY AMONG MIDDLE SCHOOL STUDENTS: A CROSS SECTIONAL EXPLORATION ON ACADEMIC PROBLEMS, ACADEMIC SELF-EFFICACY AND ACADEMIC ACHIEVEMENT**” submitted in fulfillment of the requirement for the award of degree of **Doctor of Philosophy (Ph.D.)** in the **School of Education**, is a research work carried out by **Rafia Khan (12021154)**, is bonafide record of his/her original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.



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ABSTRACT

When disabilities affect educational performance in the classroom, they are often referred to as learning disabilities. These neurological conditions impair the brain's cognitive functions, including information processing, transmission, and comprehension. Children, who have learning disabilities, may encounter difficulties in areas such as reading, writing, speaking, listening, comprehending the concepts of mathematics, and overall understanding. Learning disabilities include various disorders such as Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, and Dyspraxia, and these conditions often co-exist. These issues must be addressed promptly at every educational level. Each academic challenge faced by our students has an underlying cause that requires prompt examination. This urgent need drew the researcher's attention to the present study on the students' learning difficulties. During the literature review, the researcher discovered that the lack of early intervention for students regarding their learning difficulties leads to multiple issues, including co-morbidity. This, in turn, complicates the educational process and impacts their educational outcomes. It has also been noticed that teachers are not even aware of the prevalence of co-morbidity among their students, which affects their teaching strategies, and techniques. The students with co-morbidity are forced to behave normally (which they are not) in normal classroom and keep pace with other normal students, which further hinders their academic achievement and enhances their academic problems. Identification and understanding of academic problems among students with co-morbid conditions is the first step towards providing effective and customized interventions to them (Wright, 2015). Students with co-morbidity always show a lower level of self-efficacy, which is the basis of an individual's academic achievement. The low self-efficacy among these students makes them helpless to move forward in their lives. It has been observed that the majority of teachers are trained according to the needs of normal students, but usually come across co-morbidity among their students, but because of teachers' ignorance about co-morbid conditions, they started doubting their teaching strategies, and techniques.

The present research aimed to identify co-morbid conditions among students studying in government middle schools in Jammu Province, India, such as Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), Dysphasia (Dys-P), Dyspraxia (Dys-Pr), Anxiety (Anx), Attention Deficit Hyperactivity Disorder (ADHD), Obsessive-

Compulsive Disorder (OCD), Autism Disorder (AD), and Tic Disorder (TD). Following identification, this study intends to investigate their demographics, academic problems, academic self-efficacy, and academic achievement. The researcher also investigated the correlation between academic self-efficacy and academic achievement of students with co-morbid conditions. A mixed-method approach, combining descriptive survey technique and a triangulation strategy, was employed to gather quantitative data through Identification Battery on Co-morbid Conditions (IBCC) and Academic Self-Efficacy Scale (ASES) and qualitative data via semi-structured interviews of students with co-morbid conditions and their teachers.

The study focused on middle school students aged 11-15 years, which were further divided into two groups: Group-I (aged 11-13 years) and Group-II (aged 13-15 years), and their teachers, across the Jammu province of Jammu and Kashmir, India. Seventy schools from 145 blocks, covering both urban and rural areas, were selected through multistage sampling method. The final sample of the study was 1084 students, along with 140 teachers who taught these students. A total of 224 students with co-morbid conditions were identified from a sample of 1084 students by administering the Identification Battery on Co-morbid Conditions (IBCC). The researcher gathered quantitative data from students with co-morbid conditions by administering the Academic Self-Efficacy Scale (ASES) and collected their academic achievement scores from their respective schools, while semi-structured interview schedules for both students and teachers were created to acquire qualitative insights. Data collection was conducted through school visits. Statistical analysis began with descriptive statistics to identify students with co-morbid conditions and understand their demographic profiles. The study then examined the academic problems, academic self-efficacy levels, and academic achievement of these students using means, standard deviations, and percentages.

The findings revealed that 20.66 % (224 out of 1084 sampled middle school students) of the students had co-morbid conditions, with varying prevalence across districts. The most common disorder was Dyscalculia (207 students), followed by Dyslexia (185 students), Dysgraphia (151 students), Anxiety (42 students), Dysphasia (22 students), ADHD (19 students), OCD (13 students), Tic Disorder (4 students), Autism (3 students), and Dyspraxia (2 students). Jammu district had the highest prevalence (23.21%), followed by Kathua (13.40%), Doda and Ramban (11.61%), Rajouri (10.27%), Udhampur (9.38%), Poonch (8.93%), Reasi (5.36%), Samba (4.01%), and

Kishtwar (2.23%). Among students with co-morbid conditions, 78 students displayed traits of two disorders; the most common were Dyslexia (Dys-L) and Dyscalculia (Dys-C), affecting 16.07% of students with co-morbid conditions. 107 students displayed traits of three disorders; the most common combination was Dyslexia (Dys-L), Dysgraphia (Dys-G), and Dyscalculia (Dys-C), accounting for 39.28% of students with co-morbid conditions. 23 students displayed traits of four disorders; the combination of Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), and Dysphasia (Dys-P) was the most commonly observed, affecting 4.01% of students with co-morbid conditions. 15 students displayed traits of 5 disorders; the most common combination, consisting of Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), Anxiety (Anx), and Attention Deficit Hyperactivity Disorder (ADHD), was observed in 2.23% of students with co-morbid conditions, and only 1 student displayed traits of 6 disorders simultaneously.

The incidence of co-morbidity was more pronounced among boys, accounting for 121 boys (54.02%), than among girls, who accounted for 103 girls (45.98%), with certain disorders showing gender-specific prevalence rates. Dyslexia (Dys-L) is more prevalent in boys (54%) than in girls (46%). Similarly, Dysgraphia (Dys-G) affects more boys (59%) compared to girls (41%), and Dyscalculia (Dys-C) is also more common in boys (56%) than in girls (44%). Dysphasia (Dys-P) affects boys (52%) as compared to girls (48%). Dyspraxia (Dys-Pr) affects boys and girls equally (50% each). In contrast, anxiety (Anx) is significantly more prevalent among girls (76%) than boys (24%). Attention Deficit Hyperactivity Disorder (ADHD) is more common in girls (58%) than boys (42%). Obsessive-compulsive disorder (OCD) is more prevalent among girls (85%) than to boys (15%). Autism Disorder (AD) affects more girls (67%) than boys (33%), while Tic Disorder (TD) is found exclusively in boys (100%). According to the findings, 56% of boys and 44% of girls had characteristics of two disorders, whereas 55% of boys and 45% of girls displayed characteristics of three disorders. In addition, 57% of boys and 43% of girls displayed characteristics of four disorders, while 33% of boys and 67% of girls demonstrated symptoms of five disorders. Remarkably, the student who showed characteristics of six disorders was a girl, and none of the students exhibited signs of more than six disorders. The prevalence of students with co-morbid conditions was marginally greater in rural regions (51%) in comparison to urban regions (49%). Dyslexia, Dysgraphia, and Dyscalculia were more prevalent in rural students, while anxiety, ADHD, OCD, and

autism were more common in urban students. According to the findings, 54% of students living in urban areas and 46% of students living in rural areas display characteristics of two disorders. In urban areas, 47% of individuals have three disorders, while in rural areas, this figure is 53%. Among students with four disorders, 39% reside in urban areas, compared to 61% in rural areas. Among individuals with five disorders, 60% reside in urban regions and 40% reside in rural areas. One student, who has six disorders, is from a rural location. In the Jammu province of Jammu and Kashmir, 55% of students in the age group-I exhibit co-morbid conditions, compared to 45% of students in the age group-II. Dyslexia (Dsy-L) is more prevalent among younger students, affecting 55% of the age group-I and 45% of the age group-II. In a similar vein, Dysgraphia (Dsy-G) is more prevalent among the younger group, with 61% of instances occurring in age group-I as opposed to 39% in age group-II. Dyscalculia (Dsy-C) affects 55% of the age group-I and 45% of the age group-II, while dysphasia (Dsy-P) is more prevalent among older students, affecting 52% of age group-II and 48% of age group-I. Dyspraxia (Dsy-Pr) is found exclusively in the age group-I (100%). Anxiety and ADHD are more prevalent among older students, with anxiety affecting 52% of the age group-II and 48% of the age group-I, and ADHD affecting 58% of the older group and 42% of the younger group. The prevalence of Obsessive-Compulsive Disorder (OCD) is much higher in age group-II (77%) than in age group-I (23%). Autism Disorder (AD) is more prevalent in the younger group, affecting 67% of the age group-I and 33% of the age group-II. Tic disorder (TD) affects students in both age groups equally (i.e. 50% each). Among students belongs to the age group-I, 49% exhibited traits of two disorders, compared to 51% in the age group-II. According to the findings, 61% from the age group-I and 39% from the age group-II had characteristics of three disorders. For four disorders, 48% of students were in the age group-I, while 52% were in the age group-II. Additionally, 47% of students in the age group-I and 53% in the age group-II showed traits of five disorders. Notably, all students demonstrating traits of six disorders simultaneously were in the age group-I. Socio-economic status (SES) also played a role, with 99% of students from low SES backgrounds. The data reveals that 99% of students with Dyslexia (Dsy-L), Dysgraphia (Dsy-G), and Dyscalculia (Dsy-C) come from low socio-economic status (SES), with only 1% from middle SES. For Dysphasia (Dsy-P), 96% are from low SES and 4% from middle SES. All Dyspraxia (Dsy-Pr) students are from low SES. Among those with anxiety (Anx), 98% are from

low SES and 2% from middle SES. Additionally, 100% of students with ADHD, OCD, AD, and TD are from low SES. None of the students with co-morbid conditions have high SES. The data also shows that 100% of students exhibiting traits of the combination of two, four, and six disorders come from low-SES backgrounds. For those with the combination of three disorders, 99% are from low SES and 1% from middle SES and for those with the combination of five disorders, 93% is from low SES and 7% from middle SES.

The qualitative findings highlight that middle school students with co-morbid conditions experience persistent academic and socio-emotional difficulties, particularly in reading, writing, calculation, and attention. These challenges are often accompanied by low self-confidence, fear of authority figures, and limited classroom participation. Gender, age, and locale variations reveal that boys, younger students, and those from rural areas tend to face more pronounced difficulties. Despite these struggles, most students lack access to meaningful academic support from teachers, peers, or school authorities. From the teachers' viewpoint, students with co-morbid conditions are often perceived as inattentive, slow learners, or lacking discipline, with limited understanding of the underlying issues. Most teachers rely on repetitive instruction, with little to no use of differentiated or individualized strategies. While some express empathy, many lack formal training in inclusive education, resulting in inconsistent responses to students' needs. The absence of structured support, professional development, and collaboration with specialists further hinders effective intervention.

Of the 224 students analyzed, 98.21% perceived their academic self-efficacy as below average. Boys (52.2%) and girls (46.0%) exhibited low academic self-efficacy, while only 0.9% of both boys and girls fall into the average category. Age-wise, 54.4% of students in the age group-I and 43.7% of students in the age group-II showed below-average academic self-efficacy. For the age group-I, the average academic self-efficacy was 0.4%, and for the group-II, it was 1.3%. Urban (49.5%) and rural (48.7%) students had comparable levels of academic self-efficacy; only 1.8% of rural students demonstrated average academic self-efficacy. Gender, age, or location did not correlate with high academic self-efficacy.

Low academic achievement was widespread, with 45.09% of boys and 41.52% of girls affected. Boys also outperform girls in average academic achievement, with 7.58% of boys and 4.91% of girls reaching this level. Both genders show an equal

minimal percentage of high academic achievement (0.45%). The data indicates that there area greater proportion of students in age group-I (46.42%) exhibit low academic achievement compared to the age group-II (40.17%). In terms of average academic achievement, 7.58% of students in the age group-I achieve this level, compared to 4.91% in age group-II. Only 0.89% of students in the age group-I exhibits high academic achievement. Additionally, a higher percentage of rural students (44.64%) demonstrate low academic achievement compared to urban students (41.96%). In terms of average academic achievement, 7.58% of urban students reach this level, compared to 4.91% of rural students. Only 0.89% of the rural students exhibit high academic achievement.

Researcher discovered a notable positive and statistically significant association between academic self-efficacy and academic achievement, evidenced by a correlation coefficient of 0.277. Regression analysis demonstrated that self-efficacy explained 7.7% of the variability in academic achievement, underscoring the critical role of bolstering students' confidence in their academic abilities to enhance their educational outcomes. In conclusion, expanding upon the results, it is evident that a multifaceted approach is necessary to meet the educational requirements of students with learning disabilities. It is imperative to establish inclusive learning environment that accommodate a variety of learning styles, in addition to employing targeted interventions and increasing educator awareness. We must incorporate supportive frameworks specifically designed to address the unique challenges faced by students with co-morbid conditions and adapt teaching methodologies accordingly. It is crucial to foster and enhance the academic self-efficacy of these students. This study highlights the significant influence of academic self-efficacy on academic achievement. Teachers have the power to enhance the academic achievement of students and general welfare by fostering self-assurance in their academic capabilities, which will enable them to overcome the challenges associated with learning disabilities. Additionally, it is essential to cultivate collaboration among mental health professionals, teachers, and parents in order to establish comprehensive support systems that facilitate the holistic development of these students. To ensure early and effective intervention in addressing these complex challenges, it is essential to minimize the detrimental effects of learning disabilities on academic outcomes.

Keywords: Co-morbidity, Academic Problems, Academic Self-Efficacy,
Academic Achievement and Middle School Students.

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LIST OF ABBREVIATIONS

Sr. No.	Abbreviations	Full Form
1.	Dys-L	Dyslexia
2.	Dys-G	Dysgraphia
3.	Dys-C	Dyscalculia
4.	Dys-P	Dysphasia
5.	Dys-Pr	Dyspraxia
6.	Anx	Anxiety
7.	ADHD	Attention Deficit Hyperactive Disorder
8.	OCD	Obsessive Compulsive Disorder
9.	AD	Autism Disorder
10.	TD	Tic Disorder
11.	IBCC	Identification Battery on Co-morbid Conditions
12.	ASE	Academic Self-Efficacy
13.	ASES	Academic Self-Efficacy Scale
14.	AP	Academic Problem
15.	SPSS	Statistical Package for Social Science
16.	AMOS	Analysis of Moment Structures/Analysis of Covariance or Causal Modeling Software
17.	CVR	Content Validity Ratio
18.	n_e	Number of experts with a rating of 3 or 4
19.	N	Total Number of Experts
20.	EFA	Exploratory Factor Analysis
21.	KMO	Kasier Meyer – Olkin
22.	MSA	Measure of Sample Adequacy
23.	CFA	Confirmatory Factor Analysis

24.	GFI	Goodness of fit index
25.	AGFI	Adjusted Goodness of Fit Index
26.	TLI	Tucker-Lewis Fit Index
27.	CFI	Comparative Fit Index
28.	RMSEA	Root Mean Square Error of Approximation
29.	SRMR	Standardized Root Mean Square Residual
30.	CMIN	Minimum Discrepancy Function
31.	CMIN/DF	Minimum Discrepancy Function divided by Degrees of Freedom
32.	DF or df	Degree of Freedom
33.	CR	Convergent Validity
34.	AVE	Average Variance Extracted
35.	DV	Discriminant Validity
36.	α	Cronbach's alpha/Significance level
37.	SBP	Spearman Brown Prophecy formula
38.	HR	Highly Relevant
39.	RM	Relevant but needs Modification
40.	SR	Somehow Relevant
41.	NR	Not Relevant
42.	M	Mean
43.	χ^2	Chi-square
44.	X	Raw Score
45.	Z	Standardized Score
46.	SD or σ	Standard Deviation
47.	R	Degree of Prediction
48.	R^2	Degree of Explaining the Variance

49.	B	Unstandardized Coefficients/Beta
50.	B (Beta)	Determination Coefficient/Standardized Regression Coefficients

CHAPTER - I

INTRODUCTION

The Indian Constitution ensures that all individuals, including those with disabilities, are granted equality, freedom, justice, and dignity. It also promotes the creation of a society that is inclusive and accommodating (National Policy for Persons with Disabilities, 2006). Consequently, government policies have persistently focused on addressing the requirements of underprivileged individuals, ensuring equitable access to opportunities across all development sectors, especially in education. Disability, as a particular concern, necessitates focused attention in policy formulation, implementation, and monitoring. Disability is a significant and intricate matter that is given careful attention in the 2030 Agenda for Sustainable Development, posing numerous challenges in its identification and measurement.

According to the Oxford Dictionary, disability is a condition that can affect a person's intellectual, mental, physical, and sensory abilities, or a combination of these, and it can have an impact on their activities. It may be prevalent from birth or develop later in life. The Preamble of the 2006 United Nations Convention on the Rights of Persons with Disabilities (CRPD) defines disability as the result of the interplay between people with disabilities, societal attitudes, and environmental impediments that prevent them from fully participating in society. India wants all of its children to go to school in a setting that welcomes everyone, i.e., inclusive (RTE, 2009; RPWD, 2016; NPE, 2020). Because of this, children in today's classes learn together even though they have different levels of skill. There are students in every class who have special or unique learning needs, but some students have a trend of big strengths and big problems. Being able to meet the academic needs of students who don't fit neatly into one group can become harder as public schools become more uniform. One big problem that can make going to school hard is having a disability. Getting good grades, on the other hand, is very important for making handicapped people's lives better. The 2011 census found that 55% (1.46 crore) of disabled people can read and write. Sixty-two percent of disabled men can read and write, but only forty-five percent of disabled women can. In cities, 67% of disabled people can read and write, but only 49% of disabled people in rural places can. The census also shows that 45% of disabled people can't read or write, 13% have finished secondary school but aren't

graduate, and 5% have a graduate degree or higher. About 8.5% of handicapped people who can read and write have college degrees.

When disabilities affect educational performance in the classroom, they are often referred to as learning disabilities. These neurological conditions impair the brain's cognitive functions, including information processing, transmission, and comprehension. Children who have learning disabilities may encounter difficulties in areas such as reading, writing, speaking, listening, comprehending the concepts of mathematics, and overall understanding. Learning disabilities include various disorders such as Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, and Dyspraxia, and these conditions often coexist. Such issues need to be tackled as soon as possible at each level of education. There is always a reason behind each problem faced by our students in their education that needs immediate investigation. This immediate need attracts the attention of the researcher to conduct the present study on the learning difficulties of the students. During the literature review, the researcher comes to know that because of no early intervention for the students regarding their learning difficulties, there are multiple issues i.e., co-morbidity among students, which further complicates the educational process and effects their educational outcomes. It has also been noticed that teachers are not even aware of the prevalence of co-morbidity among their students, which affects their teaching techniques and strategies. The students with co-morbidity are forced to behave normally (which actually they are not) and make pace with other normal students, which further hinders their academic achievement and enhances their academic problems. Identifying and understanding academic problems is the first step towards providing effective and customized interventions (Wright, 2015). The students with co-morbidity always show a lower level of self-efficacy, which is the basis of individuals' academic achievement. The low self-efficacy among these students makes them helpless to move forward in their lives. Teachers are trained according to the normal students, but usually come across co-morbidity among their students, but because of their ignorance, they start doubting their ability.

1.1 THEORETICAL ORIENTATION

This research aims to identify co-morbid conditions among students studying in government middle schools, such as Dyslexia, Dysgraphia, Dyscalculia, Dysphasia,

Dyspraxia, Anxiety, Attention Deficit Hyperactivity Disorder (ADHD), Obsessive Compulsive Disorder (OCD), Autism, and Tic Disorder. After identifying the participants, the study will analyse their demographic information, academic problems, academic self-efficacy, and academic achievement. The aim is to explore the connection between academic self-efficacy and academic achievement. The focus is on government middle school students aged 11-15 years with various co-morbidities. To comprehend the research process and its subsequent findings and implications, it is essential to grasp the theoretical framework guiding the entire study, which encompasses co-morbidity, academic problems, academic self-efficacy, and academic achievement among government middle school students identified with co-morbid conditions.

1.1.1 CO-MORBIDITY

Co-morbidity occurs when one or more additional diseases or disorders are present alongside a primary disease or disorder. In other words, a co-morbid condition entails a secondary diagnosis with symptoms that are separate and distinct from those of the primary disorder (Al-Beltagi, 2021). Co-morbidity, in simple terms, is the presence of more than one disorder in a student. The co-morbidity even though is not a new-term but during the last five decades, the focus of the researchers on co-morbidity is increasing day by day. The concomitant presence of more than one health/mental disorder in a student is co-morbidity. The disorders either exist independently or are caused by another disorder. Feinstein, a researcher from Yale University in the United States, is credited with introducing the term "co-morbidity" in a research paper published in 1970. He explained in his research that taking co-morbidity for granted can lead to misleading data. Since that time, the term co-morbidity is used as an association of multiple disorders concomitantly present in the same individual. Co-morbidity is a serious issue, so it is important not only to understand its existence but also to study the impact of co-morbidity on an individual. Initially, the term was widely used in the field of medical sciences only, but gradually the term started being used in the field of psychology, but now-a-days educationist are also showing interest in studying co-morbidity as the possibility of having co-morbidity is equal among students. Unless the rate and risk of co-morbidity are understood, the teachers and students themselves remain ignorant about their problems. Researches regarding the prevalence of co-morbidity creates awareness among parents, teachers, educationist

and students, which helps the school administration in the process of identification of co-morbid students and also helps the teachers to introspect their teaching strategies regarding co-morbid students. Today, co-morbidity is widely spreading in the field of education as well because it is common for students to be diagnosed with an anxiety disorder with another disorder like depression, suicidal thoughts, learning disabilities, etc. In simple terms, if we try to understand the term co-morbidities in the field of education, then it means when a student diagnosed with more than one disorder simultaneously, then that student is known as co-morbid students, for instance, many research studies have reported that students with learning disabilities are mostly diagnosed with ADHD also; like this, some research also noted the prevalence of more than one disorder among students. It is acknowledged that when the prevalence of disorders rises, the issue faced by pupils likewise escalates. Schrott et al. (2018) stated in their studies that children with Autism Spectrum Disorders (ASD) often manifest co-morbid behavioral problems. In a comprehensive cross-sectional study on co-morbidity, findings revealed that a significant percentage (50%) of participants exhibited the presence of more than one disorder, indicating a notable prevalence of co-morbidity (Roca et al., 2009).

The occurrence of co-morbid disorders has become a prevalent and significant issue among students in recent times (McGrath et al., 2020). The prevalence of co-morbidity among students can pose a serious threat to their academic achievement. A study has discovered a significant correlation between co-morbidity and a substandard quality of life (Al-Asadi et al., 2014). One of the largest and most detailed studies on co-morbidity disorders also reported that there is a high chance of co-morbidity pervading across all pairs of disorders (Plana-Ripollet et al., 2020b). The occurrence of various disorders among students in the classroom can create difficulties for both teachers and their classmates. Timely involvement of parents and teachers is essential in preventing the occurrence of co-morbidities among students. For instance, if a student with a learning disability has remained untreated for a longer time, then chances of ADHD, conduct behaviour and OCD arise. In order to effectively recognize such students throughout their early schooling, it is imperative that teachers possess a high level of knowledge and awareness, so that they provide proper intervention according to the type of co-morbidity prevalent among students (Hugh, 2015). There are a number of reasons for being a co-morbid student. There is a chance of overlapping of risk factors, or may be one disorder can cause another disorder, like

anxiety mostly followed by depression. As there is no single reason for being co-morbid, then there is no single solution to the problem of co-morbidity either. Educators and parents must employ diverse teaching and learning strategies tailored to the specific combinations of disorders encountered (Klein, 2004). An Indian survey covering the period from 1990 to 2017 found that by 2017, almost 14% of the population had encountered a condition. The prevalence of disabilities in India almost doubled throughout this era. The most commonly observed mental health conditions were anxiety and depressive disorders, with bipolar disorder being the next most frequently encountered (Sagar et al., 2020). A variety of co-morbidity disorders are available, and the pairing of disorders are different in each student, for instance, Learning Disability & ADHD; Learning Disability & Conduct Behaviour; ADHD & Emotional Disorder; ASD & OCD, Anxiety & Depressive Disorder; and Learning Disability, ADHD, Bipolar, OCD & Conduct Problem. There are other numbers of pairs of co-morbidity but it only depends on the availability of these disorders in each student; some have more than one different disorder, and some have more than two different disorders. The role of self-efficacy is not unknown to us in the student's achievement, so in order to work on their self-efficacy; we must know the causes of different problems faced by these students. These students require targeted interventions in the form of instructional tactics due to their significantly low levels of academic self-efficacy, which also impacts their overall academic performance. Mostafa (2018) unambiguously indicated that there exists a positive association between the academic self-efficacy and academic performance of pupils with learning disabilities. Multiple studies corroborate Bandura's (1977) research, which stated that a lack of self-efficacy is associated with worse academic accomplishment in students. These students should not be compelled to conform to societal norms; instead, they should receive individualized treatment and education that caters to their special requirements.

In order to check the possible pairs of the co-morbid conditions among students, ten (10) specific disorders/disabilities have been taken.

For this research, the following 10 learning disabilities/disorders have been considered:

➤ **Dyslexia (Dys-L)**

Reading disorder, i.e., Dyslexia, is a unique learning disability rooted in neurobiology, marked by challenges in precise and/or smooth identification of words,

as well as challenges in spelling and decoding (Lyon et al., 2003). Dyslexia is a learning challenge that impacts individuals who struggle with reading. It's characterized by difficulties in sounding out words, confusion about letter order, and challenges in decoding text. Those with dyslexia may also face difficulties in spelling, writing, and pronouncing words. Dyslexia presents challenges across individuals' lifespans, though its effects may vary based on geographical locations. It can hinder academic success for students, but the exact causes remain elusive. Anatomical and brain imaging studies indicate differences in brain development and function among individuals with dyslexia. Moreover, many individuals with dyslexia struggle with phonological awareness and letter-sound correspondence, contributing to reading difficulties. Importantly, dyslexia does not stem from a lack of intelligence or motivation to learn; individuals with dyslexia can thrive academically with appropriate teaching methods. Approximately 13-14% of students residing in the United States are eligible for special education, and about half of them have a learning disability, mainly in the areas of reading and language processing. However, a larger portion of the general population, possibly 15-20%, exhibits symptoms of dyslexia, such as slow reading, poor spelling, or difficulty distinguishing similar words. Although not all individuals with these symptoms qualify for special education, they may encounter academic challenges and benefit from targeted instruction in reading, writing, and mathematics. While not all individuals displaying symptoms of dyslexia will meet the criteria for special education, they are prone to encountering challenges in different academic areas and could gain advantages from receiving systematic, clear instruction in reading, writing, and arithmetic (Moats & Dakins, 2008). Numerous studies worldwide underscore the significant occurrence of dyslexia among students, with reported rates ranging from 3.9% to 27% (Yang et al., 2022; Sun et al., 2013; Shaywitz et al., 2020). Research specifically focusing on Indian children suggests that dyslexia affects 10-15% of this population, with prevalence rates ranging from 6% to 13.67% (Rao et al., 2017b; Rajesh & Sunny, 2021b). The impact of dyslexia varies depending on its severity and the effectiveness of instructional or remedial interventions. The main difficulties centre on word recognition, reading fluency, spelling, and writing. Although some individuals with dyslexia may perform well in early reading and spelling activities, they may later struggle with more advanced language skills such as grammar, comprehending textbook material, and essay writing. Even after being exposed to good language models at home and good

language instruction in school, people with dyslexia can struggle with spoken language. They may struggle to express themselves clearly or fully comprehend what others are saying when they speak (International Dyslexia Association, 2020). ADHD, CD, and ODD are often co-morbid with dyslexia. Research indicates that individuals with dyslexia exhibit significantly higher rates of internalizing and externalizing syndromes compared to their non-dyslexic counterparts (Darweesh et al., 2020). Furthermore, over 60% of children with dyslexia meet the criteria for at least one additional psychiatric diagnosis, highlighting the high level of co-morbidity (Catts et al., 2005).

➤ **Dysgraphia (Dys-G)**

Dysgraphia is also a learning disability that has an impact on writing skills. It can manifest as spelling problems, poor handwriting, and difficulty putting thoughts on paper. Dysgraphia is defined as a difficulty or inability to communicate clearly and correctly through written language, writing is a crucial skill for both learning and daily activities, starting to develop in early childhood and continuing to evolve throughout the school years (Chung et al., 2020). This assessment must be tailored to the patient's age and level of education. Syntax errors, illegible handwriting, unusual spelling, and incorrect word production are all common. Writing is a complex task that necessitates the flawless coordination of higher levels of complex cognitive domains, such as expressive language and fine motor skills (Rocha & De Jesus 2022). Dysgraphia can present with a variety of symptoms at various ages. Several hypotheses have been proposed to explain the mechanisms of Dysgraphia. Dysgraphia is poorly understood and frequently goes undiagnosed. It frequently co-occurs with other learning and psychiatric disorders. The educational system is typically responsible for the diagnosis and treatment of Dysgraphia and specific learning disorders; however, the paediatrician can play an important role in the surveillance and evaluation of co-morbidity, as well as the provision of guidance and support (Chung et al., 2020). Dysgraphia is more than just having bad handwriting. The brain cannot convert mental language into written images in Dysgraphia, a neurologic disorder that impairs written expression. It is distinguished by writing abilities that are significantly below average for an individual's age, intellect, and education, and it severely impedes personal achievement. Dysgraphia patients have distorted writing (such as letters that are incorrectly sized or spaced) and incorrect word choices, in addition to poor penmanship. Other signs and symptoms include an awkward pencil

grip and body position, unfinished or omitted words in sentences, difficulty with syntax structure and grammar, and a significant gap between what he wrote and what he meant to convey, as indicated by his spoken comments (Quillen et al., 2008). Research indicates that the prevalence of Dysgraphia in children ranges from 5% to 10% in the general population and from 7% to 15% among school-age children (Orim & Ezekiel, 2017b; Dunn et al., 2020). Additionally, Dysgraphia is diagnosed more frequently in boys than in girls (Devillaine et al., 2021). Dysgraphia can occur independently, but it is more commonly found as co-morbidity with other learning disorders such as Dyslexia, ADHD, Developmental Coordination Disorder, and Autism. Research estimates that 30% to 47% of children who have difficulties with writing will also exhibit reading problems (Chung et al., 2020).

➤ **Dyscalculia (Dys-C)**

Dyscalculia is a learning disorder that causes challenges in understanding and performing mathematical concepts and operations. Dyscalculia is a neurological condition that affects school-level mathematics skills and hinders a person's capacity to grasp number-related concepts, execute precise mathematical calculations, engage in reasoning and problem-solving, and carry out fundamental mathematical tasks (Kunwar, 2022). Similar to other learning disabilities, Dyscalculia is classified as a "Specific Learning Disorder" (SLD) in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5). Individuals who have Dyscalculia may encounter challenges when attempting to visualize patterns, dissect various components of a math problem, or pinpoint essential information required for solving equations and tackling more intricate problems. Dyscalculia can happen to people of any age or skill level and is not what you'd normally expect. It's part of a range of math problems that can affect people differently. Math difficulties aren't just one thing; they can be caused by many reasons. Dyscalculia is at one extreme of these difficulties. You can tell it apart from other math problems because it's usually much harder for the person when it comes to understanding numbers and things like quickly recognizing how many objects there are subitising, comparing numbers, and putting numbers in order (The British Dyslexia Association). Approximately 11% of children with ADHD are also diagnosed with dyscalculia (Soares et al., 2018). Furthermore, other learning disorders like dyslexia and Dysgraphia are common, impacting up to 45% of children with ADHD (Dupaul et al., 2012). Dyscalculia, often co-morbid with dyslexia, is a learning disability related to reading. Approximately half of children

with dyscalculia also have dyslexia (Morsanyi et al., 2018). Dyscalculia is a condition that hasn't been studied as much as dyslexia. In fact, there are 14 times more studies on dyslexia than on dyscalculia, even though both conditions are equally common (UNESCO). The estimated prevalence of dyscalculia in school populations ranges from 3 to 6 %, although specific figures may vary (Shalev et al., 2000).

➤ **Dysphasia (Dys-P)**

Dysphasia, also known as Developmental Language Disorder (DLD), is marked by a distinct difficulty in acquiring language skills, affecting both expressive and receptive language abilities. This impairment occurs without the presence of other contributing factors such as hearing loss, abnormalities in peripheral speech mechanisms, intellectual disabilities, personality disorders, traumatic brain injury, or severe emotional or psychotic conditions (Tallal et al., 1991b). This condition manifests through compromised language production and comprehension abilities due to neurological impairments in the language-dominant regions of the brain (Top Doctors, 2015). Dysphasia, also referred to as specific language impairment, language delay, or developmental dysphasia, is a common developmental disorder. It affects about 7% of children, which equates to roughly one in every 14 kindergarten-age children (Tomblin et al., 1997; Norbury et al., 2016). This disorder persists into adulthood and significantly influences academic and social aspects of life. Children diagnosed with dysphasia often exhibit additional learning disabilities and are prone to difficulties in phonemic decoding essential for reading, and their writing may exhibit syntactic inaccuracies and restricted lexical variety. These children also experience challenges in comprehending and organizing thoughts into coherent discourse, which can further extend to difficulties in solving mathematical problems presented in a linguistic context. It has been noted that individuals with Dysphasia are at a heightened risk for co-morbid conditions such as dyslexia, with adult prevalence rates of related reading and spelling disabilities being six times higher, and mathematical disabilities four times higher, compared to those without Dysphasia (National Institute on Deafness and Other Communication Disorders, 2017). Further, the condition is not limited to childhood; it can also be acquired in adulthood, affecting both genders equally and adding approximately 180,000 new cases annually in the United States alone. Currently, about two million Americans are living with the condition (National Aphasia Association). Additionally, about 2% of children with a language disorder also have co-occurring conditions like autism or intellectual

disability (Norbury et al., 2016). Empirical studies emphasize the significance of the initial six months of life as critical for language development, asserting that early linguistic exposure, ideally before school age, is crucial for achieving full linguistic competence (Kuhl, 1994; Yeung & Werker, 2009). This foundational period is essential for setting the trajectory for language acquisition and cognitive development, highlighting the importance of early diagnosis and intervention in cases of developmental dysphasia.

➤ **Dyspraxia (Dys-Pr)**

Dyspraxia is a neurodevelopment disorder marked by poor motor coordination and challenges in learning motor skills in children who otherwise have normal health and gross neurological exams. Dyspraxia, which is also known as Developmental Coordination Disorder (DCD), is a condition that can negatively impact multiple areas of a child's life, including social interactions and academic performance (Castellucci & Singla, 2024). Although dyspraxia does not impair cognitive abilities, it poses significant challenges in keeping pace with academic demands, thereby making learning more arduous compared to peers. The resultant frustration, embarrassment, and stigma from these struggles can contribute to social difficulties, as well as increased risk of Depression and Anxiety (Dyspraxia DCD America). Dyspraxia is a lifelong condition; however, individuals can learn strategies to manage their difficulties and lead fulfilling lives with appropriate support and accommodations (Castellucci & Singla, 2024). This disorder predominantly affects school-aged children and may be exacerbated by other neuro-developmental disorders such as Dyslexia and ADHD, which impact attention, language, and reading abilities (Prunty & Barnett, 2019). Often referred to as a “hidden problem”, Dyspraxia has an estimated prevalence of up to 10% (BBC Health, 2006). Reports indicate that it affects males four times more often than females (Gordon & McKinlay, 1981). Children and adolescents with Dyspraxia may exhibit behavioral or learning difficulties, such as Dyslexia, which should be considered co-morbidities rather than integral components of Dyspraxia itself. Research shows that more than half of children with coordination difficulties also have attention problems, leading to a disorder known as deficits in attention, motor control, and perception (Kadesjö & Gillberg, 1999; Gillberg, 2003). The prevalence of Dyspraxia has been reported at 21.4%, with a high rate of co-morbidities among affected children. Many of these

children meet the criteria for multiple conditions, including Dyspraxia, Reading Disability (RD), and Attention Deficit Hyperactivity Disorder (Kaplan et al., 1998). Early detection and timely referral of children experiencing significant functional challenges are essential. Early intervention programs have shown promising outcomes in enhancing coordination and motor skills, which can lead to lasting benefits. Consequently, individuals affected by these interventions are likely to experience enhanced self-esteem, improved socialization, and greater success and satisfaction in community engagement (Gibbs et al., 2007). Estimates of dyspraxia prevalence vary, with UK researchers reporting between 4-5% (Lingam et al., 2009) and De Milander & Kemp (2014b) reporting a prevalence of 15%. Although DCD affects children globally, prevalence rates differ significantly across countries.

➤ **Anxiety Disorder (Anx)**

Anxiety, marked by excessive worry, fear, and ongoing feelings of apprehension, has a profound impact on daily life (Mohammadi et al., 2020). It presents in different forms including generalized anxiety disorder (GAD), social anxiety disorder, panic disorder, specific phobias, separation anxiety disorder, and agoraphobia. Symptoms often include excessive worry, restlessness, difficulty concentrating, irritability, muscle tension, and disturbances in sleep. Anxiety disorders are prevalent among paediatric populations worldwide, with rates ranging from 2% to 31% (Spence et al., 2017). These conditions, along with their associated co-morbidities, not only distress children, adolescents, and families but also have detrimental effects on educational attainment and social functioning into adulthood (Essau et al., 2000; Hossain et al., 2021). Moreover, anxiety disorders elevate the risk of other mental health issues, including depression and suicidal behavior, persisting into adulthood (Woodward & Fergusson, 2001). The prevalence of anxiety disorders shows global variation. In Germany, rates were reported as 6.3% among children aged 7-10 years and 4% among adolescents aged 11-17 years (Ravens-Sieberer et al., 2008). In the US, a survey found a lifetime prevalence of 31.9% among adolescents (Merikangas et al., 2010), while Austrian adolescents showed a prevalence of 15.6% (Wagner et al., 2017). Rates of co-morbidity with other mental disorders vary widely, spanning from 17% to 60% (Shen et al., 2018; Walkup et al., 2008), with depression and ADHD frequently co-occurring with anxiety disorder (Choi et al., 2020; Shen et al., 2018; and D'Agati et al., 2019). In China, anxiety disorders were found to affect 4.7% of school students aged 6-16 years, with Generalized Anxiety Disorder (GAD) being the

most prevalent subtype at 1.3% (Wang et al., 2024c). Gender differences were observed, with rates of 13.2% in boys and 15.1% in girls (Mohammadi et al., 2020). Given the limited research in India, further exploration of anxiety disorders in school-aged children is necessary (Deb et al., 2010). Anxiety is a prevalent psychological disorder in school-aged children worldwide (Costello et al., 2003), having a notable impact on emotional, social, and academic achievements (Essau et al., 2000). Notably, consequences such as school avoidance, decreased problem-solving abilities, and lower academic achievement are frequently observed (Donovan & Spence, 2000; McLoone et al., 2006; Rapee et al., 2005), highlighting its impact on learning and performance (McDonald, 2001).

Early assessment of anxiety disorders is crucial, considering their varied severity and potential long-term consequences (Beesdo et al., 2009). These conditions negatively affect cognitive, behavioral, and social abilities, resulting in challenges such as academic struggles, diminished self-esteem, and potential depression (Waite et al., 2015). Prevalence studies and understanding predicting factors and co-morbidities are vital for evaluating disease progression and designing effective interventions (Mohammadi et al., 2020).

➤ **Attention-Deficit/Hyperactivity Disorder (ADHD)**

It is a prevalent neuro-developmental disorder in childhood, marked by symptoms such as hyperactivity, impulsivity, and inattention (American Psychiatric Association, 2013). These symptoms typically appear during the school-age years, affecting boys more often than girls, and frequently continue into adulthood (Barkley et al., 2002). It often initiates in childhood and can extend into adulthood, impacting multiple domains including academic performance, occupational functioning, and interpersonal relationships. Diagnosis of ADHD usually relies on criteria delineated in diagnostic manuals such as the DSM-5 (Seo et al., 2022c). Research indicates a significant association between ADHD and psychiatric co-morbidities, complicating its clinical presentation (Cumyn et al., 2009). The co-occurrence of psychiatric disorders with ADHD in children and adolescents varies widely, ranging from 40% to 80% in different studies (Gillberg et al., 2004; Elia et al., 2008; Larson et al., 2011; Wilens et al., 2002; Yoshimasu et al., 2012). Additionally, a substantial proportion of individuals with ADHD face learning challenges, with over 45% exhibiting significant difficulties in reading, arithmetic, or spelling (Barkley & Russell, 2014; DuPaul et al., 2013). Anxiety disorders and behavioral disorders are among the most

commonly associated conditions, with prevalence rates of 37.9% and 31% respectively (Mohammadi et al., 2019). These co-occurring conditions add to the complexity of managing ADHD (Verkuijl et al., 2015). A study focused on children in the United States aged 6 to 17 revealed that 8.2% had been diagnosed with ADHD, with a majority also showing at least one concurrent condition such as a learning disability (46%), conduct disorder (27%), anxiety (18%), or depression (14%) (Larson et al., 2011b). The existence of psychiatric coexisting conditions adds complexity to the diagnostic process for students with ADHD. The overlap of symptoms between ADHD and other psychiatric disorders can result in misdiagnosis and inappropriate treatment (Katzman et al., 2017). Early identification of ADHD is essential as it enables prompt intervention and assistance in managing symptoms and related difficulties. Research suggests that early recognition and intervention can lead to better outcomes in academic performance, social interaction, and overall quality of life for individuals with ADHD (Seo et al., 2022). Precise diagnosis allows for the formulation of tailored treatment plans that address specific requirements and concurrent conditions effectively (Reale et al., 2017b).

➤ **Obsessive-Compulsive Disorder (OCD)**

It is a common psychiatric condition marked by intrusive, distressing thoughts (obsessions) and repetitive behaviors or mental rituals (compulsions) carried out in response to these obsessions (American Psychiatric Association, 2013; Pittenger, 2017). The onset of OCD can occur as early as 3-4 years old and is also seen in individuals over 70 years old (Lewin et al., 2014; Sharma et al., 2021; Weiss & Jenike, 2000). On the other hand, the highest rates of occurrence typically occur in the pre-adolescent and early adult years, with an average beginning age of 11 and 23, respectively (Albert et al., 2015; Taylor, 2011). OCD persists throughout the lifespan, affecting individuals across various age groups (World Health Organization, 2005; Krebs & Heyman, 2014; Jacoby et al., 2014). The impact of OCD extends beyond the individual, affecting their functioning in various domains. Children and adolescents diagnosed with OCD may encounter challenges with focus, school achievement, and completing everyday activities (Piacentini et al., 2003). The prevalence of OCD is particularly elevated among adolescents aged 10-18 years, underscoring the significance of early intervention during crucial developmental phases (Mohammadi et al., 2021). OCD frequently accompanies other psychiatric disorders, further complicating its clinical presentation. Studies have demonstrated associations

between OCD and conditions such as depression, anxiety disorders, mood disorders and ADHD (Desouky et al., 2015b; Blanco-Vieira et al., 2019; Paul et al., 2015a). Co-morbidities are common in OCD, with rates ranging from 67% to 92%, and frequently including mood and anxiety disorders, ADHD, tic disorders, and psychotic disorders (Taylor, 2011; Pallanti et al., 2011; Huppert et al., 2009; Goodman et al., 2006; Leckman et al., 2009; Ortiz et al., 2015). Recognizing these concurrent conditions is essential for precise diagnosis, effective treatment strategies, and ongoing care (Sharma et al., 2021). Despite the commonality of OCD, epidemiological data in specific regions like India is still sparse, highlighting the necessity for more extensive research in this field (Reddy et al., 2010). Such studies can deepen our comprehension of the disorder's effects and guide the creation of customized interventions and support measures for those affected.

➤ **Autism Disorder (AD)**

It is a complex neuro-developmental condition characterized by challenges in social communication, restricted interests, and repetitive behaviors (American Psychiatric Association, 2013). Symptoms typically emerge early in life and can persist throughout an individual's lifespan, affecting not only the individuals themselves but also their families, caregivers, and communities (Croen et al., 2006). Studies show that individuals with ASD have a higher occurrence of common mental health disorders compared to neurotypical individuals (Romero et al., 2016; DeFilippis, 2018). Nearly 70% of individuals with ASD may have at least one concurrent psychiatric disorder, and around 40% may experience two or more such conditions (DeFilippis, 2018). Additionally, studies highlight that individuals with ASD face significantly shorter lifespans due to co-morbidity (Bennett, 2017).

Co-morbid medical and mental health conditions are prevalent among individuals with ASD, with approximately 85% of children with autism receiving a co-morbid psychiatric diagnosis, and about 35% undergoing treatment with psychotropic medications (Bennett, 2017). These co-morbidities can significantly impact behavior, development, and overall health, often mirroring the core symptoms of autism itself (Rasmuson, 2022). A wide range of psychiatric disorders, including anxiety, depression, bipolar disorder, schizophrenia, suicidal behavior, eating disorders, substance abuse, and more, are commonly observed in individuals with ASD (Hossain et al., 2020). Moreover, children with autism may also exhibit symptoms of other neurological conditions, further complicating their clinical picture (Pan et al., 2020b).

Recognizing and addressing these co-morbidities are crucial for optimizing long-term outcomes for individuals with autism. Early identification, appropriate interventions, and a collaborative approach to managing both autism and its associated conditions are essential (Rasmuson, 2022). Increasing awareness among stakeholders about the prevalence and impact of ASD and its co-morbidities is vital for promoting understanding and support for affected individuals and their families (Bougeard et al., 2021).

➤ **Tic Disorder (TD)**

Tic Disorder is characterized by sudden, rapid, recurrent, non-rhythmic motor movements or vocalizations are the hallmark of Tourette syndrome (TS) (American Psychiatric Association, 2013). TD categorized as motor or vocal tics, and then as simple or complex. Simple tics consist of brief, repetitive movements or sounds involving one muscle group, whereas complex tics entail more coordinated and purposeful sequences of movements or vocalizations, with simple motor tics involving brief, abrupt, and repetitive movements of one muscle group or body part (Smith, 2016c). Motor tics typically affect the eyes and mouth most frequently, with the neck and limbs also commonly involved (Ganos et al., 2015; Pappert et al., 2003). Onset typically occurs between ages 3 and 8, peaking in severity around ages 10 to 12 (Bloch & Leckman, 2009). While simple motor tics often initiate in childhood and tend to diminish within a year, some may persist and lead to social embarrassment, physical discomfort, or emotional impairments (Ueda & Black, 2021b). Higher rates of TD were noted in boys, children with special education requirements, and those with co-occurring disorders (Knight et al., 2012), the estimated frequency of TD in children ranges from 0.3% to 0.9% (Kraft et al., 2011). Indeed, TD often coexists with other psychiatric disorders, such as ADHD and OCD, anxiety, depression, migraine, autistic spectrum disorder, sleep disturbances and self-injurious behavior (Stafford & Cavanna, 2020; Eddy et al., 2010; Ghosh et al., 2014; Kwak et al., 2003; Marwitz & Pringsheim, 2018; Piedad & Cavanna, 2016; Robertson, 2002; Srouf et al., 2008). Research indicates that 85-88% of TD patients have at least one co-morbid psychiatric condition, often emerging in early childhood (Freeman et al., 2000; Hirschtritt et al., 2015). Among TD patients, ADHD and OCD are the most common co-morbidities, affecting around 30% of individuals (Stafford & Cavanna, 2020; Hirschtritt et al., 2015). Compared to children with TD alone, the frequency of learning difficulties is higher in children with both TD and ADHD (Schuerholz et al., 1996). Addressing

educational challenges, such as providing additional support and accommodations, is essential for optimizing academic outcomes in these children (Pérez-Vigil et al., 2018). Research on tic disorders in children and adolescents in India remains limited (Karki et al., 2020). Furthermore, childhood psychiatric co-morbidities significantly predict tic disorder persistence into adulthood (Mataix-Cols et al., 2023). Despite advancements in understanding and treatment, misconceptions about tic disorders persist, underscoring the importance of accurate education and awareness efforts (Ueda & Black, 2021). In conclusion, comprehensive understanding of tic disorder, including their prevalence and associated co-morbidities, is crucial for delivering effective care and support to affected individuals and their families.

1.1.2 ACADEMIC PROBLEM

Academic problems refer to difficulties that students encounter in areas such as reading, writing, mathematics, or other school subjects, which significantly interfere with their educational performance. These problems can include struggles with specific subjects, learning disabilities, poor study habits, lack of motivation, or external factors such as socioeconomic challenges, language barriers, inadequate school resources, or disabilities that impact academic performance (Snow et al., 1998). Academic problems among school students with co-morbid conditions are characterized by persistent difficulties in learning, including challenges in reading, writing, comprehension, memory, attention, and academic performance. These issues are not solely due to intellectual limitations but are often the result of underlying neuro-developmental disorders like ADHD, Specific Learning Disorders (SLD), and Autism Spectrum Disorder (ASD), compounded by negative peer and teacher attitudes, bullying, inappropriate curricula, and lack of inclusive practices (Suja & Elamaram, 2024; Greenway & Edward, 2021; Anand & Khan, 2020). Research shows that students with SLD, especially those with additional emotional or behavioral difficulties, frequently struggle with working memory and written expression, which hinders their academic success over time (Chieffo et al., 2023). Furthermore, autistic students often face unique academic barriers, including memory-related difficulties and limited systemic support, further exacerbating their educational challenges (Ahmed, 2021).

Every educational institution aims to provide equal learning opportunities to all students. However, several learners encounter academic difficulties that can lead to underachievement, social isolation, or even school dropout. Research highlights that students with co-morbid conditions often face persistent academic challenges which, if left unaddressed, can severely affect their school engagement and performance, sometimes resulting in early dropout or exclusion from mainstream education (Suja & Elamaran, 2024; Chieffo et al., 2023). These challenges may arise from poor time management, lack of interest in subjects, limited attention from teachers, behavioral concerns, bullying, or anxiety related to performance. While some academic problems can be addressed early with specialist intervention, others persist, affecting a student's self-esteem and peer relationships over time (Sam, 2013).

According to the DSM-IV, difficulties in academic achievement may be linked to specific learning disorders (SLDs), which often require structured educational interventions. These difficulties are commonly observed in early schooling years and manifest as consistent struggles in reading, writing, mathematics, or attention-related tasks. Students may also experience emotional and motivational barriers that hinder learning, such as fear of failure, performance anxiety, or feeling overwhelmed by academic demands (Anand & Khan, 2020).

Academic problems are not limited to students with learning disabilities. Neurodiverse learners - including those with ADHD, SLDs, or other co-morbid conditions - may face significant barriers in organizing, processing, and retaining academic content compared to their neurotypical peers (Anand & Khan, 2021). These challenges are often misinterpreted as laziness or lack of intelligence, while in reality; they reflect a different cognitive processing style (Grigorenko et al., 2020; Caldani et al., 2022; Sahoo et al., 2015).

A Counseling Centre by the University of Maryland stated that academic problems are quite frequent among students. These issues could include: poor study habits, procrastination, test anxiety, lack of organization, and difficulty following instructions.

These kinds of problems and challenges could be caused by a number of things, including:

- Overburden Classes.
- Poor focus or ADHD can make learning and studying difficult.

- Over time, the complexity of the coursework has risen.
- Having a learning disability that makes studying, organizing, and comprehending course content difficult.
- Having a mental ailment that impairs motivation and concentration, such as depression or anxiety.
- Procrastination is a result of perfectionist thinking.
- Consider a style of learning that does not align with the course's format, such as oral lectures without aids like pictures, when you are a visual learner.

Davis (2021) mentioned following common problems of students which affect their learning badly:

- Disorganization.
- Eating wrong and staying unhealthy.
- Unable to manage money.
- Failing to network.
- Homesickness.
- Keeping grudges in relationships.
- Not studying or reading enough.
- Wrong sleep habits.

To effectively support such students, educators must first identify specific problem areas clearly. Wright (2015) emphasized the importance of detailed problem identification that meets the "stranger test" - meaning the issue should be described clearly enough for an unfamiliar observer to understand. Teachers should align instructional strategies with student abilities, explore underlying causes of academic underperformance, and offer targeted interventions (Indumathi, 2023; Lai et al., 2024; Senkowski, 2024). Understanding the broad spectrum of academic difficulties - including reading disorders, auditory or visual processing issues, non-verbal learning difficulties, and problems with social cue interpretation - is essential to fostering an inclusive educational environment (Grigorenko et al., 2020; Caldani et al., 2022; Brookman et al., 2017).

The literature reveals a broad spectrum of academic challenges experienced by students with disabilities across various contexts. A recurring issue across multiple studies is the negative impact of inadequate teacher training, poor implementation of inclusive policies, and lack of appropriate instructional strategies, which hinder

effective learning in inclusive settings (Suja & Elamaran, 2024; Mukherjee et al., 2021; Taneja et al., 2021; Greenway & Edward, 2021). Students with Specific Learning Disabilities (SLD) were found to struggle significantly with academic skills such as writing, working memory, and overall cognitive development, often accompanied by emotional and behavioral impairments that exacerbate their learning difficulties (Chieffo et al., 2023; Anand & Khan, 2020). Similarly, students diagnosed with ADHD consistently demonstrated academic problems linked to deficits in attention, memory, executive functioning, and behavioral regulation (Chawla et al., 2022; Lagacé et al., 2022; Greenway & Edward, 2021). The presence of anxiety disorders, including Generalized Anxiety Disorder (GAD) and Social Anxiety Disorder (SAD), was also strongly correlated with academic difficulties, emphasizing the need for mental health interventions within school environments (Kajastus et al., 2023). Physical and structural barriers, overcrowded classrooms, inappropriate curriculum design, lack of teaching-learning materials, and administrative negligence were additional factors that impaired academic progress, particularly in inclusive and mainstream settings (Suja & Elamaran, 2024; Anjum et al., 2022; Mukherjee et al., 2021; Ahmed, 2021). Furthermore, students with neurological conditions like epilepsy and Tourette Syndrome (TS) faced unique cognitive and academic impairments, especially when compounded by socioeconomic disadvantages or psychiatric co-morbidities (Schraegle et al., 2023b; Set & Warner, 2021). Across studies, writing and reading challenges emerged as the most commonly affected academic skills (Chieffo et al., 2023; Howard-Gosse et al., 2023), and there was consistent emphasis on the importance of early, tailored, and multi-dimensional interventions aimed at enhancing academic performance, promoting emotional well-being, and supporting social integration for students with disabilities (Suja & Elamaran, 2024; Chawla et al., 2022; Lagacé et al., 2022).

The sole difference between neuro-diverse (students with some disability) from neuro-typical students (Normal Students) is how they perceive and process information (Anand & Khan, 2021). SLD students are not dumb or lazy either they process information in different way & face various academic problem (Anand & Khan 2020) but the students with co-morbid condition have higher academic problems (Alqahtani 2010) with negative thoughts, poor time management and self-dissatisfaction (Kwon 2018) and these academic problems worsen with time if not identified and treated early (Lopes 2007).

1.1.3 ACADEMIC SELF-EFFICACY

Bandura (1977) describes self-efficacy as the conviction that one possesses the necessary abilities to carry out actions needed to handle upcoming challenges. Academic self-efficacy significantly impacts a student's academic attainment or performance. Academic self-efficacy simply means the student's perception of themselves about their capabilities and abilities to achieve success in their educational life. Students who possess high academic self-efficacy explain their failures to a lack of effort, while those with low self-efficacy prefer to ascribe their failures to an assumed lack of ability (Kurbanoglu & Kin, 2010). Students that possess a robust sense of self-efficacy typically have confidence in their own abilities and proactively seek solutions when faced with difficulties or challenges (Sadi & Uyar, 2013). A study was done on a sample of 214 students, and the findings revealed a substantial and positive link between academic accomplishment and academic self-efficacy (Alyami et al., 2017). Additional studies have also confirmed the correlation between students' belief in their ability to succeed academically and their actual academic performance (Doménech-Betoret, et al., 2013; Sadi & Uyar, 2013). All of the aforementioned research has shown the importance of academic self-efficacy in pupils. From these studies, it can be inferred that if average students require self-efficacy for their academic success, then students with disabilities should possess an even higher level of academic self-efficacy. The researcher in the present study defines academic self-efficacy as a belief of co-morbid students towards their capabilities and abilities in order to achieve success in educational life. The students who experienced failure believe that it diminishes their academic self-efficacy and at the same time successful students mentioned high self-efficacy as a main reason behind their success. Cultivation of positive self-belief among these students is the best strategy to accredit them towards their academic success. The students themselves admit that their self-belief boosts their energy level and helps them to work hard for their success which results in a positive educational outcome (Wang and Neihart, 2015). The students who had self-belief in their abilities and had a more positive attitude towards themselves showed better results in academic performance (Hayat et al., 2020). In contrast, low self-efficacy negatively impacts mental health, and high self-efficacy proved to be good for high mental health (Bavojdan et al., 2011). Students exhibiting elevated levels of anxiety had diminished self-efficacy as

well as poorer academic accomplishment (García et al., 2020). Learning disabled students alone still show a strong sense of self-efficacy but in co-morbid students, very low self-efficacy is reported (Margalit et al., 2020). In short, academic self-efficacy is a base of all-round achievement. Self-efficacy has a direct correlation with academic success, making it crucial for parents and instructors to focus on improving their child's self-efficacy. Let your child/student trust herself/himself as it is the only way to make your child what she/he intends to make herself or himself. As we know, the difficult task is to identify the co-morbidity in the class, so instead let each student have a taste of self-efficacy so that, in spite of co-morbidity they achieve what they think they are capable of.

1.1.4 ACADEMIC ACHIEVEMENT

Academic achievement refers to the extent to which a student successfully attains specific educational goals, as reflected in performance across curricular and co-curricular domains. According to Good (1973), academic accomplishment is defined as the acquisition or proficient execution of knowledge or expertise in a particular subject area. Thus, it reflects the learning outcomes of a student, commonly measured through examinations, assessments, and academic records.

Academic achievement is not determined by a single factor; rather, it is shaped by a complex interplay of various personal, familial, institutional, and psychological influences. External variables such as effective teaching, supportive parenting, conducive learning environments, and availability of resources play a crucial role in shaping a student's academic journey (Wibrowski, 2017). Internally, cognitive abilities, emotional intelligence, self-regulated learning, personal motivation, and positive emotional states have been identified as critical determinants of academic success (Preeti, 2013; Mega & Ronconi, 2014).

In addition to these general factors, academic performance is significantly influenced by individual differences and neuro-developmental profiles. Students with Specific Learning Disabilities (SLDs), Attention Deficit Hyperactivity Disorder (ADHD), or co-morbid conditions such as anxiety and depression often face compounded academic challenges (Chieffo et al., 2023; Henning et al., 2021; Martinez et al., 2021b). These students may exhibit difficulties in concentration, organization, memory retention, and task completion, which in turn impede their learning process and academic performance (Español-Martín et al., 2023; Sepulveda & Espina, 2021).

Studies show that such students frequently underperform in comparison to their neurotypical peers, particularly when symptoms of inattention and behavioral issues co-exist (Henning et al., 2021; Dupaul et al., 2021).

Moreover, poor academic performance in adolescence has been correlated with elevated risks of long-term psychosocial difficulties, including substance use disorders, mental health challenges, and lower career attainment in adulthood (Weckström et al., 2023b). These outcomes are exacerbated when early academic issues remain unaddressed. However, research also emphasizes the potential for positive change. For instance, disability acceptance has been linked to improved academic self-confidence and belief in one's ability to succeed, thereby acting as a protective factor (Zapata & Worrell, 2023).

In light of these findings, it becomes imperative for educators and policymakers to adopt a multi-dimensional approach to understanding academic achievement. This includes early identification of learning difficulties, provision of emotional and academic support, individualized instructional strategies, and the cultivation of a positive academic environment. Recognizing the diverse range of variables that influence academic outcomes ensures that no student is left behind in the pursuit of educational success.

1.2 THEORETICAL FRAMEWORK OF STUDY

The present study aimed to identify students with co-morbid conditions among government middle school students, to examine the academic problems they face, to explore their levels of academic self-efficacy, and to assess their academic achievement. Additionally, the study sought to determine the relationship between academic self-efficacy and academic achievement among these students.

The present study is grounded in Bandura's Social Cognitive Theory, which emphasizes the role of self-efficacy in shaping human behavior and academic outcomes. According to this framework, individuals' beliefs about their capabilities significantly influence their motivation, persistence, and academic performance. In the context of education, academic self-efficacy acts as a key mediator between personal challenges (such as neuro-developmental disorders) and academic achievement.

Research shows that students experience co-morbidity - the simultaneous occurrence of two or more learning or psychological disorders such as Dyslexia, Dysgraphia, Dyscalculia, ADHD, Anxiety, or OCD - often struggle with academic tasks (Grigorenko et al., 2020; Visser et al., 2020; Sahoo et al., 2015; Khodier et al., 2020; Brookman et al., 2017; Darweesh et al., 2020; Bougeard et al., 2021). These struggles are not only due to the disorders themselves but also due to the negative beliefs that develop around one's ability to perform, i.e., low academic self-efficacy (Sahoo et al., 2015; Grigorenko et al., 2020; Anderson et al., 2023; Budd et al., 2016). For instance, a student with both ADHD and Dyslexia may find it hard to focus and read fluently, which results in repeated failures. These repeated failures can reduce the student's confidence, leading to poor self-efficacy and, consequently, poor academic achievement (Caldani et al., 2022; Brookman et al., 2017; Grigorenko et al., 2020; Budd et al., 2016).

Academic self-efficacy serves as a crucial psychological mechanism that either buffers or exacerbates the effects of co-morbidity. Students experiencing co-morbid conditions but possessing strong self-efficacy tend to demonstrate greater perseverance in completing tasks and are more inclined to seek support when needed (Anderson et al., 2023; Grigorenko et al., 2020). In contrast, those with lower self-efficacy are more susceptible to disengaging from academic activities and showing poor performance (Sahoo et al., 2015; Budd et al., 2016). Thus, co-morbidity is not only a predictor of academic difficulty but also influences how students perceive their ability to succeed in school (Grigorenko et al., 2020; Sahoo et al., 2015; Budd et al., 2016; Anderson et al., 2023).

The researcher developed a comprehensive diagnostic battery to identify middle school students (aged 11-15 years) exhibiting co-morbidity across various learning and psychological disorders, including Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, Dyspraxia, Anxiety, Attention Deficit Hyperactivity Disorder (ADHD), Obsessive Compulsive Disorder (OCD), Autism, and Tic Disorder. Following identification, demographic data were collected to establish a detailed profile of the co-morbid students. This process enabled the researcher to compile an extensive set of indicators for the recognition of diverse co-morbid conditions, thereby contributing valuable insights into the prevalence and patterns of co-morbidity.

To further understand the impact of these conditions, the academic performance of the identified students was assessed and examined in relation to their academic self-

efficacy, measured using a self-constructed and standardized scale. Additionally, the researcher designed semi-structured focus group interview schedules for both students and teachers to gain a comprehensive understanding of the academic problems faced by students with co-morbid conditions.

In summary, the theoretical framework posits the following chain:

Co-morbidity* → ↓ *ASE* → ↑ *Academic Problems* → ↓ *Academic Achievement

Understanding this interrelationship is essential for early identification, appropriate intervention, and better academic outcomes in inclusive educational settings.

CHAPTER - II

REVIEW OF LITERATURE

As outlined in the introduction and theoretical framework, the present research aims to examine the prevalence of co-morbidity among middle school students. It has been observed that many students experience learning disabilities in multiple areas, leading to co-morbid conditions. The literature on co-morbidity in the Indian context is limited. Therefore, it is essential to identify these students and examine their academic problems, academic self-efficacy, and academic achievements. In this section of the thesis, the researcher presents a thorough analysis of prior studies conducted in this field.

2.1 REVIEW OF RELATED LITERATURE

The reviews are organized under the following headings:

- Reviews of Studies related to Co-morbid Conditions among School Students
- Reviews of Studies related to Academic Problem among School Students with Co-morbidity
- Reviews of Studies related to Academic Self-Efficacy and Academic Achievement among School Students with Co-morbidity

2.1.1 REVIEWS OF STUDIES RELATED TO CO-MORBID CONDITIONS AMONG SCHOOL STUDENTS

Co-morbid is a condition when a student is having or experiencing more than one disability at a given time. The co-morbid conditions affect the mental, physical, academic, social life of a student in-fact the co-morbid conditions have a holistic effect on a child's life.

Chen et al. (2025) conducted a cross-sectional study to explore the comorbidity of depression and social anxiety among medical students. The nine-item Patient Health Questionnaire (PHQ-9) for measuring depression and the Interaction Anxiousness Scale (IAS) for evaluating social anxiety were administered on a sample of 456 medical students. Through network analysis, it was found that comorbidity between depression and social anxiety was evident, as several symptoms overlapped and

reinforced one another. The results suggest that the presence of such bridge symptoms contributes significantly to the co-existence of depression and social anxiety, indicating that the emotional burden of social situations and academic pressures are interrelated. The study recommends targeted interventions focused on these specific symptoms to effectively reduce comorbidity and support the mental well-being of medical students.

Yunitasari et al. (2025) focused on identifying the profiles of students with functional learning disabilities in 30 elementary schools in Lombok Timur, Indonesia, and explored the challenges faced by educators in providing appropriate interventions. Utilizing questionnaires, semi-structured interviews, and focus group discussions with 120 teachers, the research found that out of 2,763 registered students, 283 (approximately 10%) exhibited functional learning disabilities, with a higher prevalence among female students (58%) compared to male students (42%). The most common disabilities identified were cognitive impairments and dyslexia, followed by behavioral and emotional disorders. Educators reported significant difficulties in delivering effective interventions, citing a lack of specialized training, insufficient resources, and limited support systems. The study concluded that a collaborative approach involving schools, teachers, parents, and stakeholders is essential to develop and implement more effective inclusive education strategies, including enhanced teacher training, structured support programs, and improved communication channels between schools and families.

De Filippis et al. (2024) did a systematic study to explore the relationship between Bipolar Disorder (BD) and Obsessive-Compulsive Disorder (OCD), with a specific focus on investigating the prevalence rates of co-morbidity and the distinguishing aspects of the BD-OCD clinical construct. The review incorporated 102 articles, including 38 new studies and 64 from a previous systematic review, encompassing a diverse range of populations from various countries with a total sample size of 24,035 patients. The study adhered to the Cochrane Collaboration methods and followed the PRISMA guidelines. The researchers screened multiple databases for articles on BD-OCD co-morbidity published between March 2013 and October 2023. Inclusion criteria were based on specific diagnostic criteria for both disorders. Quality assessment was conducted using the Downs and Black checklist. The review examined the prevalence rates of co-morbid OCD in BD patients and co-morbid BD in OCD patients across 81 studies. More precisely, 44 studies examined how often

individuals who had bipolar disorder (BD) also experienced obsessive-compulsive disorder (OCD) during their lifespan. Additionally, 31 studies investigated the frequency of individuals with OCD also having BD throughout their life. Additionally, six studies investigated both prevalence rates, offering a comprehensive overview of the co-morbidity between these disorders. The findings underscore the importance of recognizing the unique challenges posed by the co-occurrence of OCD and BD. Clinicians are advised to consider these challenges and tailor treatment approaches to address the complexities of managing both disorders simultaneously.

Denis et al. (2024) aimed to evaluate the effectiveness of a dedicated mobile health app, Malo, in improving the screening of five neuro-developmental disorders (NDDs)-autism spectrum disorder (ASD), language delay, dyspraxia, dyslexia, and attention deficit hyperactivity disorder (ADHD)-among young parents in France, while addressing the issues, the prevalence of neuro-developmental disorders (NDDs) among children is a growing concern, with conditions such as autism spectrum disorder (ASD), language delay, dyspraxia, dyslexia, and attention deficit hyperactivity disorder (ADHD) affecting a significant number of students worldwide. ASD affects roughly 1 in 166 children, according to the findings, and other NDDs pose serious obstacles to social and academic achievement. In any case, timely treatments significantly impact the development and quality of life of impacted children. Early detection of NDD symptoms helps parents and caregivers to improve learning opportunities and put development-supporting intervention techniques into place, which can lessen the long-term effects of these diseases on students' academic careers and quality of life. Therefore, it is necessary to implement suitable screening tools and awareness campaigns to encourage early diagnosis and intervention, since children must get the support they require and deserve in order to thrive in their educational systems.

Ghamdi and Al Musailhi (2024) did a comprehensive review to explore the prevalence, neurobiological foundations, symptoms, assessment methods, and treatment strategies for children identified as having both Attention-deficit Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD). This review involved a thorough analysis of existing literature on the co-morbidity of ASD and ADHD, focusing on both children and adults affected by these conditions. The methodology involved doing a thorough examination of research that investigated the simultaneous presence of ADHD and ASD, genetic and environmental links,

prevalence rates, and effective diagnostic and therapeutic approaches. The review highlighted the rising prevalence of ASD and the difficulties in accurately diagnosing and managing ADHD in individuals with ASD. It emphasized the importance of customized psychosocial interventions and pointed out the limited effectiveness of ADHD medications alone in this population. Moreover, the review emphasized the necessity for additional research to elucidate the underlying mechanisms of co-morbid ASD and ADHD, mitigate the risk of misdiagnosis and inappropriate treatment, and devise more targeted interventions that cater to the distinct requirements of individuals experiencing both conditions.

Hanna et al. (2024) conducted a study to examine the prevalence of psychiatric comorbidities among children and adolescents who had attempted suicide, in India. The sample consisted of 50 patients attending a suicide prevention clinic. Participants were assessed using the MINI International Neuropsychiatric Interview for Children and Adolescents (MINI KID 6.0) to determine psychiatric comorbidity and suicidality, while the Brief Resilience Scale (BRS) was used to assess levels of resilience. The findings revealed that 54% of the participants had psychiatric comorbidities, with adjustment disorder (22%), major depressive disorder (10%), and oppositional defiant disorder (10%) being the most prevalent. Additionally, 46% had one comorbid psychiatric condition and 8% had more than one. A significant association was observed between family history of suicide and presence of psychiatric morbidity. Suicidality risk was moderate in 60%, low in 32%, and high in 8% of the participants, while 60% showed low resilience levels. The study emphasized the need for early identification and targeted intervention for young individuals presenting with suicide attempts, highlighting psychiatric evaluation as an essential component of their care.

Lai et al. (2024) aimed to determine the extent of implementation of key components of the Individuals with Disabilities Education Act (IDEA) throughout all 50 states and examine state policies on identification and evaluation for children aged 0 to 21 with suspected disabilities. The study was expanded to include all states and the District of Columbia, sending questions to state early intervention coordinators as well as preschool special education coordinators and school-age special education directors. There was also a representative national sample of 688 districts that included special education directors and preschool coordinators as primary respondents. Descriptive statistical methods were used, including counts and percentages from survey

responses and simple statistical tests to detect differences between percentages. The key findings pointed out that states have a procedure for identifying kids with disabilities (which is still not perfect), the identification process showed some inequities among racial and ethnic groups. The report finds that a growing number of states and districts are using evaluation measures designed to meet the needs of diverse populations, but it encourages ways in which they may further reduce these disparities or be more effective in implementation of IDEA.

Senkowski (2024) situates itself in between the national trend of lowering SLD identification rates and the implementation of a unique project called the Transformation Zone that was run by the Michigan Department of Education to identify how this effort impacted those rates in Michigan. The study examines a student cohort within the participating Michigan school districts sampled to ensure coverage of diverse types of educational environments over a decade. This study utilizes quantitative analysis, descriptive statistics, ANOVA and Chi-Squared to examine identification trends in SLD. Statewide, SLD identification rates have decreased indicating that MTSS/RTI may be effectively postponing the need for special education services (as referenced responsiveness to intervention based practices). The study calls for continued development and integration of MTSS/RTI practices across educational systems in order to equitably serve all learners, and further examination of the enduring impact of holistic support systems on incidence rates for learning disabilities,

Wang et al. (2024b) conducted a nationwide epidemiological survey to address this gap, focusing on school students aged 6-16 years from five provinces in China. The participants were selected in a random manner, and the Child Behavior Checklist was administered on high-risk students. The sample comprised students from diverse socio-economic backgrounds and regions, providing a representative cross-section of the Chinese pediatric population. According to the report, generalized anxiety disorder (GAD) is the predominant anxiety disorder, impacting 1.3% of children of school age. Younger children showed higher rates of separation anxiety and specific phobias compared to teenagers. Gender disparities were noted, as girls displayed elevated rates of panic disorder and agoraphobia compared to boys. Moreover, there was a notably high occurrence of co-morbidity between attention-deficit and disruptive behavior disorders, with rates ranging from 40% to 85%. These findings highlight the need to evaluate the frequency and considerable co-occurrence of

anxiety disorders among pupils in Chinese schools. This calls for thorough screening and personalized psychological interventions to effectively assist afflicted children and adolescents.

Almai and Salpekar (2023) conducted a study aimed to investigate the frequency of ADHD among children in the UAE and to determine the typical psychiatric conditions that often occur alongside ADHD in this area. The study sample comprised children diagnosed with ADHD in the UAE over a 4-year period. The majority of the sample consisted of boys (77.2%) with ages ranging from under 5 years to over 13 years. Data obtained from electronic medical records were analyzed to evaluate the occurrence of ADHD and its co-existing conditions among children in the pediatric population of the UAE. The study investigated the distribution of ADHD diagnoses across age groups, gender disparities, and the prevalence of common co-morbid conditions. The results indicated a significant occurrence of ADHD among children of the UAE, with greater rates observed among males in comparison to females. The majority of children diagnosed with ADHD typically fall within the age range of 6 to 12 years, which corresponds to global prevalence patterns. Additionally, co-morbidity like language/speech disorders, intellectual disability, and autism spectrum disorder were commonly observed among children with ADHD in the UAE. Based on these findings, early identification and intervention for prevalent co-morbid conditions associated with ADHD, such as language/speech disorders and autism spectrum disorder, are recommended to enhance outcomes for affected children.

Anderson et al. (2023) did a research on the frequency of individuals testing positive for depression and post-traumatic stress (PTS), as well as the incidence of both conditions simultaneously, among undergraduate and graduate students engaged in Spiritual-Mind-Body wellness interventions. The study comprised a total of 213 participants, consisting of 77 undergraduate and 136 graduate students. Before commencing an 8-week, in-person SMB wellness program, all participants took the Patient Health Questionnaire-9 to assess their level of depression and the Post-traumatic Stress Disorder Checklist (PCL-C) for PTSD symptoms (Weathers et al., 1993). The study revealed a substantial prevalence of post-traumatic stress (PTS) among undergraduate students (39%) and graduate students (32%), even when depression was not present concurrently. A small percentage of students reported symptoms of depression without elevated PTS levels. Overall, the findings highlighted significant levels of clinically relevant psychological distress among the

students. The research suggests that on-campus wellness centers can effectively screen for trauma-related distress and depression, including their co-occurrence, within the framework of SMB wellness interventions. By incorporating strategies to tackle these mental health issues into wellness programmes, it is possible to improve the well-being of students and get better overall mental health results.

Daniel and Wang (2023b) conducted a review to investigate gender differences in the identification of special educational needs (SEN) in England, utilizing nationally aggregated data to explore discrepancies across various disability categories. The target population in this review was SEN students from 2015 to 2023, and the corresponding characteristics were related to their gender information. The study employed a descriptive analysis using publicly available data collected by the Department for Education in England. Overall, the findings were indicative of a large inactivity distinction by sex that sailors are universally underrepresented and in some handicap types with young women. This highlights the urgent need for better identification processes to make sure every student has equal access to help. The study suggested that strategies should target these gender differences, including training for teachers to recognize SEN in under-represented groups and adaptations of criteria used to identify children with differences.

Indumathi (2023) conducted the study with an aim to understand the Status of Inclusive Education for children with Disabilities aged 6 to 14 years in an institutional set up. Based on a qualitative methodology, this study utilizes statistical data, census data and policy analysis to evaluate the effectiveness of inclusive educational approaches. The output of the study is based estimate nearly 26 million people in India have a disability. The significant academic performance gap in the study shows that just one out of eight challenged children (12.31%) perform at an excellent level compared with nearly a quarter (23.26%) of disabled peers doing so well. The study recommended tailored teaching methods and community participation to ensure that all children, inclusive of abilities can access high quality education.

Mataix et al. (2023b) conducted a study with the primary objectives to estimate the proportion of individuals who were diagnosed with tic disorders in childhood and continued to have these diagnoses past the age of 18 years. The study also aimed to determine the risk variables linked to the continuation of these disorders into adulthood. By utilizing a nationwide cohort from Sweden, this research involved 3,761 individuals who were diagnosed with tic disorders during their childhood. The

persistence of tic disorders into adulthood was quantitatively assessed. The researchers employed logistic regression models with minimal adjustments to examine the relationships between persistence of tic disorders and a variety of factors, including socio-demographic, clinical, and familial variables. A multivariable model was subsequently developed, which included only those variables that demonstrated statistical significance in the preliminary analyses. The sample encompassed a diverse group of individuals across Sweden, all diagnosed with tic disorders during their childhood years. This facilitated a thorough examination of the paths of tic disorders from childhood to maturity within a national framework. Analysis revealed that 20% of the cohort, equivalent to 754 individuals, continued to receive a diagnosis of chronic tic disorder into their adulthood. Significant factors contributing to the persistence of tic disorders included childhood psychiatric co-morbidities such as pervasive developmental disorders, Obsessive-Compulsive Disorder (OCD), Attention-Deficit Hyperactivity Disorder (ADHD), and anxiety disorders. Furthermore, psychiatric conditions in first-degree relatives, particularly those involving tics and anxiety, were also significantly linked to tic persistence. These key variables collectively accounted for approximately 10% of the variance in the persistence of tic disorders. The study highlights a strong association between the persistence of tic disorders into adulthood and both childhood psychiatric conditions and familial psychiatric histories. These findings are crucial for clinicians as they provide valuable insights that can help predict long-term outcomes for children diagnosed with tic disorders. The implications of this research suggest the necessity for tailored early intervention strategies that address both the primary tic disorders and their psychiatric co-morbidities to potentially mitigate their persistence into later life stages.

Shafi et al. (2023) did a recent study in Jammu and Kashmir (J&K) with the aim to assess the prevalence and pattern of psychiatric disorders among school-going (9th-12th) adolescents. The socio-demographic profile of the adolescents was evaluated using the Modified Kuppuswamy Scale. To identify the presence of psychiatric disorders, the MINI KID was used for participants aged 13-16 years, while the MINI PLUS was applied for those aged 16-19 years. All psychiatric diagnoses were established based on the DSM-5 diagnostic criteria. The results indicated a high prevalence of mental health disorders, with Major Depressive Disorder (13.7%) being the most common, followed by Obsessive-Compulsive Disorder (4.0%), Panic

Disorder (1.4%), Self-harming behavior (2.5%), Generalized Anxiety Disorder (2.5%), Social Anxiety Disorder (2.2%), Dysthymia (1.7%), and Adjustment Disorder (0.8%). While no significant gender difference was observed in the overall psychiatric morbidity ($p = 0.90$), Panic Disorder and Borderline Personality Disorder were found to be more prevalent among females ($p = 0.016$ and 0.001 , respectively). Additionally, a higher percentage of adolescents from urban areas (34%) met criteria for psychiatric disorders compared to those from rural areas (28%), although this difference was statistically insignificant ($p = 1.38$). The study concluded that adolescents are particularly vulnerable to mental health issues, many of which remain unidentified and untreated in the region. The researchers strongly recommended the need for further region-specific research, as well as psycho-education programs for teachers and parents to enable early identification and intervention for adolescents at risk.

Valicenti-McDermott et al. (2023b) conducted a study focusing on psychiatric and developmental co-morbidities among school-going children and adolescents with autism. The study was conducted at a developmental centre connected with a university in an urban region. The research aimed to explore how these co-morbidities varied across different age groups. This retrospective analysis reviewed evaluations conducted between January, 2019 and January, 2022 on children and adolescents who had been identified with autism. The data encompassed demographic information such as age, gender, racial/ethnic background, and bilingual household status (English and Spanish). In addition, it detected other developmental and psychiatric abnormalities apart from autism, such as language difficulties, particular learning disorders (LD), attention-deficit/hyperactivity disorder (ADHD), intellectual impairments (ID), anxiety disorders, and depressive disorders. The study included 599 children, among whom 119 (20%) were diagnosed with autism. Predominantly male (81%), with an average age of 11.8 ± 3 years, and about 39% from bilingual households, participants were categorized into school-age children (55%) and adolescents aged 12-18 years (45%). The research found that 96% of those diagnosed with autism also had other co-morbid conditions, with language disorders being the most prevalent (85%), followed by ADHD (42%), LD (19%), and ID (25%). Anxiety disorders affected 20% of the subjects, while depressive disorders affected 6%. The investigation revealed a substantial correlation between school-going children and the diagnosis of ADHD mixed type and language difficulties, whereas adolescents had a

higher incidence of depressive disorders. This study underscores the critical importance of early identification and management of co-existing conditions in children with autism to enhance treatment outcomes and overall well-being. It highlights the complexity of diagnoses in this diverse urban cohort, where most children have multiple co-morbidities.

Caldani et al. (2022) investigated the eye movement patterns among dyslexic children having Attention Deficit Hyperactivity Disorder (ADHD) as a co-morbid condition to explore their reading and eye-tracking behaviors. The researchers employed an eye-tracking device to analyze eye movements in four distinct groups: children with dyslexia, children with co-morbidity of ADHD and dyslexia, children with ADHD only, and typically developing children. The research study had a total of 96 children, divided into four groups of 24 each. The groups were carefully selected to ensure that they were similar in terms of IQ and age. The results revealed that Dyslexic students and those with ADHD and dyslexia had comparable eye movement patterns when reading, which were different from the patterns observed in children with ADHD alone and typically developing peers. This suggests a correlation between dyslexia and the eye movement characteristics during reading in both groups. Moreover, the study proposed that eye movement recordings during reading tasks could aid clinicians in identifying co-existing dyslexia in children with ADHD. Furthermore, the study indicated possible concerns regarding working memory in students diagnosed with ADHD. Nevertheless, additional research is required to validate this observation.

Cheng et al. (2022) did a research in China to investigate the frequency of learning disabilities (specifically Dyscalculia and Dyslexia) and their co-morbidity rates among students diagnosed with epilepsy compared to their peers in regular schools. The research included mathematics and reading fluency assessments administered to two groups: children with idiopathic epilepsy (2,288 participants) and other school children (2,371 participants). The study's findings revealed a higher prevalence and co-morbidity among students with idiopathic epilepsy compared to their peers in regular schools. Dyscalculia was more prevalent among children having idiopathic epilepsy, likely due to the increased cognitive demands of arithmetic tasks, whereas Dyslexia was more common among children in regular schools. The research highlighted the need for targeted interventions for children with idiopathic epilepsy to address these learning challenges effectively.

Durand & Arbone (2022) conducted a study to explore the association between ADHD and co-morbidities impacting organizational skills among adults in Canada. A total of 407 adults participated in an online survey, with 201 of them diagnosed with ADHD. The survey included the self-report scale for adult ADHD (2005), the Patient Health Questionnaire (PHQ-9) and the State-Trait Anxiety Inventory in short form administered to the entire sample. The study findings revealed that individuals with ADHD were more prone to developing co-morbidity like depression and anxiety, which had a negative impact on their organizational skills.

Jogia et al. (2022b) undertook a research on the prevalence of co-morbidities in Dubai-dwelling children and adolescents with ADHD. Using systematic sampling, data were collected from Jalila Children's Specialty Hospital between 2017 and 2020. The DSM-V was administered to 428 participants to assess co-morbidities. The study found high rates of co-morbidity: 77% of the participants had one co-morbid condition, 42% had two, and 20% had three or more. The prevailing co-morbid conditions that were discovered were ASD, sleep problems, language disorders, and anxiety disorders, with ASD being prevalent among children and anxiety among adolescents. The study emphasized the importance of identifying and managing these co-morbid conditions to improve interventions.

Kilicaslan and Tufan (2022) sought to explore the co-morbidity among children diagnosed with Autism Spectrum Disorder (ASD) in Turkey. In this retrospective study, cases involving children diagnosed with ASD within a university hospital were reviewed from June 2016 to June 2021. The findings indicated that approximately 73.7% of these children had at least one concurrent psychiatric disorder, while 22.8% had at least one medical condition. The findings suggest that co-morbid psychiatric disorders might contribute to delays in diagnosis, highlighting the need for increased awareness and education among healthcare providers and primary caregivers to enable earlier identification and intervention for ASD.

Panagi et al. (2022c) examined data from three population-based surveys done in England in 1999, 2004, and 2017 to determine if there was an increase in the percentage of 5-15 years with co-morbid “mental health conditions and long-term physical health conditions (pLTCs)” throughout this time period. The multi-informant development and well-being assessment instrument was used to evaluate mental health issues, while parents reported on pLTCs. The analysis used linear regression to examine time trends. The study included data from 8,662 children in 1999, 6,401

children in 2004, and 6,219 children in 2017. The estimated proportion of children with both pLTCs and psychiatric disorders was 0.050 in 1999, 0.054 in 2004, and 0.059 in 2017. Nevertheless, the linear regression analysis did not reveal any noteworthy temporal impact on the percentage of children with these co-morbidities between the years 1999 and 2017. The study concluded that the prevalence of co-morbid pLTCs and mental health conditions among school-aged children in England remained stable between 1999 and 2017. These findings underscore the necessity of specialized mental health services for children who have co-existing physical health conditions, and emphasize the continued significance of mental health assistance for this group.

Rajkumar et al. (2022) aimed to estimate the pooled prevalence of mental health problems in rural school-aged populations across India through a systematic review and meta-analysis. A total of 35 studies were selected, covering 17,514 participants aged 10-19 years. These studies were drawn from both school-based and community-based settings, using tools such as the Strengths and Difficulties Questionnaire (SDQ), PHQ-9, SCARED, and MINI-KID, among others. The meta-analysis revealed high pooled prevalence rates for several mental health concerns, including depression (27%), anxiety disorders (26%), social anxiety disorder (23%), conduct problems (19%), and suicidality (9%). It was found that emotional and behavioral problems were more commonly reported in studies that used screening tools and smaller sample sizes. Gender comparisons showed higher rates of social anxiety in females, whereas hyperactivity and conduct issues were more prevalent among males. The review also identified several influencing factors including family stress, academic pressure, socioeconomic status, substance use, and lack of support systems. The study highlighted the urgent need for early identification, school-based mental health services, and contextually appropriate interventions in rural areas.

Ruzhenkova et al. (2022b) aimed to examine the frequency and advancement of depressive disorders among medical students, along with their co-morbidity with other mental health conditions. The study included 1045 medical students, aged 17 to 24 years, utilizing a psychometric approach that encompassed both Russian-speaking and foreign students. Results revealed that 19.9% of the students exhibited mental disorders, with depressive disorders being a prevalent co-morbidity in nearly half of the cases. Depressive symptoms were more prevalent among Russian-speaking students compared to their foreign counterparts. A considerable proportion of students

demonstrated clinically significant depression, particularly those with a history of suicidal behavior. The study emphasizes the significance of addressing co-morbidities of depressive disorders and implementing preventive Psychological interventions aimed at promoting the emotional well-being of medical students.

Bosch et al. (2021) examined the frequency of neuro-developmental problems in children and adolescents in Spain. They employed the Conner's Rating Scales, Teacher Report Form, Youth Self-Report and Child Behavior Checklist, for their evaluations. A total of 6,834 students, aged between 15 and 17 years, participated in the study. Researchers conducted diagnostic interviews to confirm the accuracy and reliability of the results. The study found that 18.3% of the subjects satisfied the criteria for at least one neuro-developmental condition. The study detected several specific disorders, including Learning Disorder (10.0%), ADHD (9.92%), Conduct Disorder (1.05%), Intellectual Disorder (0.63%), Autism Spectrum Disorder (ASD) (0.70%), Specific, and Motor Disorder (0.76%). The results emphasised the significance of implementing early identification and intervention initiatives to successfully tackle these problems.

Bougeard et al. (2021) performed a systematic literature review spanning from 2014 to 2019 to assess the prevalence of Autism and nine related co-morbidities among children and adolescents in the US, France, Germany, Italy, Spain, and the UK. Adhering to the PRISMA review guidelines, the review encompassed 13 studies on ASD prevalence and 33 studies on co-morbidities. The finding of the study showed the total number of studies out of 33 studies talked about the co-morbidity of nine associated disorders among ASD student: ADHD (17/33 studies), anxiety (13/33 studies), depressive disorders (12/33 studies), epilepsy/seizures (12/33 studies), GI syndromes (7/33 studies), hearing impairment (3/33 studies), ID & sleep disorders (5/33 studies) and visual impairment (3/33 studies) where male shows higher risk for co-morbid ADHD and female for epilepsy/seizures while age is associated with ADHD and anxiety. The study claimed to provide insights into clinicians, parents & teachers for Autistic Children. In order to increase awareness among stakeholders and interested parties, it is crucial to possess a thorough comprehension of the prevalence of Autism Spectrum Disorder (ASD) and its possible co-occurring conditions.

Dike et al. (2021) did a survey in Nigeria on co-morbidity of depression and anxiety among medical students. To assess levels of depression and anxiety, the Beck Depression Inventory-II and the Beck Anxiety Inventory (BAI) was administered on a

sample of 225 adults aged 15-25 years. The findings revealed a significant prevalence of both sadness and anxiety among the participants, with female students exhibiting elevated levels than male counterparts. Furthermore, the study identified a robust positive correlation ($r = 0.803$) between depression and anxiety, indicating that individuals with one condition are likely to experience the other as well. The research also noted that factors such as stress impact students' mental health. The study recommended implementing sensitization programs and psychological evaluations to promote positive mental health awareness.

Duke et al. (2021) executed a population-based cross-sectional study to investigate patterns of co-morbidity among children (4-15 years) with cerebral palsy (CP) in Cross River State, Nigeria by applying the Key Informant Methodology (KIM) to a sample of 388 children. Standardized tools and questionnaires were administered to identify co-morbidities among these children. By analyzing the data utilizing Chi-square testing and logistic regression, the study found that co-morbidities were prevalent among children with CP. The identified patterns included hearing impairment (12%), epilepsy (35%), communication difficulties (45%), objective perceptual visual disorders (46%), malnutrition (51%), visual acuity impairment (54%), abnormal behavior (62%), swallowing difficulties (77%), speech impairment (85%), feeding difficulties (86%), and learning difficulties (88%). These co-morbidities significantly affected school attendance, leading the study to recommend a multidisciplinary tailored approach to address these students' needs.

Ercan et al. (2021) did a cross-sectional research to explore the frequency and simultaneous occurrence of ADHD in a substantial sample of Turkish children across the entire country. The study entailed delivering the Kiddie-SADS-Present and Lifetime Version (K-SADS-PL) to 5,842 children. The study found that the prevalence rate of ADHD was 19.5%. Additionally, several common co-morbid conditions were identified, including Oppositional Defiant Disorder (ODD) at 15.1%, Specific Phobia at 7.8%, Separation Anxiety at 6.1%, Tic Disorder at 5.2%, Social Anxiety at 3.2%, and Major Depressive Disorder (MDD) also at 3.2%.

Giggie et al. (2021) did a research on frequency of co-morbid psychiatric issues among students in collegiate recovery communities (CRCs) across the southern United States, as well as their utilization of professional mental health services. The study recruited participants from 13 established CRCs in the southern region during the academic year 2014-2015. Findings indicated that 74% of the students surveyed

reported having at least one additional psychiatric issue. The most widespread issue detected was depression, closely followed by anxiety. Additional documented problems encompass attention-deficit/hyperactivity, eating, bipolar, posttraumatic stress, psychotic disorders, and obsessive-compulsive disorder. The majority of the students primarily sought mental health services from external professionals, such as psychiatrists and therapists, to manage their psychiatric issues. This pilot study underscores the significant prevalence of co-morbid psychiatric conditions among students in southern CRCs, highlighting the critical need for recognizing and addressing these issues within collegiate recovery support systems.

Golan et al. (2021) did a study on examining the co-morbidity of Post-Traumatic Stress Disorder (PTSD) among Autistic students. The research involved 34 adults diagnosed with ASD (without intellectual impairment) and 66 typically developing individuals, matched for age and gender. The participants were carefully selected to ensure that they were of similar age and gender. The participants filled out two self-report assessments: the PTSD Checklist for DSM-5 and the Rumination Response Scale. The aim was to investigate if brooding rumination acted as a mediator in the connection between ASD and PTSD symptoms. The findings of the study unveiled several significant outcomes. Firstly, it revealed heightened PTSD symptoms among adults with ASD compared to their typically developing counterparts. Additionally, it pointed out increased levels of brooding rumination within the ASD group. This implies that individuals with ASD not only exhibit more pronounced PTSD symptoms but also tend to engage in higher levels of brooding rumination following traumatic experiences. The study recommended further exploration of additional psychological mechanisms contributing to the co-morbidity between ASD and PTSD to enhance our understanding of this intricate relationship.

Ihbour et al. (2021) conducted a study to assess anxiety and depression levels in dyslexic Arabic-speaking children and adolescents, comparing these levels to those of their non-dyslexic peers, and to identify psychiatric co-morbidities. The study included 205 students, with 56 dyslexic participants and 149 good readers, who completed Beck's Depression Questionnaire and Taylor's Self-Assessment Scale of Anxiety. The findings demonstrated that persons with dyslexia exhibited elevated levels of anxiety and depression than non-dyslexic. Furthermore, the dyslexic group showed a higher incidence of psychiatric co-morbidities. These findings emphasize the necessity of a multidisciplinary strategy that incorporates emotional evaluations

into the rehabilitation therapy of dyslexic children and adolescents, emphasizing the importance of addressing both emotional well-being and learning difficulties to provide comprehensive support.

Islam et al. (2021) conducted a cross-sectional self-reported survey among students aged 13-18 years in Dhaka city. Using multi-stage sampling techniques, they selected 563 participants for the study to examine the frequency of concurrent depression and anxiety. Participants completed the Generalized Anxiety Disorder Scale (GAD-7) and Patient Health Questionnaire (PHQ-9). The study found a high co-morbidity rate of anxiety with depression at 76.5%, and a co-morbidity rate of depression with anxiety at 41.1%. The research also identified several other factors associated with depression and anxiety. Based on these results, the study suggests that policymakers and stakeholders in Bangladesh should adopt interventions to enhance the mental well-being of adolescents attending school.

Li et al. (2021) did a survey to assess the mental health issues among children and adolescents in China. It employed a multistage cluster stratified random sampling method and was conducted in two distinct periods. Total 13,992 participants completed the Child Behavior Checklist in the first phase, in the second phase, 17,524 individuals underwent the Mini-International Neuropsychiatric Interview. The findings revealed that the most prevalent psychiatric disorders among Chinese students included ADHD, ODD, Tic Disorders, Conduct Disorder, and Major Depressive Disorder (MDD), with a high incidence of co-morbidity. The study emphasized the critical need for addressing these psychiatric conditions and providing appropriate treatment.

Lu et al. (2021) conducted a comprehensive literature review to examine psychiatric co-morbidities in individuals with epilepsy. This review encompassed 23 observational studies published between 2008 and 2018, focusing on adults aged 18 years and older diagnosed with psychiatric conditions through clinical assessments. The results indicated that mood disorders (35.0%) and anxiety disorders (25.6%) were the most common psychiatric co-morbidities observed in persons with epilepsy. Major depressive disorder had a prevalence rate of 24.2%, while post-traumatic stress disorder had a prevalence rate of 14.2%. Both of these conditions were significant. Furthermore, specific associations were noted, such as temporal lobe epilepsy (TLE) being correlated with a higher psychiatric co-morbidity rate, and partial seizures exhibiting a greater prevalence of depression compared to generalized seizures. The

study recommends routine screening for depression and anxiety in epilepsy care, highlighting the importance of readily available resources to address common co-morbid conditions. It underscores the necessity for tailored, comprehensive care to effectively support individuals with epilepsy.

Mohammadi et al. (2021) did a cross-sectional research in Iran to explore the overall occurrence of Tic Disorders over a person's lifespan and the related co-existing medical conditions. Total 29,885 children and adolescents within the age group of 6-18 years were chosen using multi-stage cluster sampling. The Kiddie Schedule for Affective Disorders and Schizophrenia Present and Lifetime version (K-SADS-PL) was used to diagnose Tic disorders and other co-morbidities. Face-to-face interviews were conducted to gather additional data. The research revealed that 1.5% of children and adolescents in Iran were afflicted by Tic disorders, with over half of them exhibiting co-morbid psychiatric disorders like Oppositional Defiant Disorder, Autism Spectrum Disorder, Attention-Deficit/Hyperactivity Disorder, Obsessive-Compulsive Disorder (OCD), and Anxiety. The research recommended increased attention to both pharmacological and non-pharmacological treatments, along with raising awareness among families about managing these conditions effectively.

Mulat et al. (2021b) carried out a cross-sectional investigation at a hospital to explore the co-morbidity of attention deficit hyperactivity disorder (ADHD) and its related factors in children with seizure disorders. The study utilized a structured questionnaire and a standard rating scale for disruptive behavioral disorders to gather data from 260 children who were receiving care at a pediatric seizure clinic. The inattentive subtype was the most prevalent subtype, with a 44.2% prevalence of ADHD among epileptic children. Only 2.6% of adolescents with ADHD were identified by clinicians as having mental health issues. The study identified several factors significantly linked to ADHD, such as male gender, family history of seizure disorders, family history of mental illnesses, sudden onset of seizures, and uncontrolled seizures. These findings highlight the frequent occurrence of ADHD in children with seizure disorders and suggest that interventions targeting these associated factors could help prevent further complications.

Polack et al. (2021) performed a population-based cross-sectional research on children (14-15 years) with cerebral palsy (CP) in Nigeria in order to describe the pattern of co-morbidities. With key informant methodology (Kim), 388 children with confirmed CP were selected as the participants of the study. Standardized tools and

questionnaires were administered on participants in order to identify the patterns of co-morbidities among CP students. The finding of the study stated that 70% of CP children showed co-morbidities of Hearing Impairment (12%), Epilepsy (35%), Communication Difficulties (45%), Visual Disorder (46%), Malnutrition (51%), Visual Acuity Impairment (54%), Abnormal Behavior (62%), Swallowing Difficulties (77%), Speech Impairment (85%), Feeding Difficulties (86%) with the highest learning disability (88%) and their adverse effect on their school attendance and performance. Study further suggested that these co-morbidities need to be managed properly.

Reilly et al. (2021) conducted a research project on Autism & Epilepsy in UK and discussed different themes. The study reviewed 51 studies by following PRISMA guidelines across 20 different countries in which only 22 studies were focused on children (less than 18 years). The different patterns of co-morbidity had been discussed under this project like people with Autistic conditions were on higher risk of co-morbid epilepsy, anxiety, motor coordination problem, depression and ADHD where epilepsy was highly co-morbid with Autism, cerebral palsy, motor coordination problem, difficulties with processing speed and memory, anxiety, depression, ADHD, & LD. The study also discussed the different risk factors of co-morbid conditions and its influence on the quality of existence of the individual.

Salvi et al. (2021) aimed to investigate the correlation between ADHD and bipolar disorder during adulthood and to offer clinical insights and treatment recommendations for these disorders. Conducted in Italy, the research focused on adults diagnosed with both ADHD and bipolar disorder. The research methodology involved an exhaustive review of existing literature pertaining to ADHD and bipolar disorder in the context of adulthood. The authors meticulously searched various databases to identify articles that met their specific inclusion criteria. The study findings suggest a notable co-morbidity between ADHD and bipolar disorder in adulthood. The authors propose that clinicians should consider the potential for co-morbidity when diagnosing and treating patients with these conditions. They advocate for a multidisciplinary treatment approach, incorporating medication and psychotherapy, as potentially advantageous for individuals with co-existing ADHD and bipolar disorder.

Sepulveda & Espina (2021c) carried out a literature review on ADHD students in Chile. The review reported that the students with ADHD showed a high co-morbidity

of other psychiatric conditions i.e. personality (10 to 20%), antisocial behavior (18 to 28%), mood disorders (19 to 37%), anxiety disorders (25 to 50%) in alcohol abuse (32 to 53%), and other types of abuse (8 to 32%). Three out of four adults are affected by the co-morbidity of ADHD, which increases their susceptibility to substance dependence and severe personality disorders. The investigation also disclosed the existence of a detrimental correlation between academic performance and ADHD. The study suggested strategies and intervention which help these students to perform better in their academics.

Shoaib et al. (2021) aimed to explore the prevalence of neurological and psychological co-morbidities, among Autistic individuals, in US. The researchers examined data from two extensive national claims systems, specifically investigating the prevalence of common co-morbidities diagnosed in the six months preceding the index period, which encompassed the index date. The study analysed the ratio of each condition, classified by age group and data source. The findings revealed a significant occurrence of concurrent disorders among patients with ASD, with ADHD and anxiety being the most common. Furthermore, the prevalence of these co-morbidities varied by age group and data source.

Chacko & Vidhukumar (2020) conducted a cross-sectional study among fourth to seventh-grade students in Kerala, India, to determine the occurrence of Specific Learning Disability (SLD). The researchers utilized the Malin's Intelligence Scale (MISIC) and NIMHANS index for SLD, employing multistage stratified cluster sampling. They found a high prevalence rate of SLD at 16.49% among the students. The study identified several modifiable determinants associated with SLD, including male gender, presence of developmental delay, low socio-economic status, and family history of poor scholastic performance. The researchers emphasized the importance of early detection and implementing remedial measures to support affected students.

Darweesh et al. (2020) carried out a study on 50 dyslexia students of Egypt aged 7-15 years with an aim to identify the possible patterns of co-morbidities among them. Child Behavioral Checklist (CBCL), Dyslexia Diagnostic Scale to confirm the dyslexia condition and Mini-kid Rating Scale were administered on students with dyslexia condition. The result of the study revealed that ADHD (18%), CD (14%) and ODD (8%) are increasingly associated with students having dyslexia conditions. The study suggested checking other psychiatric conditions among dyslexia students in order to provide better interventions.

Grigorenko et al. (2020) did an extensive review including five decades of research and practical application to get insight into youngsters in the United States who have unique learning difficulties. The study besides other themes discussed the prevalence and co-morbidity among SLD students. SLD occurs approximately 5% -15% of the school age population. The children with SLD often had co-morbid conditions like specific word reading disability (SWRD) (30-60%) and ADHD (20-50%), speech and language impairment (55%) with generalized anxiety disorder, specific test anxiety, depression and conduct problems. Children with Specific Math Disability (SMD, 30-50%) had higher rates of co-morbidity of ADHD, anxiety, depression, epilepsy and schizophrenia. The study further stated that the children with co-morbid SLDs conditions had more hampered emotional and school adjustment than those identified with a single impairment.

Khodier et al. (2020) did a systematic study to investigate the frequency of psychiatric co-morbid conditions among children aged 6-18 years with specific learning disabilities (SLD) in Egypt from 2013 to 2018. The review followed PRISMA-DTA guidelines. The findings indicated that SLD children had the highest rates of co-morbid ADHD, followed by anxiety, depression, conduct disorder, and oppositional defiant disorder. The study recommended further research to explore additional psychiatric co-morbidities among students with SLD.

Khan (2020) conducted a study among students studying in primary school of District Poonch of Jammu and Kashmir, involving a sample of 212 students. The Verbal Learning Disability Checklist by Vishal Sood was utilized to assess learning disabilities. The study's findings indicated a prevalence of below-average level learning disability among the students.

McGrath et al. (2020) did a cross-sectional research in 27 countries using data from the WMH Surveys. The survey included 145,990 adult respondents from a total of 6 lower-middle-income countries, 7 upper-middle-income countries, and 16 high-income countries. The study aimed to analyze lifetime pair-wise co-morbidity comprehensively. The findings revealed that each prior disorder was associated with an increased risk of other disorders; for instance, PTSD as a prior disorder was linked with major depressive episode (MDE), generalized anxiety disorder (GAD), and alcohol abuse. Similarly, MDE as a prior disorder was associated with bipolar disorder, GAD, dysthymia, and alcohol dependency, while GAD as a prior disorder was associated with MDE, bipolar disorder, and alcohol dependency. The study

emphasized that the likelihood of acquiring a subsequent condition was significantly greater within the initial 1-2 years following the start of the previous disorder. Overall, the survey data validated the widespread occurrence of co-morbidity among mental diseases.

Mohammadi et al. (2020) carried a cross-sectional research on frequency of co-morbidity among children with anxiety disorder conditions in Iran. The 33,264 participants were selected with the help of multistage cluster sampling. K-SADS-PL and demographic questionnaire were administered and data was analyzed with logistic regression and the result of the study revealed that prevalence of anxiety disorder were higher in girls than boys and the children with anxiety disorder had co-morbidity with neuro-developmental disorders, behavioural disorder, mood disorders, substance abuse disorder, psychiatric disorder and elimination disorders. The research also indicated that anxiety disorders can impact children's academic performance and may result in significant health implications later in life.

Predescu et al. (2020) did a retrospective research a total of 244 children were included. Among them, there were 130 males (53.3%) and 114 females (46.7%). These children, ranging in age from 3 to 18 year, had been diagnosed with an anxiety disorder as their primary diagnosis at a clinical facility in Cluj-Napoca, Romania. The study aims to elucidate the patterns of co-morbidity among these youngsters. The study revealed that almost 92% were diagnosed with an anxiety disorder with at least one other co-morbid condition, with youngsters displaying a higher number of co-morbidities compared to adults. Co-morbidity patterns varied within the sample; for instance, Generalized Anxiety Disorder (GAD) commonly co-occurred with other anxiety disorders and Major Depressive Disorder (MDD) (present in almost half of the participants). Additionally, 20.7% of the children had Attention-Deficit/Hyperactivity Disorder (ADHD) as a co-morbid condition, which also showed associations with MDD (28.6%) and specific symptoms of anxiety and depression. ADHD was identified as the most prevalent co-morbid condition among children (57.1%). The study underscored the importance of understanding these common patterns of co-morbidities in anxiety disorders for effective treatment strategies.

Visser et al. (2020) performed a study in order to explore the probability of specific learning disorders (SLD) children who were also having an anxiety disorder, depression, ADHD, and conduct disorder. Screen for Child Anxiety Related Emotional Disorders and Diagnostic System of Mental Disorders for Children and

Adolescents-II (DISYPS-II) was used on 3,014 German children and it was revealed that children with multiple SLD had a higher risk of developing co-morbidities. The researchers identified high rates of anxiety disorder (21%), depression (28%), ADHD (28%), and conduct disorder (22%) among SLD students.

Gnanavel et al. (2019) conducted a review study in India with the aim to critically examine the comorbid conditions associated with Attention Deficit Hyperactivity Disorder (ADHD) across lifespan and to highlight the clinical challenges posed by these comorbidities. It draws upon multiple empirical studies from both Western and non-Western contexts to build a comprehensive understanding of ADHD comorbidity. The findings indicate that ADHD frequently co-occurs with a range of disorders including oppositional defiant disorder, conduct disorder, anxiety, depression, autism spectrum disorder, learning disabilities, and tic disorders. The review emphasizes that comorbidity in ADHD is more the rule than the exception, significantly affecting the clinical course, treatment response, and prognosis of individuals. The study suggest that clinicians must adopt a multidimensional approach in assessing ADHD, including thorough screening for associated conditions, and advocate for integrated treatment strategies that address both core ADHD symptoms and its comorbidities to improve patient outcomes.

Huang et al. (2019) utilized Taiwan's National Health Insurance research database to conduct a longitudinal investigation. They tracked a total of 1,745 pupils newly diagnosed with ADHD and 6,980 individuals without ADHD from 2005 to 2010. The study sought to examine the likelihood of developing concurrent psychiatric problems in the two groups within the age span of 0-18 years. ICD-09 was used to identify the co-morbid conditions among ADHD and Non-ADHD group. The finding of the study revealed the higher risk of other co-morbid psychiatric disorders among ADHD group than Non ADHD group. The predominant co-morbid conditions were ODD, adult ADHD, ASD & pervasive developmental disorders (PDDs). Early detection and intervention is the only way to decrease the risk of other co-morbid psychiatric disorders.

Krafnick and Evans (2019) aims to explore the differences in dyslexia between boys and girls, focusing on the neurobiological underpinnings of the disorder children and adolescents aged between 6 and 14 of US origin. The methodology used involves asynthesis of previous work on brain research using neuroimaging studies and behavioralevidence aimed at examining reading difficulties. Subjects in this study

underwent fMRI scanning to gain a better understanding of brain function and structure. It has been shown that there were differences in the structures and strategies of reading of male and female dyslexics which can lead to different experiences of dyslexia. This leads the researcher to make an important recommendation regarding sex differences and inclusion in such studies in the future as these issues need to be addressed within the framework of the focus on clinical intervention and education related to dyslexia.

Margalit et al. (2019) conducted a study including 451 school students aged 16-18 years in Israel with an aim to examine, if ADHD may be considered a potential risk factor for the occurrence of co-morbid Posttraumatic Stress Disorder (PTSD). Additionally, the researcher also evaluates the presence of Learning Disabilities (LD) in individuals who reported having both LD and ADHD. Participants completed a self-developed scale on learning disability, the Adult ADHD Self-Report Scale, and the Impact of Event Scale (IES). The results showed that both ADHD and LD were significant factors that increase the likelihood of developing co-morbid PTSD.

Sahu et al. (2019) conducted a research on 41 children who had been diagnosed with Specific Learning Disabilities (SLD) at a child guidance clinic within the psychiatric department of a tertiary care hospital in northern India. The researchers employed the Mini-International Neuropsychiatric Interview, Conner's 3-Parent Short Form, and Child Behaviour Checklist for their evaluations. The study not only confirmed prior findings about the high occurrence of ADHD in children with SLD, but it also discovered additional co-morbidities such as executive function impairment, peer relationship difficulties, and aggression.

Umeda et al. (2019) performed an analysis on the frequency of concurrent mental disorders in people with Autism Spectrum Disorder (ASD) and Attention-Deficit/Hyperactivity Disorder (ADHD) using nationally representative data from Japan. The final sample included 2,450 adults aged 20-75 years, representative of the Japanese population. The Autism Spectrum Quotient and ADHD Self-Report Scale version 1.1 were employed to identify ASD and ADHD, respectively, while DSM-IV criteria were used to assess other co-morbid conditions. Multiple logistic regression analyses were performed, revealing that adults with ADHD and ASD faced increased risks for various disorders such as anxiety disorders, mood disorders, social phobia, and substance dependency. The study also highlighted that individuals with both ADHD and ASD may experience greater psychosocial dysfunction compared to those

with either condition alone. Additionally, women were found to have an increased overall risk for other mental disorders. The results emphasized the need for increased attention and actions towards mental health awareness and interventions in Japan.

Abdalah (2018) conducted study to explore the gender in learning disabilities among children whilst trying to explain some of the causal neuropsychological differences across gender. A mix of observational and evaluation methods was used to present data regarding learning behavior and cognitive ability of children. The instruments utilized in the study were standardized measures of reading, writing, mathematics and brain imaging methods to look at males and females structural brain differences. The results showed that more boys as compared to girls suffered from learning disabilities due to both biological extractions and causation by referral factors in educational scenarios. There were clear recommendations that warned against the gender gaps catalyzing the need for modified educational and therapeutic interventions with regard to the findings and thus advocated for better sensitization of the teachers and the parents to facilitate prompt detection and intervention for the boys and girls at risk. There was also a strong case made for more studies examining the neurobiological factors responsible for learning disabilities towards improvement in diagnosis and therapies.

AlZaben et al. (2018) did a cross-sectional research in Saudi Arabia with an aim to investigate the frequency of ADHD and related co-morbid conditions among students in primary schools aged 1-6 years. They administered the Vanderbilt ADHD Teacher Rating Scale (VADTRS) to 929 students. The study found a prevalence rate of ADHD at 5.0%, with associated co-morbid conditions including Conduct Disorder (56.5%), Anxiety/depression (41.3%), and behavioral problems (44.4%). The research highlighted concerns about these co-morbidities impacting students' quality of life and their future productivity. It emphasized the importance of early detection and interventions in primary schools to address these challenges effectively.

Choudhary et al. (2018) conducted a hospital-based study at a tertiary care center in New Delhi with the aim of investigating the prevalence, clinical features, and associated risk factors of Attention Deficit Hyperactivity Disorder (ADHD) among children diagnosed with epilepsy. The sample consisted of 73 children aged 6 to 12 years with active epilepsy. The diagnosis of ADHD was established using the DSM-IV-TR criteria. Variables such as epilepsy type, psychiatric profile, socio-demographic factors, and antiepileptic drug use were compared between children with

and without ADHD. The results indicated that 23% (n=17) of children with epilepsy met the criteria for ADHD. Among them, 59% had the predominantly inattentive subtype, 35% presented with the combined type, and 6% with the hyperactive-impulsive type. Key risk factors significantly associated with ADHD in these children included lower IQ scores, presence of epileptiform activity on EEG, non-school attendance, and being male. However, no significant differences were observed between the ADHD and non-ADHD groups regarding age, seizure type, seizure etiology, seizure frequency, socio-economic background, or family psychiatric history. The study highlights that ADHD is a prevalent neuropsychiatric comorbidity among children with epilepsy, underscoring the need for interdisciplinary collaboration in diagnosis and management. This is especially important in resource-limited settings, where early identification and intervention can significantly reduce the disease burden and improve quality of life for affected families.

Dar et al. (2018) did an observational research at the Government Psychiatric Diseases Hospital in Srinagar, with a specific focus on patients who had been diagnosed with OCD. OCD was diagnosed in the 156 participants using the DSM IV-TR criteria. The Mini International Neuropsychiatric Interview used for psychiatric co-morbidities. The study found that 62.82% of the OCD patients had co-morbid conditions, with depression being the most prevalent (29.48%), followed by anxiety disorder (26.92%), and substance use disorder being the least common (1.92%). The study highlighted the high prevalence of co-morbidities among OCD patients, emphasizing the need for comprehensive care that addresses these additional conditions.

Mishra & Pahwa (2018) reviewed papers on learning disabilities in India and Abroad and it was reported in the study that learning disability is a highlighted concern among students. The prevalence rate in India is also quite alarming that 100-300 out of 1000 students experienced a learning disorder which needs a systematic and scientific approach that will help parents and educators to deal with children with learning disabilities. Learning disabilities affect approximately 3% of the population in the UK, 4-6% in the USA, and around 5% in Singapore. Early identification of these students is essential to ensure they receive appropriate interventions tailored to their specific needs.

Morsanyi et al. (2018) examined the occurrence of Specific Learning Disorder in Mathematics (SLDM) and its related co-morbidities among primary school students

aged 4-7 years in Northern Ireland. Standardized tests of Mathematics, English, and IQ were administered on 2421 primary school students where 5.7 % were identified as having SLDM after applying exclusion criteria. DSM-IV and V were used to identify the most common co-morbidity among SLDM students. The finding of the study reported that about 50% of SLDM students had some form of language difficulties and some of them also diagnosed with Autism, Social, Emotional and Behavioral Difficulties, and with ADHD disorder as well. The study suggested using this research for interventions and further research purposes.

Shen et al. (2018) did a cross-sectional research in China with an objective of evaluating the occurrence of psychiatric disorders and related co-existing conditions among students (6-16 years). The Child Behavior Checklist (CBCL) was administered to 17,071 participants, with subsequent administration of the MINI-KID for those scoring positively on the CBCL scale. The study revealed a 9.74% prevalence of psychiatric disorders, with ADHD being the most common, affecting 4.96% of the participants followed by Oppositional Defiant Disorder (ODD) (2.98%), Generalized Anxiety Disorder (GAD) (1.77%), and Conduct Disorder (CD) (1.39%). Among those diagnosed, 34.6% exhibited either one or two co-morbid conditions, with notable patterns including ADHD co-morbid with ODD (25.15%), CD (18.8%), GAD (6.38%), and Major Depressive Disorder (MDD) (3.66%). The study recommended early detection and intervention strategies, emphasizing that opportunities to mitigate or overcome psychiatric disorders diminish as children age. It also advised caregivers and stakeholders to remain vigilant about the prevalence of co-morbid conditions and implement preventive measures through early screening.

Syrioupoulou et al. (2018) did a study with 291 special education teachers and 118 general education instructors to investigate their viewpoints on anxiety in school autistic children and typically developing children. Teachers completed the SAS-TR questionnaire. The study found that autistic children exhibited a high prevalence of co-morbid anxiety (46.8%), compared to 15.3% among typically developing students. The results presented emphasize the significance of designing interventions, especially in inclusive classroom environments.

Qounsar and Parveen (2018) did an investigation on the occurrence of anxiety among students in 9th and 10th grade, aged 14-19 years, attending higher secondary schools in Kashmir. They utilized an anxiety scale developed by Krug, Scheier, and RD Cattell to assess 1000 students from districts including Srinagar, Ganderbal, Budgam,

Anantnag, and Pulwama. The findings revealed that 35.8% of the adolescents exhibited high levels of anxiety, with an additional 30.5% showing borderline anxiety. The study highlighted the substantial occurrence of anxiety and its influence on the overall performance and welfare of students.

Arnett et al. (2017) aimed at exploring the sex differences in dyslexia, mainly the reason why more boys than girls are diagnosed with the condition. The research was conducted in the US and encompassed subjects aged between 7 to 24 years with a mean age of 11.17 years. The participants underwent two six-hour sessions with COVID-19 activities where they read, performed productive, and cognitive tasks. Specifically, the PIAT test was applied to evaluate individual reading recognition, spelling, the Oral Non word Reading, and Time Limited Word Recognition as tools employed in the research. The results suggested that males had a greater inter-individual variance in reading measures, processing speed, and inhibitory control which explains the over diagnosis of dyslexia in subsequent studies. The study suggested that there is a need to provide specific therapies on the individual cognitive variations as well as to advocate for more screening on both genders to facilitate timely recovery resources.

Ashraf & Najam (2017) did a cross-sectional research involving 287 adolescents from four government schools in Pakistan. They identified 56 adolescents with mild, 83 with moderate, and 40 with severe levels of co-morbid conditions encompassing depressive symptoms and specific learning disabilities. The study concluded that co-morbidity conditions were more pronounced among male adolescents compared to their female counterparts in school settings.

Bandla et al. (2017) conducted a study involving school children in South India, administering the NIMHANS SLD index to 96 children aged 6-12 years from urban, semi-urban areas, and special education schools. Through chi-square tests and ANOVA, the study revealed a 7.5% prevalence of combined learning disabilities among the students, with the most common type being combined (reading + writing) at 35.48%. The study also highlighted the presence of co-morbidities among SLD students, with ADHD being the most prevalent (41.9%), followed by conduct disorder (3%) and emotional disorders (6.3%). Additionally, the study noted a pattern of academic underachievement among students with specific learning disabilities (SLDs).

Brookman et al. (2017) conducted research focusing on children with Autism Spectrum Disorder (ASD) receiving care within mental health programs in California. The study aimed to analyze the patterns of co-morbidity observed within the ASD samples. Mini-International neuropsychiatric interview (parent's version) was administered on 21 children with ASD. The result stated that approximately 92% of ASD children also showed at least one other kind of co-morbid condition with ADHD (78%), oppositional defiant disorder (58%), anxiety (56%) and mood disorder (30%). More than one co-morbid condition had also been found among children like ADHD + ODD + anxiety (17%). The study suggested providing more tailored intervention to these students for their proper development.

Cholakottil et al. (2017) undertook a study to examine the prevalence and types of psychiatric disorders among school-going adolescents in India, addressing the lack of methodologically sound research using semi-structured interview techniques in developing countries. The aim was to generate data that could inform mental health policies and interventions targeting adolescents. The sample consisted of students from 8th, 9th, and 10th grades from four schools located in two districts of Kerala, selected using the random sampling method. The screening tool used was the Children Behaviour Questionnaire (CBQ), and those who scored above 9 were further evaluated for psychiatric disorders using the Diagnostic Interview Schedule for Children - Child version (DISC-C) and Parent version (DISC-P). The study found that 38.3% of adolescents identified as disturbed had diagnosable psychiatric disorders. The most common disorders included Conduct Disorder (12.5%), followed by Oppositional Defiant Disorder (8.3%), Depressive Disorder (5%), Generalized Anxiety Disorder (5%), and Attention-Deficit Hyperactivity Disorder (3.3%). These findings indicate that psychiatric disorders are highly prevalent among Indian adolescents, necessitating urgent attention from policymakers, educators, and healthcare professionals. The authors recommend the implementation of effective school-based screening, preventive strategies, and early intervention programs to address the mental health needs of adolescents at both community and institutional levels.

Kim et al. (2017) did a research in Cheonan, Korea, in order to ascertain the frequency of ADHD and the occurrence of other medical conditions alongside it. The study targeted 49,273 elementary school students (grades 1-6) from 65 schools, with 30,552 children and their parents participating. The researchers administered the

Korean version of the ADHD Rating Scale (K-ARS), Behavior Assessment System for Children-II (BASC-II), Child Behavior Checklist (K-CBCL), Kovacs' Children's Depression Inventory, State Anxiety Inventory for Children, and Trait Anxiety Inventory for Children. The findings revealed a prevalence rate of 8.5% for ADHD among the participants, with 12.7% (23 participants) showing frequency of one co-morbid condition. The most frequent co-morbid condition observed among individuals with ADHD was Autism Spectrum Disorder (ASD), followed by depression and anxiety.

Moroney (2017) conducted a study among college students at Eastern Michigan University to explore the co-morbidity of Depression and OCD. The study utilized the Y-BOCS-SR and OCI-R checklists to assess OCD symptoms, and the Beck Depression Inventory-II (BDI-II) to measure depression levels. Data collection was facilitated through the online SONA survey system, with 140 students initially participating and 105 completing the survey. The findings indicated a significant association between OCD and depression, emphasizing a substantial occurrence of concurrent depression among students with OCD. The study emphasized the need for further research into effective treatment strategies for individuals experiencing both OCD and depression.

Singh et al. (2017b) conducted a descriptive study over a five-year period on students aged 8-12 years with Specific Learning Disabilities (SLD) in India. Data collection utilized a semi-structured proforma, revealing that cases referred by teachers often presented with academic challenges due to delayed medical intervention. The study identified co-morbidities among SLD students, including ADHD, ASD, and Anxiety. It highlighted the difficulties in managing students with SLD due to insufficient awareness and delayed intervention.

Zuluaga et al. (2017) carried out an exploratory descriptive study in order to examine the associated co-morbidity among ADHD children and adolescence in Manizales, Columbia. One hundred forty-one participants, already diagnosed with ADHD (5-15 years) were included in the study. The recordings were analyzed using the MINI-KID (International Neuropsychiatric Interview). The study revealed that there was a prevalence of related co-morbidity in children aged 8-11years, with a 32% occurrence of co-morbid affective-behavioral relationship. Simple phobia (68.8%) as an internalizing and oppositional defiant disorder (18%) as an externalizing disorder commonly found co-morbidity among ADHD samples.

Anastopoulos et al. (2016) conducted the TRAC project in the United States—a five-year longitudinal investigation focusing on first-year college students aged 18-25 years with ADHD. The study aimed to identify patterns of co-morbidity among 443 participants recruited from various sources. Assessments included ADHD (RS-SRV and RS-PRV), semi-structured interviews for adult ADHD, structured clinical interviews for DSM disorders (SCID-1), Beck Depression Inventory-II, Beck Anxiety Inventory, and Externalizing Behavior Rating Scale. The study's findings indicated high rates of co-morbidity among participants, with 55.0% exhibiting at least one co-morbid condition and 31.8% exhibiting two or more co-morbidities. The most prevalent patterns of co-morbidity observed with ADHD included depression, anxiety, major depressive disorder, Oppositional Defiant Disorder (ODD), Conduct Disorder (CD), Posttraumatic Stress Disorder (PTSD), and Eating Disorders.

Budd et al. (2016) conducted a study involving 156 post-secondary students across 45 Canadian community colleges and universities. Data analysis utilized ANOVA, Chi-square analyses, and Pearson Correlations. Among the participants, 72 self-reported having dyslexia (LD), 42 reported having ADHD, and 42 reported having both LD and ADHD as co-morbid conditions. The study found that students with co-morbid ADHD and LD experienced poorer academic outcomes compared to those with LD or ADHD alone.

Chowhan et al. (2016) did a cross-sectional research to exploring the enduring psychological problems in children and adolescents in south Kashmir, five years following a tragedy. They randomly selected 100 participants and utilized the mini-K10 for symptom assessment. Out of the 100 children assessed, the study revealed that 41.32% were diagnosed with frequency of one psychological disorder. The most frequent diagnoses included PTSD (14%), followed by GAD (5%), MDD (4%), and separation anxiety disorder (4%). The findings highlighted higher rates of psychiatric morbidity among pre-adolescents, females, primary school students, children from joint families, various socio-economic backgrounds, only children, and those lacking social support.

El Sheikh et al. (2016) performed a descriptive, cross-sectional study in Egypt, namely in three government primary schools. The researchers employed multistage random sampling to select their study participants. They employed the Reading Disability Test of Nasra Gilgil (RDT), Good-enough Draw-a-Man test, Wechsler Children Intelligence Scale to assess IQ, and the Kiddie Schedule for Affective

Disorders and Schizophrenia (K-SADS-PL) to identify co-morbidities among 586 primary school students. The study revealed that alongside Dyslexia, students also exhibited other disorders including ADHD, anxiety, and depressed mood.

Romero et al. (2016) did a study aimed at identifying mental co-morbidities in children (5-15 years) ASD. The researchers employed the Nisonger Child Behaviour Rating Form, clinical interviews, and the Inventory of Autism Spectrum Disorder to evaluate 123 subjects. The investigation uncovered the presence of co-morbid diseases, including ADHD, OCD, anxiety disorders, and eating behavior difficulties, among persons diagnosed with Autism Spectrum Disorder.

Jacob et al. (2016) did a clinical study in order to assess the prevalence of neurodevelopmental & psychiatric co-morbidities among children and adolescents with Attention-Deficit Hyperactivity Disorder (ADHD) at a tertiary care child and adolescent psychiatry center, India. The study included a sample of 63 children and adolescents who met the inclusion criteria and had been formally diagnosed with ADHD. The tools administered for a comprehensive evaluation included the Mini-International Neuropsychiatric Interview for Children and Adolescents (MINI-KID), ADHD Rating Scale-IV (ADHD-RS), Children's Global Assessment Scale (CGAS), Clinical Global Impression Scale (CGI), Vineland Social Maturity Scale (VSMS), and Childhood Autism Rating Scale (CARS). The results revealed an alarmingly high rate of co-morbidity-all but one subject had at least one neurodevelopmental and/or psychiatric comorbidity, with 66.7% exhibiting both types. Among the neurodevelopmental disorders, Specific Learning Disability (SLD) was the most prevalent, while Oppositional Defiant Disorder (ODD) emerged as the most frequent psychiatric co-morbidity. Additionally, children with psychiatric co-morbidities, particularly ODD, had significantly higher ADHD-RS scores, indicating greater symptom severity. The study concluded that co-morbid conditions are highly prevalent in children with ADHD and strongly influence the clinical presentation and severity of the disorder. It recommended that such co-morbidities must be explicitly assessed during diagnostic evaluation and appropriately managed through integrated and individualized treatment plans.

Thakkar et al. (2016) performed a cross-sectional research in Mumbai, Maharashtra, India. The study used a questionnaire to gather information from newly identified children aged 8-15 years who have Specific Learning Disabilities (SpLDs). The primary objective of the investigation was to assess the prevalence of anxiety

disorders within this group. The study utilized purposive sampling to choose both the study and control groups, guaranteeing comparability in terms of age, gender, socioeconomic level, and medium of instruction (English medium). Anxiety levels were evaluated using the kid self-report Spence Children's Anxiety Scale (SCAS) questionnaire. The results showed that newly diagnosed children with Specific Learning Disabilities (SpLDs) have a higher likelihood of experiencing co-morbid anxiety than their counterparts without learning disabilities. The study emphasized the significance of conducting anxiety screenings in children diagnosed with Specific Learning Disabilities (SpLDs) to enhance their rehabilitation and support.

CHADD (2015) a national resource centre on ADHD stated that more than 2/3 of individuals with ADHD have at least one or other co-morbid conditions. Any disorder can be co-morbid with ADHD but there are some specific disorders that tend to occur more commonly among ADHD Individuals. The CHADD mentioned ODD (40%), CD (27% among children, 45-50% among adolescents & 20-25 % among adults), Mood disorder (38%), depression (14% among children & 47% among adults), bipolar (20%), anxiety (30% among children & 53% among adults), less than 10% have tic disorder where 60-80% children with tic disorder have ADHD, sleep disorder, substance abuse (Youths are at higher risk) and learning disabilities (50%). Dyslexia & Dyscalculia are the most common co-morbid conditions among ADHD.

Jaisoorya et al. (2015) carried out a large-scale study in Kerala, India, with the objective of estimating the point prevalence of Obsessive-Compulsive Disorder (OCD) among school-going adolescents (12-18 years), and to examine its associations with variables such as ADHD, psychological distress, substance use, suicidal risk, and history of sexual abuse. The OCD subsection of the Clinical Interview Schedule-Revised (CIS-R) and the Composite International Diagnostic Interview (CIDI) were administered on 7,560 students from 73 schools to assess obsessive-compulsive symptoms. Diagnosis of OCD was made using the ICD-10 criteria, with the help of the CIS-R algorithm, which considered symptom duration, resistance to thoughts/behaviors, and functional impairment. The findings showed a point prevalence of OCD at 0.8%, with a higher occurrence in males (1.1%) compared to females (0.5%) and among Muslim students. The most frequently reported symptoms were taboo thoughts (62.3%) and mental rituals (45.9%). Adolescents diagnosed with OCD were significantly more likely to report suicidal ideation (59%), suicide attempts (24.6%), ADHD (28%), history of sexual abuse (24.6%), tobacco use (23%), and

higher psychological distress, along with decline in academic performance, compared to those without OCD. The study concludes that OCD, though under-recognized, is present among Indian adolescents and is associated with serious co-morbid psychiatric and behavioral issues, warranting early identification, comprehensive evaluation, and timely intervention to prevent long-term functional impairment.

Sahoo et al. (2015), in their review paper on co-morbidity among children, in India, identified that emotional and behavioral issues affect approximately 30% of children with learning disabilities. ADHD was the most prevalent co-morbidity reported among these children, while anxiety affected 30%, and depression and substance abuse were less frequent. The study highlighted that 62% of children with Major Depressive Disorder also had learning disabilities. Furthermore, the research suggested that youth with learning disabilities are at an elevated risk for suicidal behaviors, and behavioral problems were diagnosed in 20 (40%) of the children studied. It was noted that having a learning disability exacerbates academic achievement, with students experiencing greater academic challenges across various subjects compared to those with a single disorder or no learning disability. The study highlighted a lack of knowledge among families and instructors regarding these difficulties, as well as insufficient distribution of reliable information concerning psychological problems among youngsters.

Qu et al. (2015) executed a cross-sectional research with an aim to explore the co-morbidity of mental disorders among school students (6-16 years) in 40 primary and intermediate schools who had behavioural problems. CBCL was administered on 19,711 students and MINI-KID was administered on 3,769 students with CBCL positive. The results of the study revealed that 19.12% detected with behavioral problem where 15.24% diagnosed with 23 types of mental disorders among them 36.46% had two co-morbid conditions and 1.93% diagnosed with three co-morbid conditions and the most frequent co-morbid disorder was ADHD, CD, Anxiety disorder, ODD, MDD, OCD and Tic disorder.

Jhambh et al. (2014) did an analysis to ascertain the incidence of ADHD among college students and investigate its co-morbidities with other psychological disorders. They administered several scales including the self-reported adult ADHD scale, Wender Utah Rating Scale, General Health Questionnaire-20, and Zung Depression Scale to 237 participants from medical, commerce, arts, and engineering colleges in Chandigarh, India. The study revealed that among the participants, only 13 students

were diagnosed with ADHD, and they exhibited co-morbidities such as emotional instability, depression, psychological problems, social issues, and substance abuse. The researchers recommended the implementation of proper management strategies for students with ADHD to mitigate the impact of these co-morbid conditions.

Moll et al. (2014) conducted a study in Germany sought to determine the prevalence and gender differences of specific learning disorder-reading, spelling and arithmetic deficits-in 3rd and 4th grade children. Total 1633 children from 119 classrooms in 18 primary schools in and around Munich, each uniformly stratified by gender (50.6% male) were used in the study. The learning disorders were measured using standardized tests to provide an objective assessment of the children's skills. Results showed that boys were more likely to have spelling deficits and girls' impairments in arithmetic; however, no gender differences were found for isolated reading problems. Such results emphasize the need for an awareness of learned gender differences, because that can be used to develop more targeted assessment and intervention strategies that may better meet the needs of children who differ in their specific learning requirements. This is an important concept for educators and clinicians who need to cater the learning process for how boys and girls differ.

Palaniappan et al. (2013) did a retrospective study in India aimed to explore the pattern of co-morbid disorders among Indian children and adolescents diagnosed with ADHD, and to assess the extent of functional impairment in those with and without co-morbidities. The study recruited a total of 60 consecutive participants, aged 6 to 16 years, from a tertiary care center over a period of six months. All participants were diagnosed with ADHD based on DSM-IV TR criteria. In order to assess co-morbid conditions, the Kiddie Schedule for Affective Disorders and Schizophrenia - Present and Lifetime Version (K-SADS-PL) was administered. To measure global functioning, the Children's Global Assessment Scale (CGAS) was employed for all participants. The findings revealed that 55% of the ADHD-diagnosed children had at least one co-morbid disorder, indicating a significant overlap between ADHD and other psychiatric conditions. Among the most prevalent co-morbid disorders, Oppositional Defiant Disorder (25%) was the most frequently reported, followed by Conduct Disorder (13.3%), Bipolar Affective Disorder (13.3%), and Major Depressive Disorder (10%). Additionally, Communication Disorder (10%), Substance Use Disorder (8.4%), Obsessive Compulsive Disorder (8.3%), Tic Disorder (5.4%), Learning Disorder (5%), Elimination Disorder (3.3%), Social Phobia (1.7%), and

Separation Anxiety Disorder (1.7%) were also observed in varying proportions. Furthermore, the study found a statistically significant difference in the global functioning scores between children with and without co-morbidities. Those with co-morbid conditions had a lower mean CGAS score (41.58 ± 0.45) compared to those without co-morbidities (47.67 ± 8.57) with a p-value of 0.018, indicating that co-morbidities in ADHD are associated with greater functional impairment. This study underscores the importance of comprehensive assessment protocols in India and calls for further large-scale research using validated instruments to establish robust epidemiological data on ADHD and its co-morbid conditions.

Quinn and Wagner (2013), determine how severe gender differences in reading disability of students can be measured within a large sample comprising second-grade pupils from Florida in the USA. Participants were 491,103 school children aged 7 to 8 years mostly drawn from the reading first schools whose goals are to improve the reading performance of at risk students. The methodology consisted of evaluating performance in reading of students taken from the state's progress monitoring and reporting network. The study undertook the use of various identification procedures including reading disability impairment standardized tests and achievement measures for the assessment of reading disability. Most of the respondents pointed out that there was a noticeable difference, and it was more pronounced in boys and in cases of increased severity of reading impairment. The study emphasized that these gender differences in relation to the identification of readers and interventions for readers in need be taken into account. In this case, there is a clear appeal to integrate approaches that can meet the distinct requirements of boys in developing reading processes.

Rao & Landa (2013) conducted a study on school-age children aged 4-8 years to investigate co-morbidity of Attention Deficit Hyperactivity Disorder (ADHD) among students with Autism Spectrum Disorder (ASD). Autistic Diagnostic observation schedule-Generic was administered on 153 children and Behavior "Assessment System for Children" (BASC) was used to check ADHD. The findings of the study reported 28.7% (44 children) had ASD only where 11.7% (18 children) had co-morbid ADHD and ASD conditions. The study further stated that children with co-morbid conditions had lower cognitive functioning than ASD alone.

Amiri et al. (2012) performed a study in primary schools throughout Iran to examine the frequency of Tourette Syndrome (TS) and its association with ADHD. The study employed random cluster sampling and included 1,658 children. Conner's Teacher

Rating Scale for ADHD and K-SAD-PL interviews were utilized for assessment. The findings revealed a prevalence of 1.3% for TS and 9.7% for ADHD, with 72.7% of children diagnosed with TS also exhibiting co-morbid ADHD. The study emphasized the importance of professional diagnosis and treatment, advocating for early intervention to mitigate potential behavioral and learning challenges in adolescence.

Dupaul et al. (2012) reviewed research papers of the decade 2001-2011 with an aim to examine the co-morbidity between ADHD and LD. The finding of the study revealed the higher rate of co-morbidity between ADHD & LD, where children with one disorder either DHD or LD mostly diagnosed with other disorder. It is must for the concerns to do the screening of other disorder of the children if diagnosed with either ADHD or LD first. The study further suggested one should keep in mind the prevalence of co-morbidity while doing diagnoses, treatment and providing intervention to students.

Humphreys et al. (2012) did a research involving four groups: ADHD alone, Anxiety alone, ADHD + Anxiety, and a Non-ADHD group, to investigate the frequency of co-morbid Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) among children. They assessed 203 participants aged 6-9 years using DISC-IV and DBD rating scales. The study findings indicated a higher incidence of ODD and CD among the ADHD + Anxiety group compared to the single disorder or non-ADHD groups. The study recommended early diagnosis of these disorders to facilitate tailored interventions aimed at reducing the risk of additional co-morbid conditions.

Van Steensel et al. (2012) did a study with the goal of discovering co-morbidity patterns in individuals diagnosed with ASD and ADHD. It included an equal number of participants from both the ASD and ADHD samples, totaling 40 individuals aged between 7 and 18 years, in the Netherlands. DSM-IV was used to assess the primary disorders i.e. ASD and ADHD and KID-SCID were used to assess the co-morbid conditions. The finding of the study reported that in ASD samples 57.5% i.e., 23 children showed 35% of more internalizing disorder (i.e., Anxiety disorder (27.5%), separation anxiety disorder (2.5%), panic disorder (2.5%), social anxiety disorder (10.0%), OCD (7.5%), specific phobia (12.5%), GAD (5.0%), MDD (2.5 %), mood disorder (12.5%) dysthymic disorder (10.0%) then externalizing behavior (22.5%) (i.e., ODD (22.5%) CD (2.5 %) and ADHD (22.5 %)) whereas in the samples of ADHD, 40% (i.e. 16 children) showed co-morbid 27.5 % of more externalizing disorders (i.e., ODD (20.0%), CD (12.5%) and ADHD (90.0%)) than internalizing

disorders 12.5 % (i.e., Anxiety disorder (10.0%), separation anxiety disorder (5.0%), social anxiety disorder (2.5%), specific phobia (2.5%), MDD (5.0%), mood disorder (5.0%)). The study further stated that it is important to be aware of these co-morbid patterns before providing intervention to these students.

Larson et al. (2011b) did a cross-sectional study aimed at identifying patterns of co-morbidity among children with ADHD in the US. They analyzed data from 5,028 children aged 6-17 years obtained from the National Survey of Children's Health (NSCH). Parents of these children were enquired about ten potential co-morbid conditions viz, CD, LD, Depression, Anxiety ASD, Hearing and Vision Problem, Speech Problem Epilepsy and Tic Disorder. Data was analyzed by stat. 11.0. The findings of the study reported that the children with ADHD were more likely to have at least one co-morbid condition out of 10 mentioned disorders. The result also stated that ADHD children had co-morbidity of CD (27%), LD (46%), depression (14%), anxiety (18%), and speech problem (12%). At least 33% of ADHD children had only one disorder where 16 % had two and 18% had faced even three co-morbid conditions as well. The study suggested taking care of primary disorders in order to prevent co-morbid conditions which badly affect the overall development of a child.

Specht et al. (2011) did a study on children and teenagers between the ages of 9 and 17 who were diagnosed with Tic disorder. The study examined the presence of co-morbidity. The Yale Global Tic Severity Scale was employed on 178 people, identifying Tic disorder in 126 individuals. The Anxiety Disorders Interview Schedule-Revised (ADIS-R) was utilized to detect co-morbid conditions. The study found that 64% of participants had at least one co-morbid condition, with ADHD (26%), Social Phobia (21%), Generalized Anxiety Disorder (GAD) (20%), and Obsessive-Compulsive Disorder (OCD) (19%) being the most common.

Eissa (2010) conducted a study on 35 adolescents (12-18 years) with dyslexia conditions in Egypt with an aim to examine dyslexia and its associated co-morbid disorders. Youth Self-report Inventory, Hamilton scale for depression and anxiety were administered. The finding of the study stated that students with dyslexia do possess other higher co-morbid conditions of depression, anxiety, aggression, thought and social problems and even delinquent behavioral and emotional problems. The study claimed to generate awareness regarding dyslexia and its associated co-morbid conditions which results in early identification and interventions.

Gau et al. (2010) performed a study to investigate the presence of mental co-morbidity in children with ADHD. 296 participants were recruited who had symptoms of ADHD from the National Taiwan University hospital, China. The Chinese K-SADS-E, a semi-structured interview scale, was used to assess the other mental health issues among ADHD children. The result of the study revealed that participants with and without persistent ADHD had higher risk of developing any other psychiatric co-morbidity viz. CD, ODD, Tic disorder, anxiety, mood disorder, specific phobias, sleep disorder and substance abuse.

Kim et al. (2010) carried a study in Korea that aimed to establish the occurrence of Oppositional Defiant Disorder (ODD) among middle and high school students. Additionally, the study sought to analyse the patterns of co-morbidity. A total of 2,673 individuals underwent the administration of the Diagnostic Interview Schedule for Children as well as the Child Behaviour Checklist. The study found that the prevalence of ODD was 4.41%. Out of 118 students diagnosed with ODD, 36.4% exhibited at least one co-morbid condition other than ADHD. The commonly found co-morbid conditions were Anxiety Disorder (25.4%), Mood Disorder (4.2%), and Tic Disorder (4.2%), in addition to ADHD.

Mattila et al. (2010) did a research to examine the occurrence of High-Functioning Autism (AS/HFA) and its associated co-morbid conditions among students aged 9 to 16 years. They used the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL) on a combined community and clinical sample of 50 students with AS/HFA. The study found that among the sample with AS/HFA, 44% had behavioral disorders, 42% had Anxiety Disorder, and 26% had Tic Disorder. Other prevalent conditions included Oppositional Defiant Disorder (ODD) and Major Depressive Disorder (MDD).

Reddy et al. (2010) did a review analysis that aimed to summarize the research conducted in India on Obsessive-Compulsive Disorder (OCD). The study also investigated the patterns of co-morbidity with OCD, both in children and adults. The study examined multiple Indian studies on OCD and emphasized the occurrence of co-morbid conditions including Tic Disorder, Hypochondriasis, Body Dysmorphic Disorder (BDD), Major Depressive Disorder (MDD), Dysthymia, Anxiety Disorders, Depression, Bipolar Disorder, Panic Disorder, Attention-Deficit/Hyperactivity Disorder (ADHD), and even Schizophrenia among individuals with OCD. The results

emphasized the frequent presence of mental co-morbidities in people who have been diagnosed with OCD.

Shastri et al. (2010) conducted a comprehensive review study with an aim to assess the status of services and research trends in the field of child and adolescent psychiatry within the Indian context. The study did not involve primary data collection from a specific sample, but rather critically reviewed the existing literature, reports, and service records available up to that time. The sampling method was purposive-focusing on published and accessible reports, government documents, and academic articles related to child mental health in India. The findings revealed a stark treatment gap, where despite approximately 10% of India's child population needing psychiatric help only 1% received any form of treatment. It also noted the absence of structured epidemiological studies and highlighted that services such as Child Guidance Clinics were highly concentrated in metropolitan cities, with minimal access in rural and semi-urban areas. Furthermore, the study reported a lack of specialized professionals and underrepresentation of child-focused content in psychiatry training programs. This research strongly advocated for the urgent development of a national mental health policy for children and adolescents, expansion of infrastructure especially in underserved areas, inclusion of child psychiatry training in medical education, and promotion of original research using structured tools and representative samples to generate data that can inform evidence-based planning and intervention.

Srivastava et al. (2010) reviewed papers on Indian research on Psychiatric co-morbidity from the last six decades. After reviewing all the papers the study concluded and stated that even though co-morbidity reported in India was to be as high as 60%, but the number of researches in this regard was limited. Out of the total publications, most of the focused area was substance abuse related co-morbidity where few studies showed data in child psychiatric co-morbidity and very little talked about other co-morbidities. The pattern of co-morbidities seen in this review papers were: Substance use with co-morbidity of Mood disorder (35%), Anxiety (3.5%), Sexual Dysfunction (23%), Psychotic disorder (11.5%) and some had personality Disorder; Mood Disorder with co-morbidity of Substance abuse; Schizophrenia with co-morbidity of major depressive Disorder (2%) & Depressive Symptoms (53%); ADHD with SLD; Mental retardation with co-morbidity of Psychosis (11%), Autism (11%), Mood Disorder (8%), Hyperkinetic disorder (2%), Conduct Disorder (2%),

Enuresis (2%) and Unspecified Emotional & Behavioural Disorder (26%); and Pervasive Developmental Disorder with co-morbidity of ADHD, Anxiety, OCD, Bipolar Affective Disorder & Circadian Disturbance of Sleep. The study suggested that there is a need for further research in relation to specific co-morbidity combinations as many of them remained unexplored.

Benner et al. (2009) executed a study on 152 adolescents who were getting treatment for Emotional Disturbance (ED) in a medium-sized metropolitan school district in the Midwest. The study intended to explore the prevalence and connection between learning difficulties. The researchers conducted the Clinical Evaluation of Language Fundamentals, Third Edition (CELF-3), and obtained the overall results from the Teacher's Report Form (TRF) (Achenbach, 1991). The study revealed a strong correlation between learning difficulties and language disorders, namely combined receptive-expressive disorder, among the majority of students with learning disabilities. In addition, several students exhibited concentration difficulties, with ADHD being the most commonly linked condition to linguistic issues. The results emphasised the significant occurrence of co-morbidity in kids with eating disorders (ED) and the necessity for specific treatments to assist these students and educate their families about the co-existing diseases.

Cho et al. (2009) carried a study with the objective of examining the patterns of co-morbidity among ADHD conditions. A single elementary school was chosen at random from each district of Seoul, Korea. Out of the 2,493 pupils that were eligible, 1,651 of them took part in the study. The study employed the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL), DSM-IV criteria, and behaviour checklists. The results revealed a prevalence rate of ADHD of 5.9%, with 52.6% of these individuals also having at least one co-morbid condition. The prevalence of specific phobia as a co-morbidity was 25.8%, making it the most prevalent, followed by oppositional defiant disorder at 21.6%, tic disorder at 12.4%, conduct disorder (CD), and anxiety disorder.

Debes et al. (2009) performed a study on children diagnosed with Tourette syndrome (TS) who were selected from the TS clinic at Glostrup University Hospital, Denmark. Out of the total cohort of children, precisely 376, who met the exact criteria for TS, a total of 314 actively participated in this research. The diagnosis of ADHD was established with the help of DSM-IV. The Yale-Brown Obsessive Compulsive Scale was used to evaluation of OCD. According to the findings, 38.7% of the youngsters

received a diagnosis of TS. Of the individuals surveyed, 21.4% had both TS and ADHD, 18.2% had TS and OCD, and 21.4% had all three conditions (TS, ADHD, and OCD). The study highlighted that children with tic disorders already experience educational challenges, which are exacerbated by these coexisting conditions. Physicians, teachers, and other professionals must recognize the prevalence of these diseases, educational difficulties, and present to adequately support to these students.

Fawzi et al. (2009) investigated the occurrence of depression and post-traumatic stress disorder (PTSD) in a group of high school students in Boston, aged 15-24 years, and explored the extent to which these two conditions co-occur. The Youth Self-Report, Children's Depression Inventory Scale, and Child Post-Traumatic Stress Reaction Index were administered to 200 participants. The study revealed a prevalence of 14.0% for depression and 11.6% for PTSD, with 7.9% of participants experiencing co-morbid depression and PTSD.

Verger et al. (2009) did cross-sectional research to investigate psychiatric disorders and patterns of co-morbidity among university students aged 18-24 years in France. They administered the WHO CIDI short-form and Sheehan Disability Scale to 964 students. The study revealed that Major Depressive Disorder (MDD) had a prevalence rate of 8.9%, Anxiety Disorder (AD) had a prevalence rate of 15.7%, and Substance Use Disorder (SUD) had a prevalence rate of 8.1%. The study also highlighted co-morbidities among these disorders, particularly the co-occurrence of Major Depressive Disorder, Anxiety Disorder, and Substance Use Disorder.

Ruchkin et al. (2008) undertaken a study in Russia to explore ADHD and its related co-morbid condition among teenagers aged 12-17 years. Teacher's rating scale, students self-reports scales were used on 536 participants to assess ADHD and other associated internalising and externalising problems. The results of the study reported, out of total, 9.2% boys and 3.6% girls met the criteria for ADHD. The study also reported the patterns of co-morbidity among ADHD students i.e. depression, delinquent behavior, ODD and CD.

Simonoff et al. (2008) conducted a population cohort study involving 56,946 children aged 10-14 years in London to identify patterns of co-morbidity in Autism Spectrum Disorder (ASD), where 112 children identified as ASD. The analysis revealed that 70% of these youngsters exhibited at least one co-morbid condition, while 41% had more than two. The prevalent co-morbid conditions observed were social anxiety disorder (29.2%), ADHD (28.2%), and ODD (28.1%).

Alyahri and Goodman (2007) executed a cross-sectional study on Yemeni school students aged 7 to 10 years in order to investigate the occurrence and co-occurrence of psychiatric problems. Development and Well-Being Assessment (DAWBA) was administered on 1,007 individuals. The findings revealed that 15.7% (193 children) of the participants were diagnosed with psychiatric disorders, and within this group, 11.4% (22 children) had co-morbid conditions. The prevalent co-morbid conditions included behavioural disorders (25.6%), ADHD (25.0%), and emotional disorders (16.7%).

Cabiya et al. (2007) did a research on children with ADHD aged 9-13 years, studying in elementary school. Researchers administered the Children's Depression Inventory (CDI), Youth Self-Report (YSR), and Bauermeister School Behavior Inventory (BSBI) to 176 students from 12 elementary schools in Puerto Rico. The study found a high co-morbidity rate of aggressive behavior, depressed mood, and social problems among students with ADHD.

Goldston et al. (2007) carried a longitudinal study with an aim to determine the psychiatric co-morbidity among the adolescent students (screening was done at the age of 15 years) in Washington. Affective disorder and schizophrenia for school age children was administered on 188 participants. The findings of the study reported that the patterns of co-morbidity of ADHD, affective and anxiety disorder & social phobia have been seen among adolescents with reading problems. The study further stated that these co-morbidities worsen the reading problems of the students.

Yen et al. (2007) did a research in Taiwan on adolescents with internet addiction in order to identify the co-morbid condition among them. Internet addiction scale was administered on 2114 students and instruments like ADHD-SR, CES-D, SPIN were administered on 338 participants with internet addiction. The result of the study reported the co-morbidity of ADHD and depression disorder among internet addicted students with social phobia and hostility where hostility is only present in male participants.

Canitano (2006) documented in his research work that the incidence of epilepsy is 2-3% among children, but it escalates to 25% among children diagnosed with Autism Spectrum Disorder. Finding of the study revealed the prevalence of co-morbidities such as epilepsy, sleep disorders, autism, and seizures. The study also recommended conducting additional clinical research on the co-occurrence of co-morbid diseases.

Smith & Adams (2006) carried out a study in the United States to determine how common it is for school-aged children (aged 5-15 years) to have both Attention-Deficit Hyperactivity Disorder (ADHD) and Learning Disabilities (LD). Information was gathered from the 2001 National Household Education Survey. 9,583 participants were recruited through random phone calls, and computer-assisted interviews were conducted. The results indicated that among the entire sample, 358 children (3.7%) exhibited both ADHD and LD, 343 children (3.6%) had ADHD alone, and 466 children (4.9%) had LD alone.

Whitbeck et al. (2006) did a study on 746 American Indian children aged 10-12 years in the Northern Midwest to examine the prevalence of mental disorders and potential patterns of co-morbidity. The results revealed that 23% of the children exhibited symptoms of at least one of 11 mental disorders, while 9% showed symptoms of more than two disorders, indicating co-morbidity. Common co-morbid conditions included substance abuse, CD, ADHD, and ODD. The study highlighted that a significant factor contributing to mental disorders among these children was having a depressed caretaker. It emphasized the need to identify factors leading to early mental health issues, as the early onset of mental disorders increases the likelihood of co-morbidity later in life.

Erenberg (2005) stated in his review paper that most of the studies reported children with Tourette syndrome had co-morbid ADHD. It has been observed that behavior problems among Tourette syndrome children were not seen until ADHD emerged as a co-morbid condition.

Johnson (2005) reported in his reviewed article on the prevalence of co-morbidity among children reported that learning disabled children are vulnerable to co-morbidity. Researcher further reported that boys are more likely to have co-morbidity. Children with learning disabilities manifest higher rates of all internalizing and externalizing disorders as compared to the children without learning disabilities.

Baxter & Rattan (2004) conducted a causal-comparative study to identify co-morbidity among diagnosed ADHD male students aged 9-11 years in North Carolina. The Behavior Assessment System for Children (BASC), parents scale, teachers rating scale, self-report personality, and revised children's manifest anxiety scale were administered to 86 participants. The study revealed that children diagnosed with ADHD displayed elevated levels of co-occurring internalising disorders like anxiety and sadness.

Dery et al. (2004) conducted a descriptive study to identify combination of disorders among students studying in elementary school in Quebec. A sample of 324 children underwent the administration of the Diagnostic Interview Schedule for Children (DISC, 18), including contributions from both parents and teachers. The findings revealed that at least 50.7% of the sample exhibited co-morbidity of ODD, ADHD and Conduct Disorder (CD).

Ersan et al. (2004) undertook a study to investigate the occurrence of ADHD and ODD, as well as their co-occurrence, among school pupils (aged 6-15). 2,000 individuals were given questionnaires regarding ADHD and ODD. Finding of the study revealed the prevalence rate of ADHD alone was 8.1%, ODD alone was 11.5%, and the co-occurrence of both ADHD and ODD was observed in 5.6% of the participants.

Mason et al. (2004) carried out a longitudinal study of 808 elementary school students in Seattle. Child emotional and behavior problems were assessed in the ages of 10 to 11 years by using "Child Behavior Checklist (CBCL)". The study intended to forecast the occurrence of depression, social phobia, and violence during the early adulthood of these individuals, namely at 21 years of age. Diagnostic interview schedules were administered on the participants. The result of the study reported 20% depression, 17% social phobia, and 21% violence act with 12% of co-morbid disorder where 4 % for both depression and social phobia, 4% for depression and violence, 2% for both social phobia and violence, and 3% for all the three disorders.

Rappoport & Caffey (2004) conducted a case study of a 14 year old Latino boy "John" who was sent to the psychiatric-consultant for his disruptive behavior. John was diagnosed with ADHD as a primary problem (remained untreated) which increases the risk of co-morbid disruptive behavioral problem, mood disorder, and possible bipolar disorder with the risk to PTSD, ODD and CD as well.

Essau (2003) carried out a study with an aim to examine the patterns of co-morbid conditions among adolescents with anxiety. Finding revealed the higher rate of co-morbidity of other psychiatric conditions among the adolescent with anxiety disorder and the most common pattern was anxiety and depression. The study further suggested to designs interventions in order to cope up with co-morbid conditions.

Wang & Kuo (2003) conducted an epidemiological study to determine the occurrence of Tic Disorder and the occurrence of other conditions alongside it among elementary school pupils aged 6-12 years. The study reported a prevalence rate of 0.56% for Tic

Disorder among the participants. Common patterns of co-morbidity included ADHD (36%), self-injurious behavior (27%), and Obsessive-Compulsive Disorder (OCD) (18%) among students with Tic Disorder.

Aalto et al. (2002) conducted research on the prevalence and co-morbidity of depression among adults within the age group 20-24 years in Finland. Semi structured clinical interview (SCAN) was conducted on the sample of 245 urban adults. Finding of the research reported the high prevalence rate of depression and other adjustment depressive disorder among participants with at least one co-morbid condition. The patterns of co-morbidity reported in the study were - dysthymic disorder, eating disorder, substance abuse disorder, personality disorder, and identity disorder.

Conclusion

It is concluded that researchers have found the occurrences of co-morbidity among students. The students with different co-morbid conditions have different pairs of co-morbidity. The co-morbid conditions are more prevalent in male than females. The most commonly identified co-morbid conditions among learning disability students are ADHD, Anxiety, Depression and Conduct/behavior disorder. It was observed that each disorder carried an elevated risk of another disorder when left unidentified and untreated.

2.1.2 REVIEWS OF STUDIES RELATED TO ACADEMIC PROBLEM AMONG MIDDLE SCHOOL STUDENTS WITH CO-MORBIDITY

Academic problems are the challenges faced by the students during their learning process. Students who struggle with academic deficits do not do so in isolation. Identifying academic problems of students is the first step in providing customized interventions to the students according to the academic problem of the students.

Suja and Elamaram (2024) explored a comprehensive literature review and analysis of educational policies with an aim to explore the problems of children with disability (6 to 18 years) in Indian inclusive school setup. The paper employs a qualitative research approach, reviewing existing literature, policies, and case studies related to inclusive education in India. The study indicated that negative attitudes of peers and teachers, bullying and social exclusion, physical obstacles, and an inappropriate curriculum that does not cater to diverse learning needs, poor training of educators and the lack of resources caused major obstacles for better practice in inclusive education. It also

suggested strengthening teacher education, raising student awareness about disabilities and better resource management to facilitate inclusive practices within schools.

Chieffo et al. (2023) aimed to explore the connection between Specific Learning Disorders (SLD) and behavioural impairments, focusing on whether these conditions are co-morbid or if a specific profile links them. The research involved children and adolescents diagnosed with either typical SLD (SLD only) or atypical SLD (SLD with emotional and behavioural impairments). The sample included both typical and atypical SLD groups, with evaluations conducted at two intervals (T0 and T1) to monitor changes in cognitive, academic, emotional, and behavioural abilities. The methodology incorporated standardized assessments and correlation analyses to evaluate cognitive functioning, academic skills, and emotional and behavioural aspects. The results showed no significant improvements in general cognitive functioning, academic abilities, or emotional and behavioural aspects between T0 and T1 for both typical and atypical SLD groups. Writing skills were identified as the most significantly affected academic skill across all samples, with working memory being crucial for academic development. Additionally, the internalizing scale, indicating higher levels of anxiety and depression, was most impaired in both typical and atypical SLD groups. The findings suggest that children with SLD, regardless of whether they have additional emotional and behavioural impairments, face challenges in academic skills and emotional well-being. This study emphasizes the significance of treating the simultaneous occurrence of Specific Learning Disability (SLD) and behavioral impairments. It also underlines the necessity for focused interventions to enhance cognitive functioning, academic skills, and emotional well-being in adolescents and children with Learning Disability.

Howard-Gosse et al. (2023) explored the challenges encountered by students studying in university with a history of reading difficulties (HRD) as part of a comprehensive study on the increasing enrolment of students with disabilities. This study compared 49 HRD students and 88 students without reading difficulties (NRD), focusing on their self-reported reading challenges and strategies. It found that HRD students faced more significant issues in reading comprehension, concentration, and speed, and often employed strategies like using alternative materials or choosing shorter texts to manage their workload. The research demonstrated that strategies enhancing reading completion and concentration positively impacted GPA for all students. However,

strategies based on personal interest or perceived reading difficulty correlated with lower GPAs, highlighting the need for targeted support strategies to improve academic outcomes for students with reading challenges.

Kajastus et al. (2023) carried a study to examine the impact of Social Anxiety Disorder (SAD) and Generalized Anxiety Disorder (GAD), both individually and in combination, on the reported academic and social difficulties experienced by Finnish upper secondary school students. The study utilized data from the School Health Promotion initiative, which consisted of 37,905 children with a mean age of 17.33 years. The data was acquired during the spring of 2015. The study employed exploratory factor analysis to identify the primary challenges that students encounter in both academic and social spheres. The study utilised logistic regression to examine the association between levels of symptoms related to Generalised Anxiety Disorder (GAD) and Social Anxiety Disorder (SAD), as measured by the Generalised Anxiety Disorder Scale (scores ≥ 10) and the Mini-SPIN (scores ≥ 6), and the aforementioned tasks. The findings indicated that symptoms of GAD and SAD, whether experienced individually or concurrently, significantly heightened both academic and social difficulties. The presence of symptoms from both disorders increased the likelihood of encountering social challenges, while symptoms of GAD alone strongly correlated with academic challenges. This underscores the detrimental impact of excessive worry associated with GAD on academic performance, emphasizing the critical need for anxiety-reducing interventions in educational settings. Implementing supportive strategies tailored to students with these anxiety disorders is crucial for improving their academic outcomes and fostering social integration.

Schraegle et al. (2023b) investigated the influence of neighborhood deprivation on cognitive and academic challenges in children who have recently developed epilepsy, in comparison to a group of healthy individuals. The research involved 288 participants (aged 8-18 years), including 182 children with epilepsy (average age 12.2 years) and 106 healthy first-degree cousin controls (average age 12.5 years). Each participant and their parent underwent comprehensive neuropsychological testing to assess various cognitive domains such as reasoning, language skills, memory, executive function, motor skills, and academic achievement. The study utilized the Area Deprivation Index (ADI) from the Neighborhood Atlas to evaluate socioeconomic status, encompassing factors like income, education levels, employment rates, and housing quality. Statistical analysis indicated that while overall

levels of disadvantage were comparable between the epilepsy groups and healthy controls, higher ADI scores were associated with poorer cognitive outcomes specifically in children with epilepsy. These included lower IQ, diminished language abilities, reduced verbal fluency, increased attention problems, impaired memory recall, and slower motor skills among children with epilepsy living in more disadvantaged neighborhoods. In contrast, cognitive functions in healthy controls were not affected by neighborhood disadvantage to the same extent. Furthermore, children with epilepsy experienced more pronounced academic difficulties compared to their healthy counterparts, with these challenges exacerbated in neighborhoods with higher ADI scores. Specifically, high neighborhood disadvantage was found to triple the risk of academic challenges before the onset of epilepsy. In summary, the study highlights the substantial influence of socioeconomic deprivation on the cognitive and scholastic abilities of children with epilepsy. It highlights the necessity of considering socioeconomic factors when addressing neuro-behavioral issues related to epilepsy, advocating for tailored interventions that take into account the broader social context in which these children live.

Anjum et al. (2022) carried a qualitative study on the problems encountered by students with special needs in inclusive university classrooms in Multan, Punjab, Pakistan. The research focused on students enrolled in the Education, Psychology, and Sociology departments at Bahauddin Zakariya University, Multan, involving eighteen participants with special needs across these fields. Employing a semi-structured interview schedule for the purpose of gathering data and thematic analysis for data interpretation, the study identified various challenges faced by students with disabilities. These challenges included low educational expectations, despite positive attitudes from classmates. Specific issues identified were related to departmental approaches, overcrowded classrooms, structural problems in buildings, uncomfortable chairs, lack of specialized transportation, teacher favoritism, insufficient teacher cooperation, absence of regular progress checks, difficulties understanding abstract concepts, inadequate repetition of instructions, poor seating arrangements during exams, lack of writers, insufficient extra time, non-compliance with Higher Education Commission rights, and problems with invigilators. Researcher suggested that these students require additional support and stronger peer relationships. It also emphasized that the policy of inclusive education is not yet effectively implemented in the educational system.

Chawla et al. (2022) carried a cross-sectional analytical research at a primary school in the Dehradun district of Uttarakhand, India, using purposive sampling. They employed the Vanderbilt ADHD Diagnostic Parent Rating Scale (VADPRS) and the Vanderbilt ADHD Diagnostic Teacher Rating Scale (VADTRS) to evaluate 228 students. ADHD, characterized by neurobiological challenges in behavior, significantly disrupts daily life in school and home settings. The study revealed that 11.8% of primary school children were diagnosed with ADHD based on teachers' assessments. Moreover, more than half of these students encountered difficulties in learning, including reading, writing, mathematics, poor academic performance, and disruptive classroom behavior. ADHD also presents a spectrum of challenges beyond academics, encompassing functional impairments, depression, academic underachievement, conduct disorders, interpersonal difficulties, workplace challenges, and risks of substance misuse. Social and emotional struggles, such as poor peer relationships and communication issues with parents, are prevalent. Disruptive behavior in class may lead to disciplinary actions and negative interactions with peers and teachers, worsening academic challenges and fostering a demanding learning environment. This study emphasizes the urgent requirement for timely and specific interventions for ADHD in order to enhance their social, emotional, and academic development.

Lagacé et al. (2022) intended to examine the educational experiences of college and university students diagnosed with ADHD in Canada. Using qualitative methods, the study involved in-depth interviews with 29 students (aged 18-36 years) diagnosed with ADHD, along with 26 family members and 9 counselors. The research emphasized notable academic challenges encountered by these pupils, encompassing issues associated with attention, emotional regulation, motivation, time management, self-control, memory, organization, and planning, often linked to deficits in executive functions. The results also revealed the intricate interaction that exists between children's ADHD diagnoses and how they perform in school, emphasizing the subtle and intricate nature of the difficulties they face. The study recommended strategies based on existing literature to improve academic outcomes for students with ADHD in higher education, emphasizing the importance of tailored support systems to address their diverse needs effectively.

Ahmed (2021) carried out a descriptive survey study in order to figure out the kind of academic problems in the way of achieving inclusion goals of Autistics students in

Riyadh, Saudi Arabia. Self-constructed tool was administered on 120 randomly selected teachers of Autistic students. The study's findings indicated that the Autistic students experience academic problems because of their short memory as they fail to remember things, failure at the part of school administration, parent's carelessness in discussing problems and the community at large which is still not prepared for the process of inclusion with autism. The study further stated that the problems related to administration, technical aspects and school incapability makes the academic life of Autistic students harder in regular school's settings.

Greenway & Edward (2021) conducted a qualitative study in order to understand the academic problems faced by ADHD students in an inclusive environment. A semi-structured interview was conducted on 15 primary schools teaching assistants cum facilitators. The result of the study stated that the participants blamed the teacher's lack of knowledge regarding ADHD is the biggest problem in the academic growth of ADHD students. Lack of support by school administration, teachers, and parents are another big problem in the way of dealing with ADHD students. Teacher's negative attitude towards ADHD students makes the classroom environment worse for ADHD students. The study suggested that teachers should be trained to prepare strategies regarding the needs of these students instead of leaving them with "trial and error" Method/approach.

Mukherjee et al. (2021) did a research to examine the challenges faced by inclusive learners in secondary schools in the Howrah district of West Bengal, India. Using a descriptive survey design, they collected data through a self-designed questionnaire. The study included interviews with 100 inclusive learners from 20 secondary schools located in rural and urban regions of Howrah. The findings revealed several issues encountered by children with special needs (CWSN) in these schools. These issues arose from the insufficient focus on children with special needs (CWSN) as a result of the large number of mainstream students in the classroom, difficulties in comprehending co-curricular and academic activities, insufficient knowledge of inclusive education among teachers, poor implementation of inclusive policies in classrooms, a lack of specific Teaching Learning Materials (TLM), and inadequate teacher training on inclusive practices.

Set & Warner (2021) stated in a review article that Tourette syndrome (TS) prevalence rate is 0.3-1% worldwide. Most of the children who experienced TS also exhibit other psychiatric co-morbidities and the most common pattern of co-

morbidities has been seen among TS students were - ADHD, ASD, OCD, LD, ODD and CD. The paper highlighted the contribution of TS and associated co-morbidities in their academic problems and teachers mostly misunderstood the symptoms which again exacerbate the academic problems of these children.

Taneja et al. (2021) conducted a qualitative inquiry into the educational challenges faced by children with disabilities. Their study involved classroom observations and semi-structured interviews to gather data from 06 schools with the highest enrollment of children with disabilities across three districts in Haryana, India. The findings underscored several barriers to academic progress, including insufficient teacher training and professional development, students' struggles with academic advancement, inadequate school resources, and high enrollment numbers of students with disabilities. Some teachers expressed a belief that children with multiple disabilities should attend special schools rather than regular schools. Interestingly, observations often conflicted with teachers' claims about their teaching methods and the classroom environment.

Anand & Khan (2020) conducted a study on the academic challenges encountered by students with Specific Learning Disability (SLD). The study involved ten identified SLD students from elementary grades (6th to 8th) in private inclusive schools in Delhi. Using a phenomenological approach with purposive sampling, the researchers administered a semi-structured interview schedule to gather data. Content analysis was employed to analyze responses to open-ended questions. The findings highlighted that students with SLD do not lack intelligence but process information differently, facing challenges such as reading, spelling, writing, mathematics, non-verbal learning problems, organizational issues, difficulties in understanding social cues, auditory processing problems, and visual processing problems.

AlZaben et al. (2018) did a study that specifically examined 929 primary school students who had been diagnosed with ADHD in Jeddah, Saudi Arabia. The researchers utilized the Vanderbilt ADHD Diagnostic Teacher Rating Scale (VADTRS) to identify ADHD among students and to assess associated co-morbid conditions and academic challenges. The study employed statistical tools, including the chi-square statistic for discrete data and the Student's t-test for continuous variables, to compare cases and controls. In addition, a logistic regression analysis was conducted using a stepwise approach. Out of the 929 pupils, 46 of them were found to meet the criteria for ADHD. Among these students, 30 of them tested

positive for co-morbid psychiatric issues. ADHD was strongly associated with lower academic achievement, learning difficulties, and increased school absenteeism. The prevalence of co-morbid conditions was notably higher among older students with a family history of psychiatric issues and those who experienced motor or language delays.

Kwon et al. (2018) executed a conducted a study in Korea to examine the problems encountered by students with ADHD studying in university. The investigation was conducted from December, 2015 to February, 2016 and included 12 university students who voluntarily reported symptoms of ADHD. Subjects were enlisted via notices posted on university bulletin boards and evaluated using the adaptation version of the World Health Organization Adult ADHD Self-Report Scale (ASRS-v1.1). Individuals who met more than four of the ASRS-v1.1 evaluation criteria undertook an interview. The interview material was analyzed using theme analysis. The study found four primary themes of challenges encountered by Korean university students exhibiting symptoms of ADHD i.e., irregular daily routines, academic underachievement, interpersonal relationship challenges, and persistent worrying tendencies. Participants described struggling with negative thoughts and worries that adversely affected their academic performance and social interactions. The study recommended developing targeted intervention programs tailored to university students with ADHD symptoms to effectively address these challenges.

Van Hees et al. (2014) carried a study that specifically examined 23 individuals enrolled in higher education with Autism Spectrum Disorder (ASD). The researchers used semi-structured interviews as their primary method of data collection. Utilizing grounded theory principles for data analysis, the research explored various challenges faced by these students. The study's results revealed that these students faced substantial problems in adjusting to unfamiliar environments and unforeseen alterations, navigating social engagements, efficiently managing information processing and time, and handling issues associated with reporting their diagnosis. These challenges spanned across their educational experiences, student life activities, and daily routines. Despite these difficulties, students also highlighted supportive factors that contributed to their success.

Ek Fernell (2010) conducted a study in Stockholm County municipality focusing on 591 children aged 10 to 16 years, examining their learning difficulties in relation to behavioral issues and ADHD. The research classified the sample into groups i.e.,

ADHD, Behavior and Learning difficulties, and a comparison group using screening techniques. The one-way ANOVA findings revealed that both the ADHD and BLP groups exhibited significantly lower mean grades compared to the comparator group. The study highlights the need of comprehending the specific requirements of children with ADHD and learning disabilities; they may continue to underperform academically, to their own detriment and potentially affecting their peers as well. Therefore, the study underscores the importance of implementing appropriate educational interventions to address these disparities.

Alqahtani (2009) undertook a study in Saudi Arabia to determine how common it is for students with ADHD to have other health problems, and how these problems affect their academic performance in primary school. Data from teachers and parents of 652 primary school students were obtained using the Vanderbilt ADHD Diagnostic Rating Scale. Based on the DSM-IV-TR criteria, it was observed that nearly two-thirds (73%) of children with ADHD also exhibited Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD). 36% of these children exhibited anxiety and depression issues. Children with ADHD demonstrated significantly elevated rates of academic challenges (63%) and social impairments (90%) in comparison to their non-ADHD counterparts. The result also highlighted that females with ADHD experienced more significant academic challenges in comparison to males with ADHD. The results emphasized the significance of acknowledging the academic difficulties faced by these students and prompted inquiries on the sufficiency of their acknowledgment and intervention. The study proposed providing education to teachers and parents regarding ADHD, because it's possible co-occurring conditions, and related academic challenges in order to provide assistance for students afflicted by ADHD in educational environments.

Kent et al. (2010) performed a study utilizing Pittsburgh ADHD Longitudinal Study (PALS) to examine the academic experiences of 326 teenagers in high school, specifically comparing those who had childhood ADHD with those who did not. Data was obtained from parents, instructors, and school records. The study stated that adolescents diagnosed with ADHD exhibited notably poorer overall and primary academic subject grade point averages (GPA), were assigned to inferior academic courses, and experienced higher rates of course failure in comparison to their peers without ADHD. Teachers also observed a higher rate of absenteeism and tardiness among kids with ADHD, and these pupils had an approximately eightfold higher

likelihood of dropping out of high school. The findings highlight the persistent academic difficulties experienced by teenagers with ADHD during their high school education.

Lopes (2007) conducted a study on the prevalence and co-morbidity of emotional, behavioral, and academic problems among a 7th-grade school-based sample in the inner city of Porto, Portugal. Academic data were collected six times throughout the year (twice every trimester), while behavioral data were gathered at the beginning and end of the school year. Data from the sample was collected using the modified version of Connors's Behavior Rating Scale. This study found that behavior problems worsened over time, as did academic problems. At the beginning of the school year, students with lower academic grades exhibited more emotional and behavioral problems compared to their peers. These differences became more pronounced by the end of the year. Regression analysis indicated that academic achievement was a stronger predictor of emotional problems than behavioral problems. These findings underscore the interplay between academic performance and emotional and behavioral well-being among middle school students, highlighting the importance of early intervention and support to mitigate these issues throughout the academic year.

Conclusion

Students who have learning disorders and additional co-morbid conditions face more significant scholastic difficulties than those who only have a single handicap. Without proper identification and treatment, these students' academic difficulties tend to worsen over time. They are not lazy or unintelligent; rather, they process information differently. Various academic challenges have been identified among these children, including difficulties in reading, spelling, writing, mathematics, nonverbal learning, organization, understanding social cues, auditory processing, and visual processing.

Data also indicate that students with ADHD experience ongoing academic struggles throughout high school. These students grapple with issues related to new environments and unexpected changes, difficulties in social interactions, information processing and time management challenges, and concerns about disclosing their condition. Concurrently, students encounter challenges in educational environments, student experiences, and erratic routines as a result of inadequate time management. This discontent frequently encompasses their scholastic achievements, social connections, and self-esteem.

2.1.3 REVIEWS OF STUDIES RELATED TO ACADEMIC SELF-EFFICACY AND ACADEMIC ACHIEVEMENT AMONG SCHOOL STUDENTS WITH CO-MORBIDITY

Academic self-efficacy pertains to students' perception of their own talents and abilities to attain academic success. Undoubtedly, it is a crucial determinant that impacts a student's academic attainment or proficiency.

Maine (2024) explored the association between reading self-efficacy and reading achievement for students with disabilities. The study featured elementary school students and found these results for readers early on in the primary grades who are commonly identified as struggling readers. In this research, quantitative data was collected by using simple random sampling from population of students with disabilities. Standardized reading assessments to assess reading achievement and the Readers Self-Perception Scale (RSPS) for determining quantitative data on the children's self-perceptions of their reading abilities were used. Results showed a highly positive correlation in reading self-efficacy and reading achievement as well, meaning the higher the self-efficacy, the better one performed in their reading. In light of these findings, it was suggested that educational stakeholders focus on both self-efficacy in reading through providing meaningful and repeated practice over time for SWD to read while building confidence toward their own reading skills. Increased reading gains and academic achievements overall for students with disabilities are potential benefits of this approach.

Sarid and Lipka (2024b) investigated the academic self-efficacy (ASE) and performance of college students. It is focused on individuals who self-identified as having learning disabilities (LD), attention deficit hyperactivity disorder (ADHD), both conditions, or neither. The research included 621 undergraduate participants, consisting of 198 with LD/ADHD and 423 without. Using self-reported data, the study compared ASE and academic performance across four groups i.e., LD, ADHD, LD + ADHD, and non-LD/ADHD students. The study's finding stated that students with ADHD reported significantly lower ASE in cognitive activities in contrast to their peers without LD/ADHD. Moreover, lower ASE was associated with poorer academic performance, particularly among students with ADHD. Conversely, higher ASE was linked to better academic outcomes across all groups. The study underscores the importance of enhancing academic support in higher education settings for

students with LD, ADHD, or both, suggesting that targeted interventions to bolster ASE could potentially enhance academic achievement for these students.

Casali et al. (2023) did a study on the academic self-efficacy and achievement of students with and without specific learning disabilities (SLDs). The study involved 318 participants, including 147 students identified with SLDs, who had an average age of 22.7 years (ranging from 19 to 45 years). The researchers utilized self-reported questionnaires alongside a fluid intelligence measure to evaluate individual factors and academic performance. The findings revealed that students with specific learning disabilities (SLDs) reported lower academic self-efficacy and attained poorer academic outcomes compared to their peers without SLDs. Furthermore, both groups exhibited a positive correlation between increased academic self-efficacy and improved academic performance. The study concluded that improving academic self-efficacy is crucial for enhancing academic outcomes universally, emphasizing the potential benefits of interventions aimed at boosting self-efficacy across student populations.

Español-Martín et al. (2023) did a research to investigate the correlation between SLD, ADHD, and academic performance among Spanish students aged 5-17 years. The research included 1,287 students from both low-middle (LM) and high-income populations. Academic performance data were collected from school records, and standardized diagnostic methods were used to identify ADHD and SLD. Ordinal logistic regressions were employed to examine how ADHD and SLD impacted academic achievement, accounting for demographic factors, screen use, and daily meals. The study revealed that both SLD and ADHD were individually linked to inferior academic achievements regardless of socioeconomic status. These findings emphasize the considerable academic difficulties experienced by kids with ADHD and SLD, emphasizing the need for early identification and effective interventions to improve educational performance and reduce poor academic outcomes in this group.

Luo et al. (2023) investigated the connection between academic self-efficacy and academic achievement among undergraduates in China. This study included a total of 1,158 college students, consisting of 544 men and 614 women. The participants had an average age of 19.37 years. The students were categorized into several academic levels, consisting of 641 first-year students, 302 second-year students, 197 third-year students, and 18 fourth-year students. Participants effectively completed the Academic Self-Efficacy Scale and Academic Achievement Scale. The data was

analysed using correlation analysis and structural equation modelling, which revealed favourable relationships between academic self-efficacy and academic accomplishment. The study highlights the significance of promoting academic self-efficacy in order to improve students' academic performance. It implies that educational interventions should give priority to strategies that encourage self-efficacy views among college students. The researchers suggest doing additional longitudinal studies to enhance the comprehension of these interactions over an extended period.

Weckström et al. (2023b) did a study to examine the correlation between academic performance throughout adolescence and the later likelihood of developing different mental problems in maturity, as well as the likelihood of having multiple disorders simultaneously. The study utilized a dataset that included information on all individuals born in Finland between 1980 and 2000. The dataset consisted of a total of 1,070,880 participants. The study tracked participants starting from ages 15 or 16 years until they were diagnosed with a mental condition, emigrated, died, or until December (2017), whichever occurred first. The primary variable of interest was the average final grade obtained in comprehensive school, while the outcome was the initial diagnosis of a mental condition in a secondary healthcare facility. Competing risks regression was employed to calculate the cumulative incidence of mental diseases. The results suggested that achieving higher academic performance during adolescence was linked to a decreased likelihood of developing mental disorders and co-occurring conditions, with particularly significant connections observed for substance use disorders. The study emphasizes that individuals with lower school achievement during adolescence face a higher burden of mental health issues later in life. Findings of the study emphasize the importance of early identification and intervention strategies to support adolescents struggling academically and potentially mitigate their risk of developing mental health disorders in adulthood.

Zapata and Worrell (2023) conducted a study investigating psychosocial outcomes among adults with co-occurring ADHD and LD, with a focus on self-efficacy. The research recruited adults identifying with both conditions through social media platforms. Using regression analyses, the study explored relationships between disability acceptance, disability affirmation, self-efficacy, demographic factors, and academic achievement. The findings demonstrated a direct and favorable correlation between self-efficacy and academic performance in people diagnosed with ADHD

and LD. Furthermore, the act of acknowledging and accepting one's disability was found to be a strong indicator of increased levels of self-confidence and belief in one's abilities. The study emphasized the essential of self-efficacy in fostering academic resilience and achievement in this particular group. It recommends further investigation into how self-efficacy influences academic outcomes among adults with co-morbid ADHD and LD. In addition, efforts are being made to create interventions that focus on improving self-efficacy and academic achievement. Such initiatives could potentially enhance psychosocial well-being and educational achievements among adults with these conditions.

Pagerols et al. (2022b) carried a study on Spanish students, aged between 5 and 17 years, to investigate the academic performance of students displaying psychiatric symptoms. Child Behavior checklist (CBCL) was administered on the parents of 7036 students with 3968 boys and 3068 girls for psychiatric symptoms. The finding revealed that the students who scored higher on CBCL were associated with lower academic grades but the students with co-morbid attention problem and delinquent behaviour problem were more prone to low academic performance as compare to single psychiatric condition. The study suggested the need for mental health assessment and treatment strategies to improve the psychological well-being

Ziegenfusz et al. (2022) did a review analysis of empirical research spanning from 2008-2020 to investigate the impact of Developmental Language Disorder on the academic performance of school students studying in primary and secondary. The findings of the review reveal that students diagnosed with DLD encounter academic difficulties across all curriculum domains in relation to their typically developing peers. The findings indicate that students with Developmental Language Disorder (DLD) demonstrate considerable variation in their academic performance, with each student displaying specific areas of proficiency and areas of difficulty across several academic courses. The study underscores the importance of integrating these findings into educational practices and stresses the necessity for further research in this area to enhance support for students with DLD in their academic pursuits.

Adams (2021) carried a doctoral case study on academic self-efficacy of 10 participants with specific learning disability in New York. The participants were selected with the snowball sampling and semi-structured interviews were conducted. The outcome of this study showed that the students with specific learning disabilities stated that strong academic self-efficacy aids them to accomplish positive academic

performance even having disabilities. Some participants confronted the fact that few teachers told them to stay back a grade but their self-efficacy made them beat all challenges. The study findings supported the need for more awareness regarding understanding specific learning disability, importance of academic self-efficacy and its positive effect on academic performance of SLD students.

Dupaul et al. (2021) carried out a longitudinal study focusing on college students with ADHD across three eastern states in the US. The study included 201 participants diagnosed with ADHD, of which 97 were receiving medication and 104 were not. The research sought to evaluate the academic advancement of these pupils in relation to 205 non-ADHD students, and to identify other psychiatric disorders as predictors of their academic outcomes. Various assessment tools were utilized in the study, including the ADHD RS-SRV, ADHD-Parents version, semi-structured ADHD interviews, and the Structured Clinical Interview. The findings indicated that ADHD students exhibited lower academic progress and reported using fewer study skill strategies compared to non-ADHD students. Furthermore, it was found that despair and anxiety were important indicators of unfavorable academic results in students with ADHD. The study recommended early support services and interventions for these students prior to their matriculation into college, emphasizing the importance of addressing co-morbid psychiatric conditions to enhance their academic success.

Elgendi et al. (2021) did a study that specifically targeted Canadian students who experience challenges with reading, commonly known as dyslexia. The study sought to examine if these students, in addition to dyslexia, demonstrate distinct mental health symptoms pertaining to academics, such as anxiety and academic self-efficacy. In order to accomplish this, the researchers distributed a demographic questionnaire, the Academic Self-Efficacy (ASA), the ARHD-R, and the Kessler Psychological Distress Scales to a group of 40 students with a history of reading disability (HRD) and 46 students without a history of reading disability (NRD). The study's findings revealed that students with HRD exhibited diminished academic self-efficacy and heightened academic anxiety in comparison to students without HRD (NRD). In addition, certain students with HRD also displayed co-morbidities of ADHD and learning difficulties (LD). The study determined that these results are essential for comprehending the difficulties encountered by students with HRD, namely their concerns with elevated academic anxiety and diminished academic self-efficacy. It highlighted the significance of customized interventions for these students to assist

them in effectively managing these challenges and improving their academic encounters.

Henning et al. (2021) did a study to examine the relation between symptoms of ADHD and the academic achievement of first-year undergraduate students at a small liberal arts university in Central Ontario, Canada. This study included a large and representative sample of 3,688 students aged 18 to 25 years, predominantly Caucasian. The Conners Adult ADHD Rating Scale (CAARS) was used to assess ADHD symptomatology. The findings consistently showed that students with more pronounced inattention symptoms at the beginning of their academic journey experienced lower long-term academic achievement, including lower GPAs and higher dropout rates. This trend was observed across genders. The study underscores the significant role of inattention symptoms in linking ADHD symptomatology with academic underperformance in adult education settings. It suggests that educational institutions should prioritize interventions aimed at addressing inattention symptoms among post-secondary students to support their academic success and retention.

Kausik & Hussain (2021) conducted a study on students with learning disabilities (LD) to assess their academic self-efficacy, in India, in the context of inclusive education. The sample comprised 222 students, aged 10 to 16 years, from two prominent urban centers. The students were split into three groups - those who attended special schools for LD (n=72), those who attended inclusive schools for LD (n=75), and who attended inclusive schools with no LD (n=75). To evaluate academic self-efficacy, the Self-Regulation Questionnaire-Academic was employed. Compared to children without learning disabilities in inclusive settings, the study found that students with learning disabilities in inclusive schools demonstrated reduced academic self-efficacy. The interventions for LD should prioritize enhancing psychosocial functioning, and teacher training programs should integrate strategies aimed at improving these variables to better support students in managing their challenges and difficulties.

Mahdavi et al. (2021) performed a cross-sectional descriptive analytical investigation at Kurdistan University to examine the correlation between academic achievement and mental health among medical students. The researchers administered the General Health Questionnaire (GHQ) to a randomly selected sample of 430 students. The study found that depression and anxiety were prevalent among medical students and constituted major mental health issues. Nevertheless, the investigation failed to

establish a correlation between these mental health conditions and academic achievement. On the contrary, it emphasized the crucial impact of academic motivation on students' academic achievement.

Martinez et al. (2021b) carried a cohort research to investigate the association between co-morbid aggressive behavior, emotional issues, attention problems, and academic attainment in Rotterdam. They administered the Child Behavior Checklist to 2546 children, and academic attainment was assessed using the CITO test. The findings revealed that co-morbid aggressive behavior and attention difficulties were found to have a strong correlation with poorer academic achievement in children compared to emotional issues alone.

Matteucci and Soncini (2021) undertook a study to compare the estimated academic self-efficacy and indicators of psychological well-being among Italian university students with Specific Learning Disabilities to those without SLD. The sample consisted of 283 students without SLD and 60 undergraduate students with SLD. The findings indicated that students with Specific Learning Disabilities (SLD) did not demonstrate a statistically significant decrease in their academic self-efficacy, despite their achieving comparable academic performance to their peers without SLD. Furthermore, research has shown that the psychological well-being of students with specific learning disabilities (SLD) is greatly influenced by their self-esteem and the perceived social support they receive from important individuals in their lives.

Niazov & Ferrari (2021b) examined academic self-efficacy (ASE) in students studying in college, specifically comparing individuals with and without learning difficulties (LD). The 173 college students from Israel included in this study through using various methods. Students with learning difficulties were selected from the college's learning assistance centre, while students without learning problems were chosen using the computerized experimentation system in the psychology and education departments. To measure ASE, the Academic Self-Efficacy Scale was used. This study found a noteworthy, although weak, inverse connection between LD and ASE. In addition, children with learning disabilities (LD) exhibited poorer levels of academic self-efficacy than their counterparts who do not have LD. This highlights the significance of learning difficulties on students' perceptions of their academic abilities in a college environment.

Sepulveda & Espina (2021) carried a literature study that specifically examined the correlation between ADHD and academic achievement in students. This review

highlighted a consistently negative correlation, indicating that students with ADHD tend to exhibit poorer academic performance compared to their peers. Furthermore, the study observed a significant occurrence of concurrent psychiatric disorders among students diagnosed with ADHD. The results emphasized the significance of developing efficient techniques and interventions to assist children with ADHD in enhancing their academic achievements.

Stevens et al. (2021) did a research on systematic literature review aimed at identifying indicators of academic progress among students who experienced co-morbid conditions for both ADHD and LD. They collected psychological and educational peer-reviewed papers from databases such as ERIC and PsycINFO, following PRISMA guidelines for review and using MMAT to assess study quality. The findings of the literature review highlighted that, among various predictors, academic self-efficacy emerged as a crucial factor influencing the academic achievement of students with ADHD, LD, or both conditions. The review noted consistent evidence showing that these students have a tendency to exhibit lower academic self-efficacy, which contributes to their poorer academic outcomes. The study recommended integrating these predictors, including academic self-efficacy, into intervention strategies aimed at improving the academic success of students with co-morbid conditions. This method has the potential to improve the effectiveness of support and intervention programmes that are specifically designed to meet the unique requirements of these students.

Zendarski et al. (2019b) did a longitudinal research on the trajectories of emotional and conduct problems among ADHD students and their impact on academic achievement. Data was collected using the parent-report version of the Strengths and Difficulties Questionnaire (SDQ) during the study, which involved 130 participants in Australia. The findings indicated that ADHD children who consistently experienced Elevated levels of co-morbid emotional and conduct problems tended to exhibit poorer academic achievement and faced more academic difficulties. The study underscored the critical importance of early assessment and intervention strategies that consider these co-morbid conditions in improving academic outcomes for ADHD students.

Grotan et al. (2019) performed a study on college students in Norway, using data from the Students' Health and Welfare Survey 2014 (SHOT 2014). The researchers utilised the Hopkins Symptom Checklist (HSCL-25) to evaluate concurrent medical

conditions and employed the Norwegian version of the General Self-Efficacy Scale to quantify academic self-confidence. Their research revealed substantial variations in the presence of co-morbidities across pupils. More precisely, those with severe co-morbidities saw a notable decrease in their academic self-confidence in comparison to pupils with low or moderate co-morbidities. In addition, adolescents with severe co-morbidities had a twofold higher likelihood of experiencing delayed educational development compared to their counterparts with low or moderate co-morbidities. These findings emphasize the influence of co-morbidities on academic achievements and emphasize the significance of focused assistance and interventions to tackle the distinct difficulties encountered by students with severe co-morbidities in higher education environments.

Mc Ewan & Downie (2018) conducted a descriptive survey study on the academic achievement patterns of co-morbid students in Fanshawe College (London). Researchers concluded that the students with co-morbid disorders experienced barriers in the patterns of academic achievement. Researchers further added that the students with single disability were more successful than the students who face multiple disorders i.e. co-morbidity.

Mostafa (2018) conducted a correlation study on self-efficacy beliefs of 100 learning disabled students in Zagazig City (Egypt). The findings indicated that learning challenged students who had greater self-efficacy demonstrate superior academic performance.

Budd et al. (2016) conducted research with a sample of 156 post-secondary students who were enrolled at 45 distinct Canadian junior colleges and universities. Out of the participants, 72 individuals reported having dyslexia (LD), 42 individuals reported having ADHD, and 42 individuals reported having both LD and ADHD (Co-morbidity). The study's findings revealed that children who had both ADHD and LD had worse academic results when compared to students who only had LD or ADHD individually. This highlights the significant impact of co-morbid conditions on academic performance among post-secondary students and underscores the necessity for customized interventions and support measures to tackle the difficulties encountered by these kids in educational environments.

Da Mata et al. (2015) carried a descriptive cross-sectional analysis on a sample of 76 persons who had been identified as having both anxiety and depression. The researchers employed the General and Perceived Self-efficacy Scale, the Hospital

Anxiety and Depression Scale, and a socio-demographic questionnaire to collect data. The study results showed a detrimental correlation between self-efficacy and the co-occurrence of anxiety and sadness. These findings indicate that individuals who have both anxiety and depression often have reduced levels of perceived self-efficacy, which can impact their capacity to deal with difficulties and sustain their overall well-being.

Sahoo et al. (2015) in their review paper on co-morbidity in children highlighted that emotional and behavioural issues are prevalent in approximately 30% of children with learning disabilities. The researchers identified ADHD as the prevailing co-morbid condition, while anxiety, depression, suicide, and drug addiction were less commonly associated. The review emphasized that co-morbidity, specifically having a learning disability, exacerbates academic achievement issues among students. Students with co-morbid learning disorders were found to experience more significant academic challenges across various academic domains compared to those with a single disorder or no signs of learning disability. This underscores the complex interplay between different disorders and their impact on academic outcomes in children.

Sharma & Nasa (2014) emphasized the substantial impact of academic self-efficacy in accurately predicting educational performance. Academic self-efficacy pertains to an individual's conviction and assurance in their capacity to arrange, carry out, and control their actions in order to accomplish specified academic objectives. The study found that persons with elevated levels of academic self-efficacy demonstrate behaviors and motivations that enhance their proficiency in academic tasks. This highlights the significance of promoting and strengthening academic self-efficacy as a method to enhance educational results.

Hen & Goroshit (2012) conducted a study focusing on academic self-efficacy and the academic performance of 287 students with learning difficulties studying in college. Their analysis revealed that children with learning issues exhibit a lower degree of academic self-efficacy than their classmates without learning disabilities. This implies that the difficulties related to learning disabilities can affect students' confidence in their intellectual ability, emphasizing the significance of customized assistance and interventions to improve self-confidence and academic achievements for these students.

Butler (2011) investigated various levels of academic self-efficacy in African American and Latino children with learning difficulties. The study utilized the

Academic Self-Efficacy Scale, which was created by Owen and Froman (1988). The study's results showed that learning impaired pupils who were successful demonstrated elevated levels of self-efficacy. The researcher elucidated that self-efficacy has a crucial part in influencing the academic attainment of children with learning disabilities. This underscores the importance of self-belief and confidence in academic abilities as factors influencing educational outcomes in this student population.

Benner et al. (2009) did a research on prevalence and association of learning disabilities in emotionally disturbed students. It was discovered that students who had a language disorder, notably a combined receptive-expressive disorder, exhibited significantly lower academic performance and a greater number of learning disabilities. They also supported the idea of prevalence of co-morbidity among students.

Conclusion

It is concluded that the researcher has found the students with different co-morbid conditions have different levels of academic self-efficacy and academic achievement. Self-efficacy and co-morbidity have an inverse correlation. These students face more academic problems and barriers as compared to students with single learning disability or no learning disability.

2.2 RESEARCH GAPS

After reviewing good amount of literature, the researcher has found that:

1. Out of the 13 disability categories identified under IDEA, one disorder could exist in a cognitively/academically gifted student, but not all exceptionalities are commonly discussed or researched, in Indian context (Antony & Ramnath, 2021), therefore, there is need to identify the possible pairs of co-morbidity among students.
2. Srivastava and Sreejayan (2010) reported in their review paper that research in India on co-morbidities has been limited which is further supported by Arun et al. (2014) who stated that researches on co-morbidity are very less in India. Researchers felt the need to study in an Indian context.
3. Asadi et al. (2014); Amiri (2012); Ashraf (2017); Hayat (2020); Josephson (2016); and many other studies quoted in this proposed research is related to either

medical sciences or psychological, there are very few studies, mostly case studies, on already identified cases in education field.

4. Identifying academic problems is the pivotal first step in delivering effective and tailored interventions (Wright, 2015), an aspect often overlooked by researchers. Without a proper understanding of the needs of children facing ADHD and learning difficulties, their underperformance may persist, to their own detriment and potentially affecting their peers as well (Fennell, 2010). Addressing this gap requires implementing adequate educational measures. Additionally, it is crucial to take into account the social and cultural context of the individuals when designing and implementing programs (Kwon, 2018). Given India's diverse landscape, researchers have recognized the importance of exploring various types of academic challenges.
5. Choudhary et al. (2012) in Bikaner City, Rajasthan, Housen (2017) in Kashmir Valley, Jhambh et al. (2014) in Chandigarh, Lingeswaram (2013) in Puducherry, Padhya et al. (2015) in northern city of India, Paul & Khan (2018) in one district of Kashmir Valley, Varughese (2015) in Kerala, they conducted study on single LD, co-morbidity among adults, co-morbidity college students, single LD, LD, co-morbidity among school children, single LD only respectively. The researcher has not found any research in Jammu Province regarding proposed variables. So, the researcher found it worthy to take these variables in the Indian context especially in the field of education.

2.3 SIGNIFICANCE OF THE STUDY

It has been noticed that co-morbidity is a relatively new area of research especially in the field of education even though the researcher has found very low number of researches in the field of education but it has also been seen that there is a number of increase from last decade. Prevalence of co-morbidity has been reported in almost all of the studies. The majority of researchers have attempted to establish co-morbidity between learning disabilities and other psychotic diseases, with the most frequently reported conditions in studies being ADHD and Conduct disorder. Inclusive education increases the demand for more research on co-morbidity among students. Numerous studies have demonstrated the detrimental impact of co-morbidity on students' academic achievement. Students' self-efficacy plays an essential role in their

achievements but students with co-morbidity show lower levels of self-efficacy. The students with co-morbid conditions face more and different academic problems which worsen with time if remain unidentified and untreated. There are different academic problems and different reasons for these problems were mentioned by researchers. Further scope of the proposed research is documented below:

1. The census 2011 data indicates that among the states and union territories (UTs) of India, Sikkim has the highest proportion of disabled persons to the total population at 2.98%. This is followed by Odisha with 2.96%, Jammu & Kashmir with 2.88%, Andhra Pradesh with 2.68%, and Maharashtra with 2.64%. Among States/UTs, the proportion of disabled persons to the total population is lowest in Daman & Diu (0.9%), Dadra & Nagar Haveli (0.96%), Mizoram (1.38%), Delhi (1.4%) and Chandigarh (1.4%). In the census, the data regarding disabilities and learning disabilities has been documented. In present time, there is a need to document data relating to multiple disabilities or disorders like co-morbidity. This study will be a small pilot initiative in the Jammu region which has the 3rd highest disability population.
2. People with disabilities encounter significant challenges due to various barriers, including attitudinal, physical, and financial obstacles. Addressing these barriers is within our reach and concerns have a moral duty to do so. But most important, addressing these barriers will unlock the potential of so many people with so much to contribute to the world. Governments everywhere can no longer overlook the hundreds of millions of people with disabilities who are denied access to health, rehabilitation, support, education, and employment, and never get the chance to shine. The availability of valid and reliable data is critical in order to develop and evaluate policies and programs being implemented by governments at various stages. The data on multiple disabilities is extremely important for ensuring the upliftment of persons with such disabilities and also to protect them against discrimination on the grounds of disability.
3. The future of the nation depends on students if not properly understood affects their ability to learn, stay in schools and isolate them to oblige their social responsibilities. Therefore, it is important to understand and examine the root cause behind the student's conduct behavior, delinquency act, dropouts, stagnation, and low achievements. A continued and concerted effort is

required to identify and develop approaches targeting the struggle facing by students having co-morbidity in Jammu division because no such study till the time has been conducted. As Jammu & Kashmir is prevailing with political unrest for a long time which affects the youngsters like Anxiety, Depression, PTST, OCD etc. Therefore, in parallel to political instability, early intervention at school level can contribute a positive remedy to cure such disorders; otherwise, it will spread through generations. The proposed research will develop insight among teachers and school administration regarding the real reasons behind the dropout or low achievement rates.

4. This study will help and develop insight among teachers regarding the possibility of different types of academic problems faced by these students which further helps them to prepare their lesson plan and strategies according to the problems of these students and provide customized and effective intervention. The parents of these children will also get help and treat their child accordingly and understand the reason behind their academic failure or slow growth in academics.
5. This study will help in identifying the rate of co-morbidity among the students which further helps the concerned (teachers/parents) to change their strategies and to deal with these students. It will also help to reduce the economic burden of India through overcoming the unstable mind into a productive one. The important changes that this research will bring on the mind-set of teachers to accept the students with co-morbidity instead of forcing them to act normal. It will help in the reduction of parents' fear about their children's actions towards the external and home environment.
6. The stigma attached to disorders prevents people from seeking help for fear of being labelled as mad and mentally retarded which multiply their problem day by day, results in attempting suicides, mental stress, toxic stress and depression etc., therefore, such problems need to be address immediately. Therefore, teaching approach towards co-morbidity students should be changed by imparting training of in-services teachers under the scheme and approach of inclusive education. One of the primary obstacles in early detection of co-morbidity is its status as a "hidden disability," lacking any visible physical manifestations or sensory indicators. The presence of a child with co-morbidity in the classroom might cause a skilled and qualified teacher

to feel inadequate, and can leave both the child and parent feeling confused, disappointed, overwhelmed, and furious. Girls with co-morbidity treated differently, as gender inferiority influence more on girls which results into more girls' dropout rates and they marry off in their teens. This study not only helpful for teachers and parents but it helps the students to get a deeper understanding of them and helps them to fight and win the battle of their identity crisis.

7. Statistics concerning multiple disabilities such as co-morbidity are crucial for informing policy and action related to disability. Further research, especially empirical studies, is essential to substantiate ideas and theories on effective practices for identifying and educating students with co-morbidity. This research will enable educators to better support these students in reaching their academic potential.

2.4 STATEMENT OF PROBLEM

Despite inclusive education policies, middle school students with co-morbid conditions often face unrecognized academic and emotional needs, especially in rural and government schools. Co-morbidity - where multiple neuro-developmental or behavioral disorders overlap - makes identification and intervention challenging. Due to lack of screening, teacher training, and mental health support, these students frequently experience academic failure and low self-efficacy. Indian research on this issue, particularly at the middle school level, remains limited. This study explores co-morbidity, academic problems, academic self-efficacy, and academic achievement among students in Jammu Province, with attention to gender, age, and locale differences.

Hence, this research aimed to identify the co-morbidity among middle school students and their academic problems, academic self-efficacy, and academic achievement. Therefore, the statement of the problem is as follows:

CO-MORBIDITY AMONG MIDDLE SCHOOL STUDENTS: A CROSS SECTIONAL EXPLORATION ON ACADEMIC PROBLEMS, ACADEMIC SELF-EFFICACY AND ACADEMIC ACHIEVEMENT

2.5 OPERATIONAL DEFINITIONS

Co-Morbidity

Co-morbidity means simultaneous presence of more than one learning disability/disorder in a student. For this study, the learning disabilities considered are - Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, Dyspraxia, Anxiety, Attention Deficit Hyperactivity Disorder, Obsessive Compulsive Disorder, Autism, and Tic Disorder. Co-morbid conditions were identified by using self-constructed and standardized Identification Battery on Co-morbid Conditions.

Academic Problems

In this study, academic problems refer to the challenges and difficulties faced by students with co-morbid conditions during the teaching-learning process. These problems were analyzed through a self-constructed semi-structured interview schedule conducted with both the students with co-morbid conditions and their teachers.

Academic Self-Efficacy

In this study, academic self-efficacy refers to the belief of students with co-morbid conditions in their abilities and capabilities to achieve academic success. It was measured by using a self-constructed and standardized Academic Self-Efficacy Scale.

Academic Achievement

Academic achievement, in this study, refers to the marks obtained by students in their end-term examinations, as provided by their respective schools.

Middle School Students

The students in this study are aged between 11 and 15 years and are enrolled in government middle schools of Jammu province. For the purpose of the study, the students were categorized into two age groups i.e., 11-12 years and 13-15 years.

2.6 OBJECTIVES

The following are the objectives of the proposed study:

1. To identify the middle school students having co-morbidity.
2. To study the demographic characteristics of middle school students having co-morbidity.
3. To identify the academic problems of middle school students having co-morbidity with respect to gender, age and locale.

4. To explore the levels of academic self-efficacy among middle school students having co-morbidity with respect to gender, age and locale.
5. To study the academic achievement of middle school students having co-morbidity with respect to gender, age and locale.
6. To explore the relationship between academic self-efficacy and academic achievement of middle school students having co-morbidity.

2.7 RESEARCH QUESTIONS

1. What are the identification features of middle school students having co-morbidity?
2. What are the demographic characteristics of middle school students having co-morbidity?
3. What are the academic problems of middle school students having co-morbidity with respect to gender, age and locale?
4. What are the levels of academic self-efficacy among middle school students having co-morbidity with respect to gender, age and locale?
5. What are the levels of academic achievement of middle school students having co-morbidity with respect to gender, age and locale?

2.8 HYPOTHESES

1. There is significant positive correlation between academic self-efficacy and academic achievement of students with co-morbid conditions.
2. Academic self-efficacy significantly predicts academic achievement of students with co-morbid conditions.

2.9 DELIMITATIONS

The present study was delimited to:

1. Jammu provinces of the UT of Jammu and Kashmir only.
2. Ten (10) disorders i.e. Learning disabilities (i.e., Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, Dyspraxia), Anxiety, Attention Deficit Hyperactivity Disorder (ADHD), Obsessive Compulsive Disorder (OCD), Autism, and Tic Disorder for the identification of co-morbid conditions.

3. Approximately 50% blocks (70 blocks out of 145 blocks) of Jammu province.
4. Government middle schools of the Jammu province.
5. Government middle schools teachers having more than 5 years of experiences.

CHAPTER - III

METHODOLOGY

This chapter discussed the entire research design followed by research framework and methods adopted to target the population and selection of sampling size. Finally, in order to find the study's results, the researcher described the appropriate statistical tools for processing and analyses of data. In general, research methodology provides path and direction in which a researcher has to execute the work. The various aspects related to the methodology adopted in the current study are presented below.

3.1 RESEARCH METHOD

The current study adopted an evaluative design and was carried out in a real-world setting using a descriptive survey method integrated with a triangulation strategy. Both quantitative and qualitative data were gathered and analyzed to gain a comprehensive understanding of the co-morbidity among middle school students. Quantitative information was obtained through standardized scales, while qualitative insights were derived from semi-structured interviews aimed at exploring academic problems faced by students with co-morbid conditions. Thus, this investigation employed a mixed-methods approach, combining identification of co-morbid conditions as well as academic self-efficacy scales with interviews of teachers and students. The study aimed to enrich the quantitative findings with qualitative perspectives, offering a holistic view of the academic difficulties from both students' and teachers' perspectives. The data collection and analysis processes for both quantitative and qualitative components were carried out concurrently but treated as separate strands. Thus, this research employed a mixed-methods approach, ultimately leading to comprehensive interpretations of the findings (Creswell et al., 2003). As noted by Creswell (2009), employing mixed methodology-integrating both qualitative and quantitative methods-enhances the robustness of the research compared to using a single method alone.

3.1.1 RESEARCH DESIGN

A research design refers to a methodical and structured strategy for gathering, quantifying, examining, and comprehending data in order to accomplish the

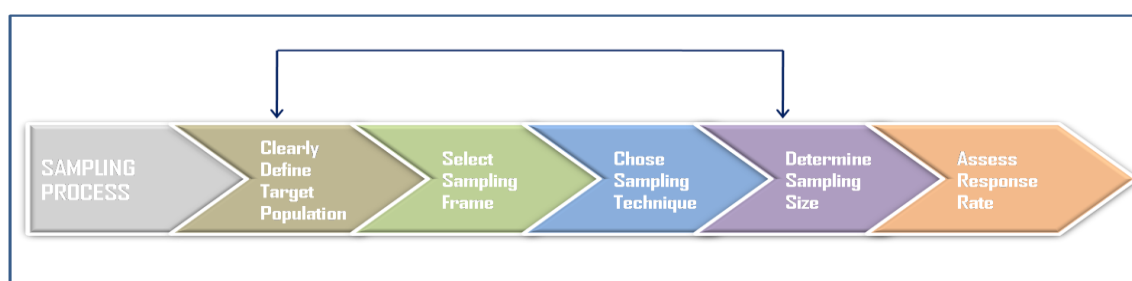
objectives of a study (Creswell and Creswell, 2018; Mc Combes, 2023). This study employed cross-sectional methods to conduct population-based surveys and assess the prevalence of disabilities in the study samples.

3.2 SAMPLING PROCESS

Sampling process includes a procedure used to select a sample from population (Sharma, 2023), and the present study adopted the sampling technique of Taherdoost (2016b) see Fig 3.1 below:

Fig 3.1

Steps of Sampling Process



3.3 POPULATION

The target group is justified as a group of individuals drawn from target population for research purposes (Sekaran & Bougie, 2019). The study focused on students aged 11-15 years attending government middle schools in the Jammu Province of Jammu and Kashmir (J & K), India. The justification for the selection of the students aged 11-15 years attending government middle schools of J&K is given below:

According to census 2011, J & K having 3rd highest proportion of disabled persons (2.88%) to the total population. The share of disabled children (5-19 years) in J & K was 23.16 %, while it is 1.27 % at the national level but the share of disabled children (11-15 years) in J & K is 8.34 % while it is 1.31 % at the national level (Ministry of Statistics and Programme Implementation, Government of India (MOSPI), 2016). The share of disabled children with age group 11-15 years with respect to disabled children with age group 5-19 years in J & K was 35.91% (Office of the Registrar General & Census Commissioner, India, 2021). Due to the 1/3rd share of disabled children with age group 11-15 years in the total population of disabled children in J & K, researcher felt the need of addressing the issues of co-morbidity among the

students aged 11-15 years in J & K. This study is a small pilot initiative in the Jammu region. There is a dire need of identification and assessment of CWSN; therefore, it should be an integral part of teaching-learning process (SSA-2021). This study helps to identify the CWSN with single and multiple disabilities as there is a lack of professional research in the area of disability (Bashir & Ganie, 2013).

3.4 SAMPLE

Sampling is the process of selecting sample from the given population of study area (Sharma, 2023). A sample is a smaller group of individuals selected from a larger population in order to make estimation about the characteristics of the entire population (Tokunaga, 2018). The selection of a sample technique is mostly influenced by the nature of the aims and the sort of study being conducted (Cohen et al., 2017).

The population of study comprised of students aged 11 to 15 years enrolled in government middle schools located in the Jammu Province of Jammu & Kashmir, India. A multistage sampling technique was employed to ensure comprehensive and balanced representation.

In the first stage, Jammu Province was selected out of the two provinces of the Union Territory of Jammu & Kashmir. In the second stage, all ten districts within Jammu Province namely Jammu, Samba, Kathua, Udhampur, Reasi, Doda, Ramban, Rajouri, Poonch, and Kishtwar were included in the sampling frame. Each district consists of multiple administrative blocks.

In the third stage, to ensure equal representation from both urban and rural settings, 35 blocks were randomly selected from urban areas and 35 from rural areas, totaling 70 blocks. This number was derived based on the availability of approximately 50% urban blocks (70 out of 145 total blocks) across the 10 districts of Jammu Province.

Finally, in the fourth stage, to ensure unbiased selection and maintain the representativeness of the government middle schools, simple random sampling was employed. The researcher initially prepared a comprehensive list of government middle schools within the selected region. As part of the inclusion criteria, only those schools with a minimum enrollment of 30 students were considered eligible for selection. From this filtered list, one school was randomly selected from each block by using simple random sampling technique.

To determine the appropriate sample size for the study, Daniel's (1999) formula for calculating sample size in prevalence studies was employed. Based on report by office of the Registrar General & Census Commissioner, India, 2021, the prevalence of disability among children aged 11-15 years in Jammu & Kashmir was found to be approximately 35.91%. This figure was considered an appropriate estimate for co-morbidity prevalence in the absence of prior regional research on multiple disabilities. Using this value, the required sample size was calculated. Hence, the minimum required sample size was approximately 354 students.

However, to ensure robustness and broader representation, a total of 1084 students were screened during the study. Out of them, 224 students were identified with co-morbid conditions which correspond to an observed prevalence of 20.66% in the actual sample. Therefore, the final sample size of 1084 students is significantly higher than the calculated minimum, ensuring greater reliability, validity, and generalizability of findings, as per the Daniel (1999) sample size formula for prevalence studies.

Additionally, two government teachers from each school, who taught these students, were selected through simple random sampling technique to help the researcher in identifying the academic problems faced by students with co-morbid conditions.

For in-depth analysis, identified 224 middle school students with co-morbid conditions and 140 teachers from 70 government middle schools across 70 blocks in Jammu Province, India were considered.

The detailed description of sample is shown in the figure 3.2 below:

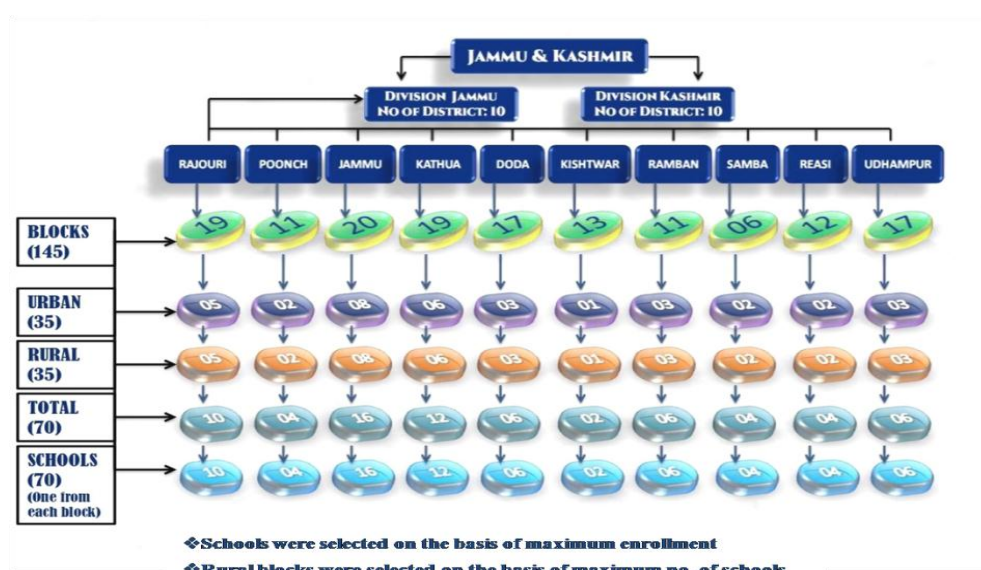


Fig. 3.2 Schematic Distribution of Sample

3.5 TOOLS

The literature review suggested that there are some most common and repeatedly prevalent disorders among children that are: Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), Dysphasia (Dys-P), Dyspraxia (Dys-Pr), Anxiety (Anx), Attention Hyperactive Disorder (ADHD), Obsessive Compulsive Disorder (OCD), Autism Disorder (AD) and Tic Disorder (TD). There are available independent scales on these disorders but not a single identification battery is available on these disorders even a battery named PRASHAST by NCERT focused on two disorders that is SLD and ASD. Moreover, most of the tools are either teacher's centred or parent's centred none of self-report identification battery and tools have been found by the researcher. Therefore, the researcher found it worthy to construct an identification battery on these disorders by keeping in the view the age group i.e. 11-15 years and the cultural context of the students. The researcher constructed statements/items on the basis of following standardized tools:

There are available independent scales on these disorders which researcher consulted and reviewed. Fu et al. (2022) created a parent screening questionnaire, the Little Developmental Coordination Disorder Questionnaire, for children aged 3-6 years. It enables the early identification and intervention of motor coordination difficulties in young children, thereby involving parents in the process and promoting comprehensive and targeted developmental support which leads to better outcomes for children at risk of DCD. Horowitz and the National Center for Learning Disabilities (NCLD, 2015) developed an online-based Learning Disability Checklist. This checklist provides a broad outline of possible challenges, but it does not offer a conclusive diagnosis. To accurately identify particular problems that may impact skills such as listening, speaking, thinking, maths, and social abilities, a professional assessment is required. The National Council of Educational Research and Training (NCERT, 2020) developed the PRASHAST Screening Battery/Checklist for school students, focusing only on Specific Learning Disabilities (SLD) and Autism Spectrum Disorder (ASD). It is divided into two parts: teacher and special educator. The utilisation of it should not result in labeling or marginalization of students. Instead, it functions as a screening assessment to detect possible learning disabilities and autism spectrum disorders, directing educators towards more expert assessment and suitable support interventions. McGuire et al. (2018) revised the Yale Global Tic Severity

Scale (YGTSS), a clinician-rated evaluation tool for children aged 6-17 years, which is long and complex, requiring multiple recordings. The YGTSS solely assesses the intensity of Tic symptoms and does not assist clinicians in determining an appropriate treatment approach for these symptoms. The instrument is designed specifically to measure the severity of an individual's Tic symptoms, rather than to diagnose. Sood (2013) created a teacher/parent report called the Verbal Learning Disability Checklist which includes Dyslexia, Dysgraphia, Dyscalculia and Dysphasia. The checklist functions as a valuable tool to guide professionals in referring children for further assessment and diagnosis of verbal learning disabilities, ensuring they receive appropriate support and intervention. Spitzer et al. (2006) developed the Generalized Anxiety Disorder 7-Item (GAD-7) self-report tool for individuals aged 12 and above, focusing on the past two weeks only. It assists teachers and parents in recognizing and tracking anxiety symptoms in children and teenagers. The concise structure facilitates the effortless assessment and comprehension of anxiety intensity over a period of time. McCarney et al. (2007) introduced the Learning Disability Evaluation Scale - Renormed Second Edition (LDES-R2), based on reports from teachers, clinicians, and parents for children aged 6-18 years. This tool, although comprehensive in covering various learning

disabilities, requires expert administration. The National Institute for the Mentally Handicapped (2009) developed the Indian Scale for Assessment of Autism (ISSA) for individuals aged 3-20 years, which is based on observation, informant interviews, and testing, and requires a clinician for accurate assessment. Adler et al. (2010b) introduced the Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist, widely used for self-administration to assess ADHD symptoms like inattention, hyperactivity, and impulsivity in adults. It screens for these symptoms based on self-reported questionnaire responses, suggesting the need for further evaluation rather than providing a definitive diagnosis. Nadeau and Quinn (2002) created the ADHD Self-Rating Scale, specifically for teenage girls. This self-report questionnaire is not a diagnostic tool for ADD/ADHD but can indicate if a professional evaluation might be needed when many items are checked. Wolraich et al. (2003) developed the Vanderbilt Assessment Scales for diagnosing ADHD in children aged 6-12 years, which is comprehensive and based on parent informants. The VADPRS, based on DSM-IV criteria, includes subscales for ADHD, ODD, CD, anxiety/depression, school performance, and social functioning. Despite its widespread use in research

and clinical settings, it remains a screening tool, and clinical judgment is necessary for interpreting scores, with follow-up by a trained clinician recommended for high scores. Hammill and Bryant (1998) developed the Learning Disabilities Diagnostic Inventory (LDDI) for children aged 8-17 years, to be completed by a teacher or speech-language pathologist. The LDDI includes six scales: Listening, Speaking, Reading, Writing, Mathematics, and Reasoning, aimed at identifying learning disabilities rather than measuring ability or achievement. It focuses on comparing students skill patterns in specific areas to those of individuals with known learning disabilities, such as Dyslexia or Dysgraphia, shifting the emphasis from norm-referenced ability scores to individual skill patterns. Scahill et al. (1997) developed the Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS) for individuals aged 16-17 years, requiring a clinician or trained interviewer. The CY-BOCS is recognized for its reliability and alignment with DSM criteria, making it popular in clinical and research environments. However, it serves as a screening tool and not a diagnostic test, necessitating follow-up with a professional evaluation. Gaffney et al. (1994) introduced The MOVES (Motor tic, Obsessions & compulsions, and Vocal ticEvaluation Survey), a self-assessment tool for school-aged children and adolescents aged 6-19 years to evaluate symptoms linked to Tourette syndrome and related conditions. It scores five areas: motor tics, vocal tics, obsessions, compulsions, and related symptoms such as echolalia and coprolalia. The survey is quick, taking about five minutes, and is available in both English and French for free. While it is valuable for screening and tracking symptom severity, a detailed evaluation by a healthcare professional is essential for accurate diagnosis and treatment planning. The Yale-Brown Obsessive Compulsive Scale (Y-BOCS), adopted version of Goodman (1989), is a clinician-administered tool with 10 items that measure the severity of OCD symptoms, independent of specific obsessions or compulsions. It demonstrated high reliability and internal consistency in a study with 40 patients at various treatment stages. The Y-BOCS is effective for evaluating a broad spectrum of OCD symptom severity with age group 6-17 years.

Therefore, the researcher constructs the battery by keeping in mind the statements of the above mentioned tools as well as according to the age group i.e. 11-15 years and the cultural context of the students.

The researcher constructed another tool i.e., "Academic Self-Efficacy Scale", as the available tool either were on general self-efficacy or too old to administered.

Moreover, the academic self-efficacy scale was constructed by keep in the view the age group i.e. 11-15 years, cultural context and students with co-morbid conditions. The researcher constructed statements/items on the basis of following standardized tools:

1. Self-Efficacy Questionnaire for Children (SEQ-C) by Muris-2001
2. Self-Efficacy Scale by Bandura et al. (2006)
3. Academic Self-Efficacy and Efficacy for Self-Regulated Learning (Adapted from Zimmerman, Bandura, & Martinez-Pons, 1992; Chemers, Hu, & Garcia, 2001).

The researcher has constructed following two tools:

1. Identification Battery on Co-morbid Conditions
2. Academic Self-Efficacy Scale

The steps and procedure of tool construction discussed below under the heading “**Construction of Tools**”.

3.5.1 CONSTRUCTION OF TOOLS

A detailed description of tools construction is given below:

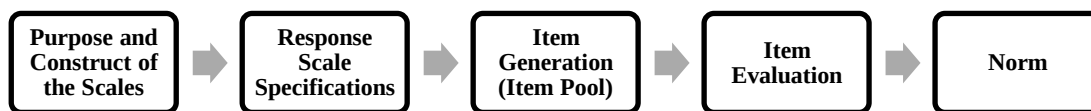


Fig. 3.3 Steps of Tool Construction

The development of identification battery on co-morbid conditions and academic self-efficacy scale involved planning and process of scale construction and standardization. The planning phase was concerned with the finalization of all components of scale as highlighted in figure 3.3. The scale construction and standardization process embraced an iterative and integrated methodology, drawing inspiration from the work of Irwing & Hughes (2018) as cited by Kyriazos & Stalikas (2018). This comprehensive approach integrated multiple steps from various scale development methods. The following figure 3.4 depicts the intricate procedure utilized for both scale construction and standardization.

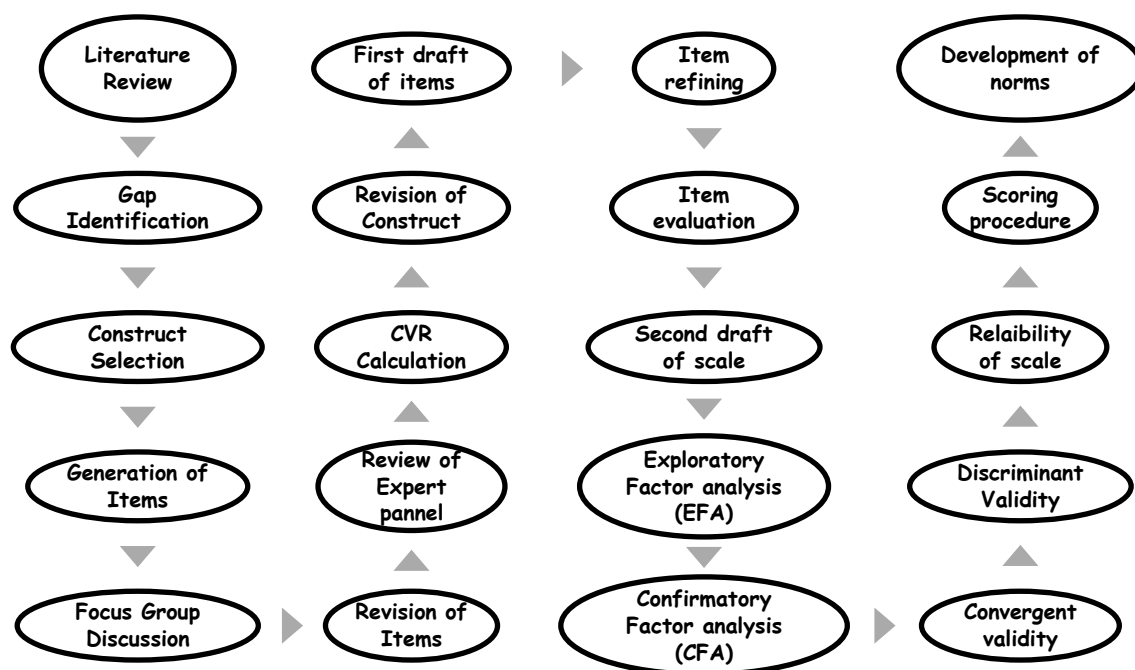


Fig. 3.4 Procedure for Scale Construction

3.5.1.1 IDENTIFICATION BATTERY ON CO-MORBID CONDITIONS (IBCC) AND ACADEMIC SELF-EFFICACY SCALE (ASES)

A detailed description of the procedure of IBCC and ASE for the students of government middle school is given below:

Step 1: Purpose and Construct of the Battery and Scale

The purpose of the battery construction was to identify the students with co-morbid conditions. The available scales are independent scales on these disorders and no identification battery is available on these disorders. Therefore, new evaluation scales were constructed covering the specific ten disorders and age group.

Step 2: Response Scale Specifications

The Likert scaling method, originally introduced by Likert (1952) and also referred to as the Likert normative scale (Peter & Rab, 2017), was adopted as the response format. A Likert scale with five response options labeled as '*Never,*' '*Rarely,*' '*Sometimes,*' '*Often,*' and '*Always*' was employed. This choice of a five-point scale was driven by its effectiveness in capturing opinions regarding services, products, or programs that users have personally experienced. It aimed to elicit specific responses from respondents, enabling valuable feedback and facilitating improvements in the quality of services, products, or programs.

Step 3: Item Generation (Item Pool)

The existing body of literature on co-morbidity and self-efficacy played a crucial role in generating an initial pool of 100 statements for the Identification of Co-morbid Conditions (IBCC) scale and 20 statements for the Academic Self-Efficacy Scale (ASES), specifically tailored to middle school students. These statements comprised the first draft of the evaluation scale. It is generally recommended that the initial pool of items be two to three times larger than the final scale set (Sinclair al., 2020 & DeVellis, 2021).

When formulating the items, certain criteria were adhered to, including clarity, simplicity, specificity, ensuring a single idea per item, and brevity, as proposed by Barker et al. (2016). Moreover, these statements were carefully crafted to suit the diverse aspects relevant to middle school students in the Indian context. Consideration was given to suggestions and recommendations provided by “The Rights of Persons with Disabilities (RPwD) Act, 2016 (India), the International Classification of Diseases (ICD-10) by WHO, and the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) by APA”.

Focus Group Discussions with Stakeholders

In order to understand the diverse challenges faced by government middle school students, a series of focus group discussions were conducted involving various stakeholders. The initial draft was given to 19 experts holding different hierarchical positions, including two Professors, five Assistant Professors, two Counsellors and Psychologists, three Special Educators, one Language Expert and one School Principal from India; one Associate Professor from UAE; one Assistant Professors from Bahrain; and one Assistant Professors from Saudi Arabia (List of Experts with their details given in the Appendix-N).

To ensure equitable participation in the scale development process, individual in-depth discussions were conducted with each member of the focus group. The feedback and suggestions received from these discussions are outlined below:

1. The researcher tried to cover various aspects of particular disorders in the battery but the battery became too lengthy. So, the number of statements needs to be reduced so that the respondents could feel comfortable in giving their responses.
2. In Academic Self-efficacy scale two statements crash with other two statements so eliminate the two statements.

3. Try to avoid direct question to students, make them as statements.
4. Try to avoid double barrelled statement.
5. Use Simple language. Do not write too long statements.
6. Check the grammar and style of sentence.
7. Avoid having two ideas in one statement.

After the focus group discussions, 100 statements for the Identification of Co-morbid Conditions (IBCC) scale and 20 statements for the Academic Self-Efficacy Scale (ASES) drafted earlier resulted in 70 statements of IBCC and 18 statements of ASES.

The second draft, consisting of 70 statements of IBCC and 18 statements of ASES was given to 10 subject experts at the national level and international level for reviewing and rating the statements. The observations and suggestions proposed by experts are presented in table 3.1 given below:

Table 3.1

Feedback by Experts

S.No.	Feedback
Expert 1	Your attempted scales development is appreciable. I assume you don't need any modifications as per my observation.
Expert 2	You have developed wonderful battery and a scale. All the items/questions/statements in all two scales are relevant and up to the mark. Hence strongly approved for further course of action.
Expert 3	Good job, the scales seem good now, you can go ahead in collecting the needed data for the next stages.
Expert 4	Suggestions are incorporated by the scholar and she is allowed to do her research work.
Expert 5	I am happy to approve the attached tools and I don't have any further comment. Wishing you all the best in your research project.
Expert 6	I have gone through your revised tools. I think, these are up to the marks now.
Expert 7	It is approved from my side. Please go ahead. All the best to you.
Expert 8	All the items are vetted and they have face and content validity.
Expert 9	I have gone through your battery and scale. All the items in the scales are relevant and up to the mark. Go ahead for your research work.
Expert 10	All the grammar mistakes have been taken care by the researcher. Please go ahead for your research work.

Content Validity Ratio (CVR) Calculation

The calculation of the Content Validity Ratio (CVR), as stated by Lawshe (1975), Waltz and Bausell (1981), and Lynn (1986), was employed to determine the most valuable items. The experts evaluated the items on 04-point scale highly relevant (HR) = 4; quit relevant but needs rewording (RM) = 3; somewhat relevant (SR) = 02 and not relevant (NR) = 1.

$$\text{Content Validity Ratio (CVR)} = (n_e - N/2)/N/2$$

Where n_e is the number of experts with a rating of 3 or 4 and N is the total number of experts.

Based on the expert suggestions received and estimation of content validity ratio (CVR), 70 statements of IBCC (35 items were retained as such, 35 items were retained with modification and 30 items were deleted); 20 statements of ASE (02 items were retained as such, 16 items were retained with modification and 02 items were deleted) were finalized.

The statements having CVR *critical* equal to or more than 0.49 were retained, when the number of experts is more than 15 (Wilson et. al., 2012). The table showing the values of content validity ratio (CVR) of the IBCC and ASEs are given in appendices A & E respectively.

The following table 3.2 shows the revised number of statements in different factors of the scale as per the feedback received from different experts.

Table 3.2

Factors with Number of Statements of the IBCC

Disorders	Factors	No. of Statements
		IBCC
Dyslexia (Dys-L)	Surface Dyslexia	04
	Phonological Dyslexia	03
Dysgraphia (Dys-G)	Phonological Dysgraphia	04
	Spatial Dysgraphia	03
Dyscalculia (Dys-C)	Operational Dyscalculia	04
	Ideognostical Dyscalculia	03
Dysphasia (Dys-P)	Dysphasia	07
Dyspraxia (Dys-Pr)	Ideational Dyspraxia	05
	Ideomotor Dyspraxia	02

Anxiety Disorder	Anx	07
Attention Deficit Hyperactive Disorder	ADHD	07
Obsessive Compulsive Disorder	OCD	07
Autism Disorder	AD	07
Tic disorder	Motor Tics	05
	Vocal Tics	02
Total		70

Table 3.3

Factors with Number of Statements of the Academic Self-Efficacy Scale (ASES)

Scale	Factors	No. of Statements
		ASE
Academic-Self Efficacy (ASE)	Motivational Level	10
	Affective Level	05
	Cognitive Level	03
Total		18

Pilot Testing of Items

The 05 points Likert IBCC consisting of 70 statements were used to identify the students with co-morbid conditions and ASES consisting of 18 statements used to determine the level of academic self-efficacy of students with co-morbid conditions by selecting 260 students studying in government middle schools of two districts of Jammu province i.e. Jammu and Rajouri. Total 64 (24.62%) were identified as students with co-morbid conditions. For item refining, the item means, standard deviation, skewness, kurtosis, and item-total correlation were computed. As per standard criteria, the items with a mean less than 2 and greater than 4 (Jang & Roussos, 2007), and items with standard deviation (SD) < 1 should be eliminated (Jackson, 1970). The items with skewness less than 3 (Distefano, 2009) and Kurtosis less than 8 (Campbell et al., 2008) should be retained. Moreover, item-total correlation should be > 0.25 (Likert, 1932).

Out of 70 statements of IBCC, all statements fulfilled the criteria of item refining and out of 18 statements of ASE; all statements fulfilled the criteria of item refining. So, these 70 statements of IBCC and 18 statements of ASE were further subjected to item evaluation using an independent sample z-test.

Step 4: Item Evaluation

The total scores of all 70 statements of IBCC and 18 statements of ASES were arranged in ascending order and the scores of upper and lower 27% of data were taken. The significance of the difference between means of each item was calculated using independent samples of z-test (Edward and Kilpatrick, 1948). Statistical software, SPSS, was utilized to conduct an independent z-test. Findings indicated a significant difference between the upper and lower groups for items with p-values below 0.05/0.01. Specifically, 70 statements from IBCC and 18 statements from ASES exhibited p-values below 0.01. The details of p-values for each statement are given in appendices - B & F for IBCC and ASES respectively. Based on expert suggestions, content validity ratio (CVR), pilot testing, and item evaluation, the final draft of the scale was prepared.

Step 5: Dimensionality of the Scales

The examination of scale dimensionality involved the application of both Exploratory Factor Analysis and Confirmatory Factor Analysis, as outlined by Furr (2011) and Singh et al. (2016). A comprehensive description of these analyses is provided below.

Exploratory Factor Analysis (EFA)

To assess the adequacy of data for exploratory factor analysis (EFA), the IBCC, comprising 70 statements, underwent a data reduction technique. Prior to conducting EFA, two tests were performed: the Kaiser-Meyer-Olkin (KMO) test for sample adequacy (Kaiser, 1958) and the Bartlett test of sphericity for factorability (Bartlett, 1954). These tests were conducted to determine the suitability of the data for exploratory factor analysis. The results revealed that the Measure of Sample Adequacy (MSA), known as Kaiser Meyer-Olkin (KMO), demonstrated values of 0.741, 0.770, 0.805, 0.903, 0.723, 0.849, 0.843, 0.868, 0.733, and 0.775 for Dys-L, Dys-G, Dys-C, Dys-P, Dys-Pr, Anx, ADHD, OCD, AD, and TD respectively. These values indicate that the sample is suitable for further analysis since they exceed the critical value of 0.6 (Tatachnick & Fidell, 1996) and the results of Bartlett's test of Sphericity indicated a significant number of correlations among variables within the sample of government middle school students. The obtained values were $\chi^2 = 286.11$ ($p = 0.00$), $\chi^2 = 347.65$ ($p = 0.00$), $\chi^2 = 546.09$ ($p = 0.00$), $\chi^2 = 594.07$ ($p = 0.00$), $\chi^2 = 468.80$ ($p = 0.00$), $\chi^2 = 623.62$ ($p = 0.00$), $\chi^2 = 698.68$ ($p =$

0.00), $\chi^2 = 652.38$ ($p = 0.00$), $\chi^2 = 635.91$ ($p = 0.00$), and $\chi^2 = 402.97$ ($p = 0.00$) of Dys-L, Dys-G, Dys-C, Dsy-P, Dys-Pr, Anx, ADHD, OCD, AD, and TD respectively. These results indicate that the sample is appropriate for detecting the underlying structure. After the rotation process, a total of 70 items were successfully converged in the exploratory factor analysis (EFA), accounting for 63.67%, 67.16% , 73.51%, 66.75%, 72.33%, 64.39%, 68.32%, 66.15%, 61.65%, and 67.36% of total variance for Dys-L, Dys-G, Dys-C, Dsy-P, Dys-Pr, Anx, ADHD, OCD, AD, and TD respectively among government middle school students. These percentages exceed the threshold of 50%, as recommended by Russel (2002), indicating a satisfactory level of variance explained. The findings of the EFA for government middle school students are summarized in Appendix C.

The ASES consisting of 18 statements was subjected to a data reduction technique to form dimensions/factors through exploratory factor analysis (EFA). Prior to conducting EFA, two tests were performed: the Kaiser-Meyer-Olkin (KMO) test for sample adequacy (Kaiser, 1958) and the Bartlett test of sphericity for factorability (Bartlett, 1954). These tests were conducted to determine the suitability of the data for exploratory factor analysis. The results revealed that the Measure of Sample Adequacy (MSA), known as Kaiser Meyer-Olkin (KMO), demonstrated values of 0.877 for ASES of government middle school students. These values indicate that the sample is suitable for further analysis since they exceed the critical value of 0.6 (Tatachnick & Fidell, 1996) and the results of Bartlett's test of Sphericity indicated a significant number of correlations among variables within the sample of government middle school students. The obtained values were $\chi^2 = 1771.94$ ($p = 0.00$) for ASES. These results indicate that the sample is appropriate for detecting the underlying structure. After the rotation process, a total of 18 items were successfully converged in the exploratory factor analysis (EFA), accounting for 67.75% of total variance for ASES among government middle school students. These percentages exceed the threshold of 50%, as recommended by Russel (2002), indicating a satisfactory level of variance explained. The findings of the EFA for government middle school students can be found in Appendix I.

Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) was conducted using AMOS 20.0 statistical software to assess the validity of the measurement of IBCC (Appendices - D-I to D-

X) and ASES (Appendix –I). To evaluate the model fit, the recommended categories of fit indices by Brown were considered: absolute fit (Chi-Square Goodness-of-Fit [χ^2], Standardized Root Mean Square Residual [SRMR]); Parsimony-Corrected Fit (Root Mean Square Error of Approximation [RMSEA]), and Comparative Fit (Tucker-Lewis Fit Index [TLI], Comparative Fit Index [CFI]). The model fit was determined based on the following cut-off values: $\chi^2 < 3$ with a p-value > 0.05 ; TLI and CFI ≥ 0.90 , RMSEA ≤ 0.05 , goodness of fit index (GFI) > 0.80 , and adjusted goodness of fit index (AGFI) > 0.90 . The fit indices results are presented in the tables 3.4 and 3.5.

Table 3.4

Model Fit Indices for Different Scales of IBCC

Measure Calculated Values for	CMIN/df	GFI	AGFI	TLI	CFI	RMSEA	SRME
Dys-L	1.669	.959	.904	.964	.979	.072	.0392
Dys-G	1.415	.966	.913	.983	.991	.057	.0326
Dys-C	1.741	.961	.899	.964	.981	.076	.0369
Dys-P	1.653	.962	.910	.975	.986	.071	.0267
Dys-Pr	1.874	.959	.896	.958	.978	.082	.0337
Anx	1.768	.956	.898	.973	.985	.077	.0345
ADHD	1.857	.966	.895	.968	.986	.082	.0332
OCD	1.910	.971	.885	.970	.990	.084	.0384
AD	1.285	.981	.923	.989	.996	.047	.0447
TD	1.685	.964	.908	.943	.970	.073	.0565
Threshold values	<3 or <5	>.90	>.80	>.90	>.80	<.08	<.08

Note: Appendices – D-I to D-X

Table 3.5

Model Fit Indices for ASES

Measure Calculated Values for	CMIN/df	GFI	AGFI	TLI	CFI	RMESA	SRME
ASE	1.238	.901	.854	.985	.989	.043	.0271
Threshold values	<3 or <5	>.90	>.80	>.90	>.80	<.08	<.08

Note: Appendices – I

Convergent Validity and Discriminant Validity

Further, the construct validity of the different factors associated with different constructs of battery and scale (IBCC and ASES) was assessed through its main components i.e. convergent validity and discriminant validity.

Convergent validity was assessed by examining the item factor loadings and their statistical significance, as well as evaluating the average variance extracted (AVE) and construct reliabilities (CR) of the dimensions/factors. Convergent validity was confirmed when the item factor loading was ≥ 0.5 and the p-value (p) was < 0.05 (Hair et al., 2010). Additionally, $AVE \geq 0.5$ and $CR \geq 0.7$ (Fornell & Larcker, 1981) were used as criteria for establishing convergent validity. The AVE and CR values for IBCC were computed following the equation provided by Fornell & Larcker (1981) and are presented in table 3.6.

Table 3.6

Convergent Validity indicating Average Variance Extracted (AVE) and Construct Reliabilities (CR) for IBCC

Construct	Factors	AVE	CR
Dyslexia	Surface Dyslexia	0.54	0.82
	Phonological Dyslexia	0.58	0.80
Dysgraphia	Phonological Dysgraphia	0.65	0.88
	Spatial Dysgraphia	0.57	0.80
Dyscalculia	Operational Dyscalculia	0.71	0.91
	Ideognostical Dyscalculia	0.53	0.77
Dysphasia	Dysphasia	0.67	0.93
Dyspraxia	Ideational Dyspraxia	0.63	0.89
	Ideomotor Dyspraxia	0.85	0.92
Anxiety Disorder	Anx	0.64	0.93
Attention Deficit Hyperactive Disorder	ADHD	0.68	0.94
Obsessive Compulsive Disorder	OCD	0.65	0.93
Autism Disorder	AD	0.62	0.92
Tic Disorder	Motor Tics	0.58	0.87
	Vocal Tics	0.64	0.78

Therefore, all the 70 items subjected to confirmatory factor analysis (CFA) were retained. All items are having average variance extracted (AVE) for all dimensions/factors > 0.5 .

Table 3.7*Factor and Dimension wise Distribution of Items in IBCC*

Construct	Factors	Old order of Statements	New order of Statements	Total State ments
Dyslexia	Surface Dyslexia	2,1,7,6	1-4	4
	Phonological Dyslexia	3-5	5-7	3
Dysgraphia	Phonological Dysgraphia	1,3,4,7	1-4	4
	Spatial Dysgraphia	2,5,6	5-7	3
Dyscalculia	Operational Dyscalculia	1, 4-6	1-4	4
	Ideognostical Dyscalculia	2,3,7	5-7	3
Dysphasia	Dysphasia	1-7	1-7	7
Dyspraxia	Ideational Dyspraxia	1, 4-6	1-4	4
	Ideomotor Dyspraxia	2,3,7	5-7	3
Anxiety Disorder	Anx	1-7	1-7	7
Attention Deficit Hyperactive Disorder	ADHD	1-7	1-7	7
Obsessive Compulsive Disorder	OCD	1-7	1-7	7
Autism Disorder	AD	1-7	1-7	7
Tic Disorder	Motor Tics	1-3, 6-7	1-5	5
	Vocal Tics	4-5	6-7	2

The statements related to each dimension/factor were arranged in sequential order within the final scale. Thus, the final scale comprised 70 items distributed across 15 factors (refer to Appendix-E). Table 3.8 provides the specific details regarding this distribution.

Table 3.8 presents the progression of the IBCC description from the preliminary draft to the final draft.

Table 3.8*Details of Scale Construction and Standardization for IBCC*

Draft	Process	Factors	Dimensions	Total Statements
First	Review	Pool of items	-	100
Second	Focus Group Discussion	-	-	70

	CVR	-	-	70
	Item Refining	-	-	70
Third	Item Evaluation	15	-	70
	EFA	15	15	70
Final	CFA	15	15	70

The AVE and CR values for ASES were computed using the equation provided by Fornell & Larcker (1981) and are presented in table 3.9.

Table 3.9

Convergent Validity indicating Average Variance Extracted (AVE), and Construct Reliabilities (CR) for ASES

Construct	Factors	AVE	CR
ASE	Motivational Level	0.54	0.89
	Affective Level	0.56	0.86
	Cognitive Level	0.51	0.70

Therefore, all the 18 items subjected to confirmatory factor analysis (CFA) were retained. All items are having average variance extracted (AVE) for all dimensions/factors > 0.5.

Table 3.10

Factor and Dimension wise Distribution of Items in ASES

Construct	Factors	Old order of Statements	New order of Statements	Total Statements
ASE	Motivational Level	1, 3, 5-8, 12, 13, 15, & 18	1-10	10
	Affective Level	2, 4, 10, 11, & 14	11-15	05
	Cognitive Level	9, 16, & 17	16-18	03

The statements related to each dimension/factor were arranged in sequential order within the final scale. Thus, the final scale comprised 18 items distributed across 03 factors (refer to Appendix-K). Table 3.11 provides the specific details regarding this distribution.

Table 3.11 presents the progression of the ASES description from the preliminary draft to the final draft.

Table3.11*Details of Scale Construction and Standardization for ASES*

Draft	Process	Factors	Dimensions	Total Statements
First	Review	Pool of items	-	20
Second	Focus Group Discussion	-	-	18
	CVR	-	-	18
	Item Refining	-	-	18
Third	Item Evaluation	-	-	18
	EFA	03	03	18
Final	CFA	03	03	18

Discriminant Validity (DV) assesses the degree to which a construct is genuinely different from other constructs. It is determined by calculating the square root of the average variance extracted (AVE) for each construct, which should be higher than the correlation between any pair of latent constructs (Chin, 1998) and equal to or greater than 0.50 (Fornell & Larcker, 1981).

The discriminant validity of IBCC and ASES was also established and values of discriminant validity for various dimensions (construct) corresponding to the factors of IBCC and ASES is shown in tables 3.12 to 3.22.

Table 3.12

Discriminant Validity for Various Dimensions Corresponding to the Factor Dyslexia (Dys-L) of IBCC

Dimensions/Constructs	A1	A2
Surface Dyslexia (A1)	0.74	-
Phonological Dyslexia (A2)	0.62	0.76

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.13

Discriminant Validity for Various Dimensions Corresponding to the Factor Dysgraphia (Dys-G) of IBCC

Dimensions/Constructs	B1	B2
Phonological Dysgraphia (B1)	0.81	-
Spatial Dysgraphia (B2)	0.65	0.75

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.14

Discriminant Validity for Various Dimensions Corresponding to the Factor Dycalculia (Dys-C) of IBCC

Dimensions/Constructs	C1	C2
Operational Dycalculia (C1)	0.84	-
Ideognostical dycalculia (C2)	0.71	0.73

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.15

Discriminant Validity for Various Dimensions Corresponding to the Factor Dysphasia (Dys-P) of IBCC

Dimensions/Constructs	D
Dysphasia (D)	0.82

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.16

Discriminant Validity for Various Dimensions Corresponding to the Factor Dyspraxia (Dys-Pr) of IBCC

Dimensions/Constructs	E1	E2
Ideational Dyspraxia (E1)	0.79	-
Ideomotor Dyspraxia (E2)	0.69	0.92

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.17

Discriminant Validity for Various Dimensions Corresponding to the Factor Anxiety Disorder (Anx) of IBCC

Dimensions/Constructs	F
Anxiety Disorder (F)	0.80

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.18

Discriminant Validity for Various Dimensions Corresponding to the Factor Attention Deficit Hyperactive Disorder (ADHD) of IBCC

Dimensions/Constructs	G
ADHD (G)	0.83

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.19

Discriminant Validity for Various Dimensions Corresponding to the Factor Obsessive Compulsive Disorder (OCD) of IBCC

Dimensions/Constructs	H
OCD (H)	0.81

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.20

Discriminant Validity for Various Dimensions Corresponding to the Factor Autism Disorder (AD) of IBCC

Dimensions/Constructs	H
Autism Disorder (I)	0.79

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.21

Discriminant Validity for Various Dimensions Corresponding to the Factor Tic Disorder (TD) of IBCC

Dimensions/Constructs	J1	J2
Motor Tic(J1)	0.76	-
Vocal Tic(J2)	0.63	0.80

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.22

Discriminant Validity for Various Dimensions Corresponding to the Factor of ASES

Constructs	Motivational Level	Affective level	Cognitive Level
Motivational Level	0.94	-	-
Affective level	0.69	0.93	-
Cognitive Level	0.88	0.78	0.82

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

The bolded values in tables 3.12 to 3.22 represent the square root of the average variance extracted (AVE) for each construct. These values exceed the correlations between different dimensions/constructs and are all greater than 0.5, effectively distinguishing each construct from one another.

The results of convergent and discriminant validity, as shown in tables 3.6, 3.9, and 3.12 to 3.22, demonstrate that all constructs within the scales meet the required criteria. Consequently, both IBCC and ASES exhibit strong construct validity within the chosen standardization sample.

Internal Consistency

To assess the internal consistency of the scale, the values of Cronbach's alpha (α) and split method reliability (using the odd and even method or the Spearman-Brown Prophecy formula (SBP)) were calculated. Gliem and Gliem (2003) state that reliability coefficient ranges from 0 to 1, with higher values indicating greater internal consistency of the scale. Tables 3.23 and 3.24 provide the reliability coefficients for the IBCC and ASES.

Table 3.23

Scale wise Coefficient of Reliability of IBCC

Scales	Cronbach Alpha (α)
Dyslexia	.834
Dysgraphia	.845
Dyscalculia	.870
Dysphasia	.910
Dyspraxia	.857
Anxiety Disorder	.893
ADHD	.904
OCD	.912

Autism Disorder	.882
Tic Disorder	.810

Table 3.24

Overall Coefficient of Reliability of ASES

Construct	Cronbach's α	Split-half
Academic Self-Efficacy (ASE)	.954	.955

The reliability coefficients, as shown in tables 3.23 to 3.24, indicate that both IBCC and ASES demonstrate good and very good levels of internal consistency. This is evident from the calculated values of the reliability coefficient using Cronbach's alpha and the split-half reliability method for individual factors as well as overall. Therefore, it can be concluded that both IBCC and ASES exhibit strong internal consistency.

Step 6: Norm

Norms for IBCC: IBCC are 05 point Likert scales developed to identify the students with co-morbid conditions of government middle schools.

The instructions for administration & scoring for IBCC were developed and mentioned below:

- The statements ranging from A1-A4 are concerning with the factor surface dyslexia and A5-A7 with the factor phonological dyslexia of the construct Dyslexia (Dys-L) for the students of government middle school in IBCC.
- The statements ranging from B1-B4 are concerning with the factor phonological dysgraphia and B5-B7 with the factor spatial dysgraphia of the construct Dysgraphia (Dys-G) for the students of government middle school in IBCC.
- The statements ranging from C1-C4 are concerning with the factor operational dyscalculia and C5-C7 with the factor ideognostical dyscalculia of the construct Dyscalculia (Dys-C) for the students of government middle school in IBCC.
- The statements ranging from D1-D7 are concerning with the factor Expressive Dysphasia (Dys-P) for the students of government middle school in IBCC.
- The statements ranging from E1-E5 are concerning with the factor ideational dyspraxia dyscalculia and E6-E7 with the factor ideomotor

dyspraxia of the construct Dyspraxia (Dys-Pr) for the students of government middle school in IBCC.

- The statements ranging from F1-F4 are concerning with the factor anxious arousal & F5-F7 are concerning with the factor anxious apprehension of the construct Anxiety (Anx) for the students of government middle school in IBCC.
- The statements ranging from G1-G3 are concerning with the factor Inattention & G4-G7 are concerning with the factor hyperactivity of the construct Attention Deficit Hyperactive Disorder (ADHD) for the students of government middle school in IBCC.
- The statements ranging from H1-H3 are concerning with the factor Obsession & H4-H7 are concerning with the factor compulsion of the construct Obsessive Compulsive Disorder (OCD) for the students of government middle school in IBCC.
- The statements ranging from I1-I3 are concerning with the factor social & language and I4-I7 are concerning with the factor physical & emotional of the construct Autism Disorder (AD) for the students of government middle school in IBCC.
- The statements ranging from J1-J5 are concerning with the factor motor tics and J6-J7 with the factor vocal tics of the construct Tic Disorder (TD) for the students of government middle school in IBCC.
- Tick (✓) in the appropriate box against each statement below the options i.e., '*never*,' '*rarely*,' '*sometimes*,' '*often*,' and '*always*'.

Scoring

IBCC consists of 70 statements. All the statements are positively worded. Each statement is followed by five responses on a continuum i.e. '*never*,' '*rarely*,' '*sometimes*,' '*often*,' and '*always*' and scored 0, 1, 2, 3, and 4.

Development of Norms

The minimum score of IBCC can be 0 and the highest can be 28 for each construct of IBCC. The descriptive statistics for the collected data in the case of IBCC given in table 3.25 as follows:

Table 3.25*Norms of IBCC*

Scale	Construct/Overall	Range of Scores	Classification	Remarks
IBCC	Dyslexia (Dys-L)	0-13	No Prevalence	
		14-20	Sub-threshold	
		21 -28	Threshold	
	Dysgraphia (Dys-G)	0-13	No Prevalence	
		14-20	Sub-threshold	
		21 -28	Threshold	
	Dyscalculia (Dys-C)	0-13	No Prevalence	
		14-20	Sub-threshold	
		21 -28	Threshold	
	Dysphasia (Dys-P)	0-13	No Prevalence	
		14-20	Sub-threshold	
		21 -28	Threshold	
	Dyspraxia (Dys-Pr)	0-13	No Prevalence	
		14-20	Sub-threshold	
		21 -28	Threshold	
	Anxiety Disorder (Anx)	0-13	No Prevalence	
		14-20	Sub-threshold	
		21 -28	Threshold	
	Attention Deficit Hyperactive Disorder (ADHD)	0-13	No Prevalence	
		14-20	Sub-threshold	
		21 -28	Threshold	
	Obsessive Compulsive Disorder (OCD)	0-13	No Prevalence	
		14-20	Sub-threshold	
		21 -28	Threshold	
	Autism Disorder (AD)	0-13	No Prevalence	
		14-20	Sub-threshold	
		21 -28	Threshold	
	Tic Disorder (TD)	0-13	No Prevalence	
		14-20	Sub-threshold	
		21 -28	Threshold	
	Overall	0-139	No Prevalence	
		140-209	Sub-threshold	
		210-280	Threshold	

 *Indicating absences of disorder*
 *Indicating the onset of certain difficulties & the intervention of a qualified professional such as a counselor is advisable*
 *Indicating the severity and where they need a psychiatrist, therapy, and immediate help.*

Norms for ASES: ASES is 05 point Likert scale developed to identify the level of academic self-efficacy of the students with co-morbid conditions of government middle schools.

The instructions for administration & scoring for ASES were developed and mentioned below:

- The statements ranging from 1-14 are concerning with the factor motivational level of the construct Academic Self-efficacy Scale (ASES) for the students of government middle school.
- The statements ranging from 11-15 are concerning with the factor affective level of the construct Academic Self-efficacy Scale (ASES) for the students of government middle school.
- The statements ranging from 16-18 are concerning with the factor cognitive level of the construct Academic Self-efficacy Scale (ASES) for the students of government middle school.
- Tick (✓) in the appropriate box against each statement below the options i.e., '*never*,' '*rarely*,' '*sometimes*,' '*often*,' and '*always*'.

Scoring

Academic Self-Efficacy Scale (ASES) consists of 18 statements. All the statements are positively worded. Each statement is followed by five responses on a continuum i.e. '*never*,' '*rarely*,' '*sometimes*,' '*often*,' and '*always*' and scored 1, 2, 3, 4 and 5.

Development of Norms

The minimum score of ASES can be 18 and the highest can be 90 for ASES. The descriptive statistics for the collected data in the case of ASES are given in table 3.26 as follows:

Table 3.26

Descriptive Statistics of ASES

Scale	Factor/Overall	N	Mean	SD
ASES	Motivational Level	260	32.55	8.89
	Affective Level	260	8.95	3.21
	Cognitive Level	260	7.14	2.33
Overall		260	48.64	13.36

The z-score norms for ASES were calculated by the researcher using the raw scores obtained from a representative sample. This was done using the formula $Z\text{-score} = (x - M) / \sigma$, where x represents the raw score of an individual respondent, M

is the mean of the representative sample, and σ is the standard deviation of the representative sample. The appendices (H) provide the Z-scores corresponding to the raw scores for ASE. Table 3.27 displays the categorized Z-scores for the factors of ASES.

Table 3.27

Interpretation of ASES Scores

Scale	Factor/Overall	Raw Scores	Range of Z-Score	Interpretation
ASES	Motivational Level (ML)	Below 24	-1 σ & Below	Low ML
		24 to 41	-1 σ to +1 σ	Average ML
		Above 41	+1 σ & Above	High ML
	Affective Level (AL)	Below 6	-1 σ & Below	Low AL
		6 to 12	-1 σ to +1 σ	Average AL
		Above 12	+1 σ & Above	High AL
	Cognitive Level (CL)	Below 5	-1 σ & Below	Low CL
		5 to 9	-1 σ to +1 σ	Average CL
		Above 9	+1 σ & Above	High CL
	Overall	Below 36	-1 σ & Below	Low ASE
		36 to 61	-1 σ to +1 σ	Average ASE
		Above 61	+1 σ & Above	High ASE

The final ASES was having 18 statements grouped under three (03) factors (Appendix-K).

3.5.1.2 SEMI-STRUCTURED INTERVIEW SCHEDULE FOR SCHOOL TEACHERS AND STUDENTS OF MIDDLE SCHOOLS WITH CO-MORBID CONDITIONS W.R.T. ACADEMIC PROBLEMS

The purpose of conducting semi-structured interviews and asking open-ended questions was to gain a comprehensive understanding of academic problems of middle school students with co-morbid conditions from both the students' and their teachers' perspectives. An in-depth semi-structured interview schedule was created, incorporating feedback from sixteen experts. A total of 12 questions were formulated for school teachers, while 14 questions were designed for students

with co-morbid conditions regarding academic challenges. A semi-structured interview schedule was used, combining pre-designed open-ended questions with the flexibility to probe deeper based on participant responses. These questions were reviewed and evaluated by experts at the national and international levels, who provided ratings on a 4-point scale: *highly relevant (4)*, *relevant but requiring rewording (3)*, *somewhat relevant (2)*, and *not relevant (1)*. To ensure the assessment of academic problems, the questions underwent discussions with the sixteen experts. The content validity ratio (CVR) of the semi-structured interview schedule was calculated using Lawshe's (1975) criteria. Taking into account the suggestions, ratings provided by experts, and the content validity ratio (CVR) estimation, all questions were included in the final semi-structured interview schedule for school teacher educators and students with co-morbid conditions. The appendices - L and M contain the final version of the semi-structured interview schedule for school teachers and students with co-morbid conditions, respectively, along with their respective content validity ratio (CVR) values. The semi-structured format allowed the researcher to maintain consistency across participants while also probing deeper into emerging themes based on responses.

3.6 PROCEDURE

The primary objective of the research was to determine the co-morbidity among middle school students based on their gender, age, and location, as well as to examine the academic problems encountered by students with co-morbid conditions from both student and teacher perspectives. This study employed a mixed-method approach. The assessment scale for students with co-morbid conditions was developed through focus group interviews and a well-defined tool construction process. The developed tools were standardized using a sample of stakeholders, which consisted of middle school students aged between 11 and 15 years, as well as school teachers with over 05 years of teaching experience. Both quantitative and qualitative data were collected by personally visiting middle schools and obtaining input from students and teachers. The final sample included 70 middle schools (selected by using simple random sampling technique) affiliated with the J&K board located in the Union Territory of Jammu and Kashmir. Additionally, researcher surveyed 1,084 students and 140

school teachers as stakeholders from the selected schools. The complete data collection process is detailed as follows:

- Participants got acquainted with an explanation of the study's goal during the data collection phase. The responses of selected middle school teachers with over 5 years of teaching experience and students with co-morbid conditions were refined.
- Informal semi-structured interviews were conducted with 140 middle school teachers and 224 students with co-morbid conditions using open-ended questions.
- The entire data collection process took approximately three months, from October 20, 2022 to December 20, 2022.
- The collected data were organized and separated into aggregate scores, factor-wise scores, and statement-wise categories for proper analysis.

3.7 STATISTICAL TECHNIQUES

The study utilizes both quantitative and qualitative statistical tools to achieve its objectives. The specific details of these methodologies are provided below:

1. In order to identify middle school students with co-morbid conditions, researcher calculated percentage of students with respect to different conditions.
2. In order to identify distribution of middle school students with co-morbid conditions, with respect to demographic variables, researcher calculated percentage of students with respect to different conditions.
3. In order to identify the academic problems of middle school students with co-morbid conditions, researcher conducted a qualitative study using semi-structured interviews with students, focusing on demographic data such as gender, age, and location.
4. In order to identify the levels of Academic Self-Efficacy among middle school students with co-morbid conditions, researcher used descriptive analysis like means, standard deviation and percentage regarding demographic factors, specifically gender, age, and locale.

5. In order to check the status of Academic Achievement among middle school students with co-morbid conditions, researcher used percentage regarding demographic factors, specifically gender, age, and locale.
6. The researcher employed the Karl Pearson Coefficient of Correlation and Simple Linear Regression to examine the link between Academic Self-Efficacy and Academic Achievement in middle school students with co-morbid conditions.

In summary, this "**Chapter III on Methodology**" covered the following aspects in sequential order:

1. The study employed a mixed-method research approach.
2. The sample for the study consisted of one Union Territory, Jammu and Kashmir, with 70 government middle schools (selected by using simple random sampling technique), and a selection of 1084 middle school students and 140 school teachers.
3. The construction of tools included the Identification Battery on Co-morbid Conditions (IBCC), the Academic Self-Efficacy Scale (ASES), and semi-structured interview schedules for school teachers and students with co-morbid conditions, and the development of a standardised evaluation scale to measure the influence of co-morbidity on academic achievement of students with co-morbid conditions.
4. Data was collected through surveys from school students aged 11-15 years and school teachers with over 5 years of experience, as well as through semi-structured interviews from school teachers and students with co-morbid conditions.
5. Quantitative analysis techniques such as frequencies, frequency distributions, mean, standard deviation, synthetic indexes, percentages, t-test and regression were employed, while semi-structure interviews were used as qualitative analysis techniques.

The subsequent chapter, "**Chapter IV**", focuses on the results and discussion of the findings. Following the analysis of the collected data using the aforementioned statistical analysis techniques, this chapter provides a comprehensive interpretation and discussion of the findings.

CHAPTER - IV

RESULTS AND DISCUSSION

The present chapter deals with the results obtained and their explanation in the light of available research studies and evidence. The research intended to illustrate quantitative results with qualitative findings to develop a holistic understanding of the co-morbidity with respect to four demographic variables (i.e., gender, age, locale, & socio-economic status); academic problems; academic self-efficacy; and academic achievement of middle school students with co-morbid conditions.

After the analyses, the results and findings are organized in terms of the objectives and research questions followed by a presentation and discussion of results obtained from responses of middle school students with co-morbid conditions and the semi-structured interviews of the school teachers who taught students with co-morbid conditions.

In short, this chapter deals with the results and findings related to the following objectives, research questions and hypotheses.

OBJECTIVES

1. To identify the middle school students having co-morbidity.
2. To study the demographic characteristics of middle school students having co-morbidity.
3. To identify the academic problems of middle school students having co-morbidity with respect to gender, age and locale.
4. To explore the levels of academic self-efficacy among middle school students having co-morbidity with respect to gender, age and locale.
5. To study the academic achievement of middle school students having co-morbidity with respect to gender, age and locale.
6. To explore the relationship between academic self-efficacy and academic achievement of middle school students having co-morbidity.

RESEARCH QUESTIONS

1. What are the identification features of middle school students having co-morbidity?
2. What are the demographic characteristics of middle school students having co-morbidity?
3. What are the academic problems of middle school students having co-morbidity with respect to gender, age and locale?
4. What are the levels of academic self-efficacy among middle school students having co-morbidity with respect to gender, age and locale?
5. What are the levels of academic achievement of middle school students having co-morbidity with respect to gender, age and locale?

HYPOTHESES

1. There is significant positive correlation between academic self-efficacy and academic achievement of students with co-morbid conditions.
2. Academic self-efficacy significantly predicts academic achievement of students with co-morbid conditions.

4.1 Identification of Middle School Students with Co-Morbidity

The first objective was to identify the middle school students having co-morbidity. The data was collected by the researcher from seventy government middle schools of ten (10) districts of Jammu Province viz. Rajouri, Poonch, Reasi, Jammu, Kathua, Udhampur, Jammu, Doda, Ramban and Khistawar through survey method. The data was analyzed to identify students having co-morbidity district wise, zone wise, and locale wise by computing percentage.

4.1.1 Identification of Middle School Student with Co-morbid Conditions with respect to District, Zone, and Locale of Jammu Province

The detail description of students with respect to districts, zones, number of schools in urban & rural areas, the aggregate/total number of students who have studied in that schools and total number of identified students with co-morbid conditions given in the following table 4.1.

Table 4.1

Number and Percentage of Students with Co-Morbid Conditions in Urban and Rural Government Middle Schools across Zones and Districts of Jammu Province

Sr. No.	District	Zone	No. of Schools in		Total Students	No. of Students with Co-morbid Conditions	Percentage of Identified Students with Co-morbid Conditions
			Urban Area	Rural Area			
01	Poonch	Buflaiz	-	1	19	5	26.32
		Surankote	1	-	10	4	40.00
		Poonch	1	-	18	5	27.78
		Kuniyan	-	1	12	6	50.00
		Thannamandi	1	-	17	2	11.76
02	Rajouri	Darhal	-	1	15	1	6.67
		Dongi	-	1	14	1	7.14
		Dhangri	-	1	18	2	11.11
		Rajouri	2	-	15	1	6.67
					14	4	28.57
		Nowshera	1	-	12	4	33.33
		Kalakote	1	-	14	3	21.43
		Manjakote	-	1	14	3	21.43
		Dhandesar	-	1	10	2	20.00
03	Khistanwar	Inderwal	-	1	13	1	7.69
		Khistanwar	1	-	20	4	20.00
04	Doda	Thathri	-	1	12	2	16.67
		Doda	2	-	15	3	20.00
					30	1	3.33
		Bhadarwah	1	-	40	7	17.5
		Ghat	-	1	42	8	19.04
		Assar	-	1	15	5	33.33

05	Ramban	Thopal	-	1	32	6	18.75
		Gool	-	1	11	6	54.55
		Batote	2	-	11	4	36.36
					30	4	13.33
		Ramban	1	-	15	2	13.33
06	Samba		-	1	34	4	11.76
		Ghagwal	-	1	16	1	6.25
		Samba	1	-	14	2	14.29
		Vijaypur	1	-	16	5	31.25
		Purmandal	-	1	9	1	11.11
07	Reasi	Katra	1	-	14	5	35.71
		Pouni	-	1	9	3	33.33
		Reasi	1	-	17	1	5.88
		Chinkah	-	1	13	3	23.08
08	Udhampur	Chenani	-	1	14	5	35.71
		Udhampur	2	-	11	1	9.09
					15	5	33.33
			-	1	22	3	13.64
		Tikri	-	1	11	1	9.09
09	Jammu	Jib	1	-	18	6	33.33
		Gandhinagar	1	-	24	3	12.5
		Akhnoor	1	-	16	5	31.25
		Jourian	1	-	10	5	50.00
		Khour	1	-	15	1	6.67
		Chowki Chura	-	1	13	4	30.77
		Satwari	1	-	17	2	11.76
			-	1	13	5	38.46
		R.S. Pura	1	-	10	5	50.00
		Miran Sahib	-	1	10	4	40.00
		Bishnah	1	-	8	3	37.5
		Dansal	-	1	13	4	30.77

10	Kathua	Marh	-	1	13	3	23.08	
		Bhalwal	-	1	12	1	8.33	
		Jammu	1	-	13	1	7.69	
			-	1	13	4	30.77	
		Arnia	-	1	7	2	28.57	
		Marheen	-	1	15	4	26.67	
		Billawar	1	-	11	2	18.18	
		Hiranagar	2	-	11	2	18.18	
					13	3	23.08	
		Mahanpur	-	1	13	2	15.38	
		Barnoti	-	1	14	3	21.43	
		Lakhanpur	1	-	12	2	16.67	
				1	8	2	25	
		Bhaddu	-	1	8	2	25	
		Sallan	-	1	16	3	18.75	
Kathua	2	-	12	2	16.67			
			23	3	13.04			
Total		10	59	35	35	1084	224	20.66

Table 4.1 presents the data collection from ten districts of Jammu Province, covering 59 educational zones. The sample included 70 schools, with an equal split between 35 urban and 35 rural schools. The Identification Battery on Co-Morbid Conditions (IBCC) was administered to 1,084 students from above mentioned schools. The breakdown of students tested is as follows: Poonch (59), Rajouri (143), Kishtwar (33), Doda (154), Ramban (133), Samba (55), Reasi (53), Udhampur (91), Jammu (207), and Kathua (156). Among these, 224 students were identified with co-morbid conditions, representing 20.66 % of the sample. The district wise distribution of identified students is: Poonch (20), Rajouri (23), Kishtwar (5), Doda (26), Ramban (26), Samba (9), Reasi (12), Udhampur (21), Jammu (52), and Kathua (30).

The figure 4.1 below illustrates the percentage of co-morbid conditions among government middle school students across ten districts in Jammu province, offering valuable insights into their prevalence.

Figure 4.1

Prevalence of Co-morbid Conditions Corresponding to Districts of Jammu Province

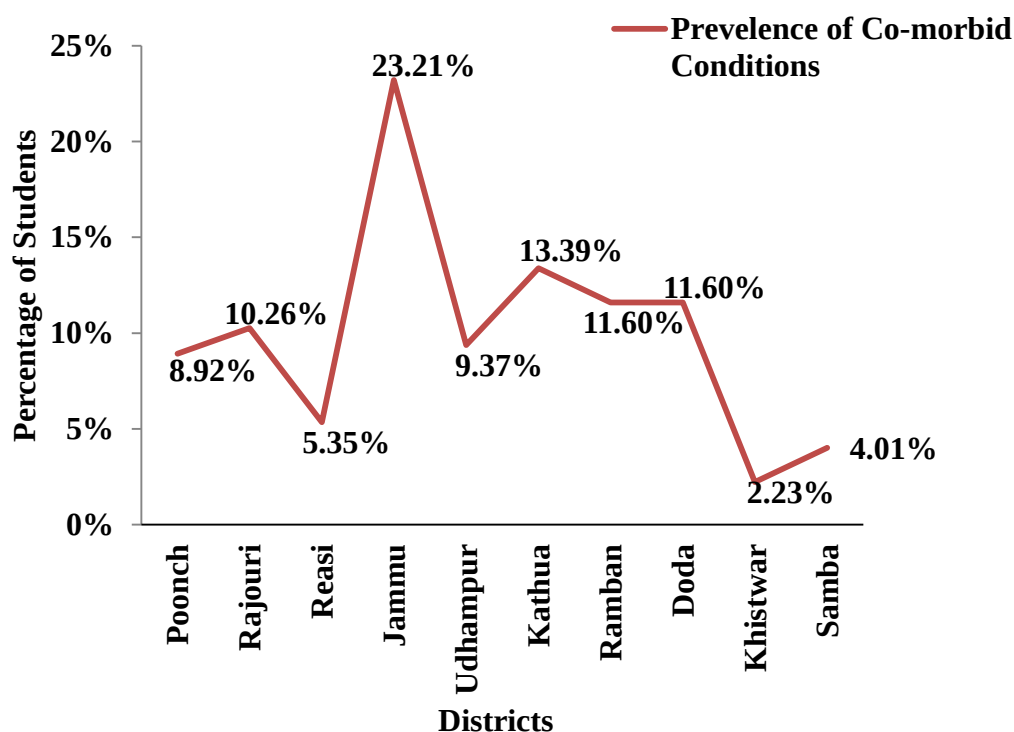


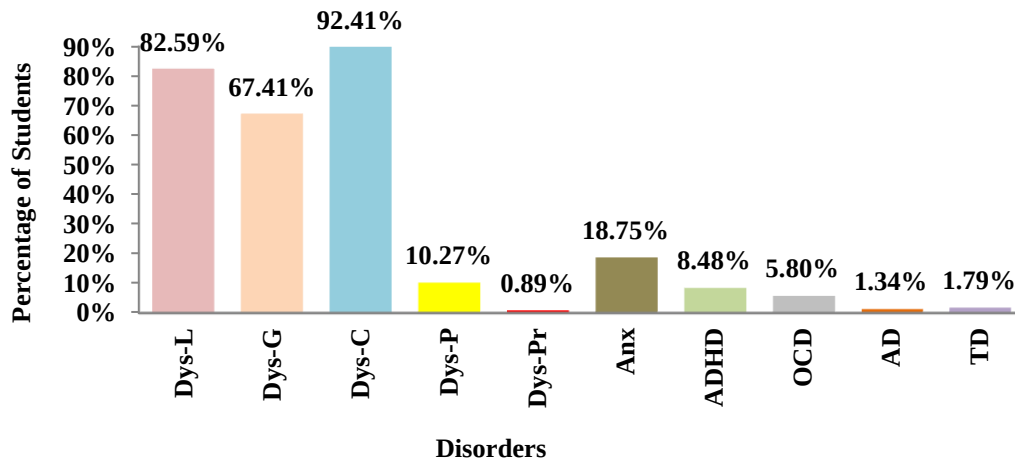
Figure 4.1 displays Jammu district exhibits the highest prevalence at 23.21%, followed by Kathua at 13.39%. Other districts show varying prevalence rates: Doda and Ramban both at 11.61%, Rajouri at 10.26%, Udhampur at 9.37%, Poonch at 8.92%, Reasi at 5.35%, Samba at 4.01%, and Kishtwar at 2.23%. These findings highlight significant disparities in the prevalence of co-morbid conditions across the region.

4.1.2 Prevalence of Specific Disorder among Middle School Student with Co-morbid Conditions

The detailed illustration of the percentage of identified students with co-morbid conditions in Jammu province with respect to prevalence of specific disorder is in figure 4.2 providing valuable insights.

Figure 4.2

Percentage of Students Corresponding to Specific Disorders



Note: *Dys-L = Dyslexia, Dys-G = Dysgraphia, Dys-C = Dyscalculia, Dys-P = Dysphasia, Dys-Pr = Dyspraxia, Anx = Anxiety, ADHD = Attention Deficit Hyperactive Disorder, OCD = Obsessive Compulsive Disorder, AD = Autism Disorder and TD = Tic Disorder*

Figure 4.2 depicts that the most common disorder was Dyscalculia, with 207 students, followed by Dyslexia (185 students) and Dysgraphia (151 students). Other notable disorders include Anxiety (42 students), Dysphasia (22 students), Attention Deficit Hyperactivity Disorder (19 students), Obsessive-Compulsive Disorder (13 students), Tic Disorder (4 students), Autism (3 students), and Dyspraxia (2 students). This data underscores the significant presence of learning disorders, particularly Dyscalculia, in the student population.

4.1.3 Prevalence of Different Number of Co-morbidities among Middle School Students with Co-morbid Conditions

In order to find the different number of co-morbidities prevalent among middle school students, researcher further classified them into different groups of co-morbidities with the combinations of two, three, four, five, and six disorders presented in the figure 4.3.

Figure 4.3

Percentage of Students Corresponding to Different Combinations of Disorders

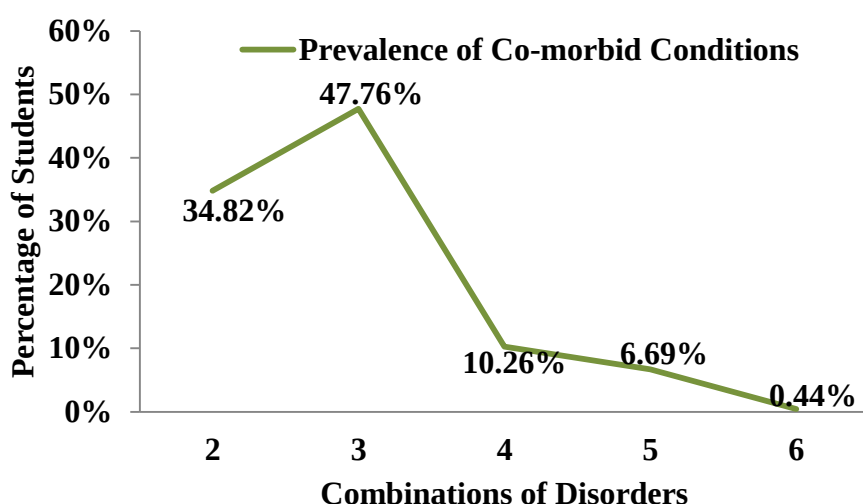


Figure 4.3 highlights that 78 students displayed traits of 2 disorders, 107 students displayed traits of 3 disorders, 23 students displayed traits of 4 disorders, 15 students displayed traits of 5 disorders, and only 1 student displayed traits of 6 disorders simultaneously. No students exhibited symptoms of more than 6 disorders.

4.1.4 Prevalence of Co-morbid Conditions with Different Combinations of Disorderamong Middle School Students

In order to find the proportion of co-morbid conditions with different combinations of disorder prevalent among middle school students, researcher further classified the student with all combinations of two, three, four, five, and six disorders presented in the figure 4.4, 4.5, 4.6, and 4.7.

Figure 4.4 displays that the most commonly observed co-morbid pair was Dyslexia (Dys-L) - Dyscalculia (Dys-C), affecting 16.07% of students with co-morbid conditions. This was followed by Dysgraphia (Dys-G) and Dys-C, present in 10.26% of students. Other notable combinations included Dys-L & Dys-G, Dys-C & Anxiety (Anx) in 2.23% of students; Anxiety (Anx) and Obsessive-Compulsive Disorder (OCD) in 1.33%; Attention Deficit Hyperactivity Disorder (ADHD) and OCD in 0.89%. Less common were combinations of Dys-L and Anx, Dys-L and ADHD, Dys-C and ADHD, and Dys-C and OCD, each present in 0.44% of students with co-morbid conditions.

Figure 4.4

Percentage of Students Corresponding to Combinations of Two Disorders

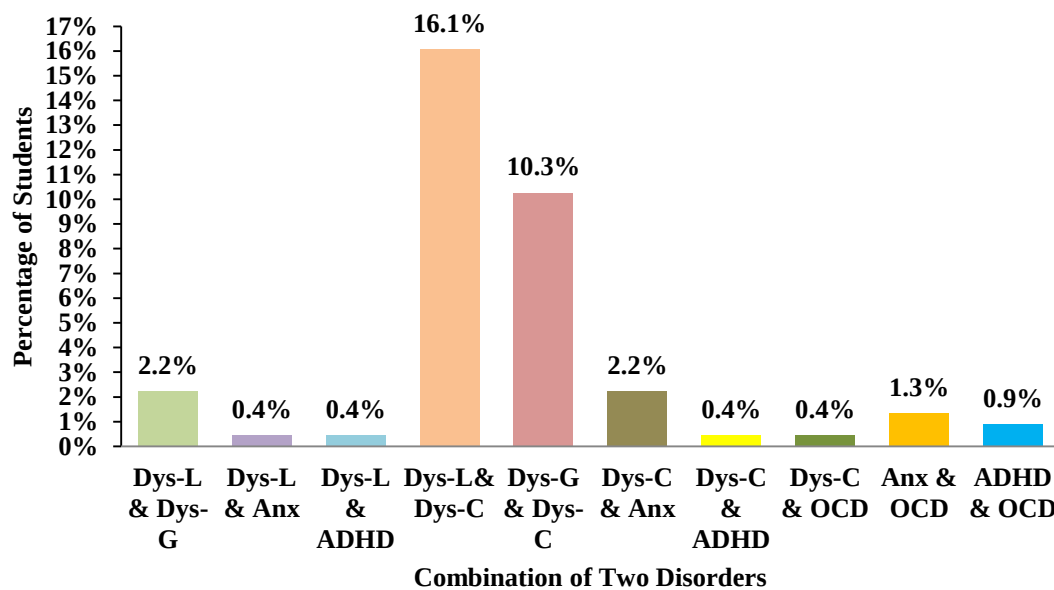


Figure 4.5

Percentage of Students Corresponding to Combinations of Three Disorders

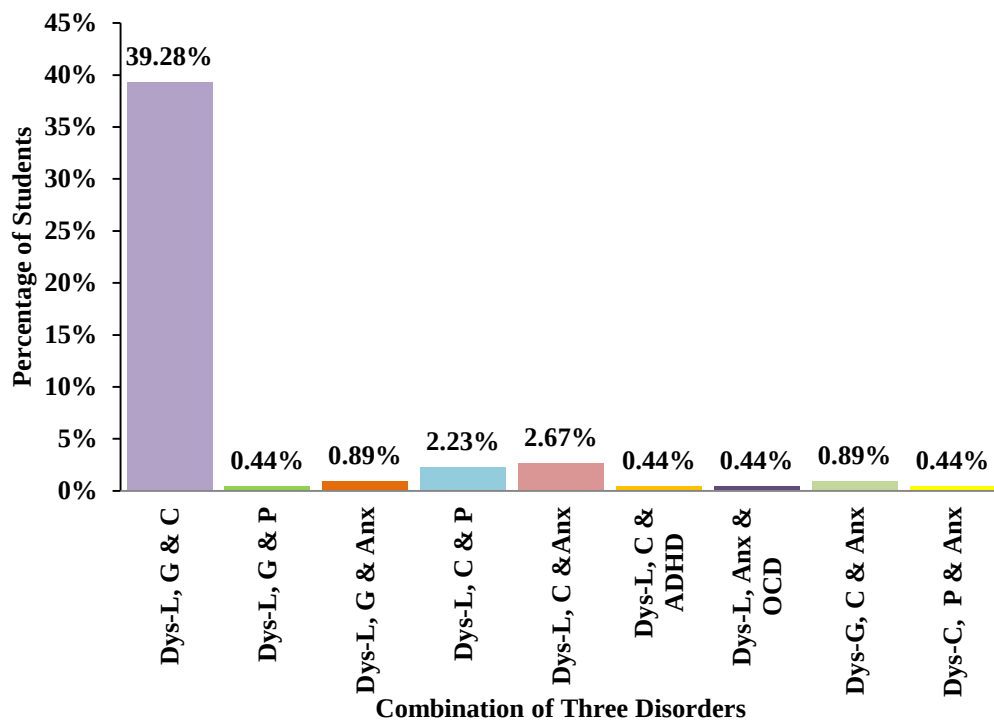


Figure 4.5 presents that the most frequently observed combination, featuring Dys-L, Dys-G, and Dys-C, accounted for 39.28% of students with co-morbid conditions. Following this, the combination of Dys-L, Dys-C, and Anx was seen in 2.67% of students, and Dys-L, Dys-C, and Dys-P in 2.23% of students. Two students exhibited

co-morbidity with Dys-G, Dys-C, and Anx. A smaller proportion, 0.89% of students, had combinations of Dys-L, Dys-G, and Anx. Additionally, the combinations of Dys-L, Dys-C, and Dys-P; Dys-L, Dys-C, and ADHD; Dys-L, Anx, and OCD; and Dys-C, Dys-P, and Anx were each found in 0.44% of the students.

Figure 4.6

Percentage of Students Corresponding to Combinations of Four Disorders

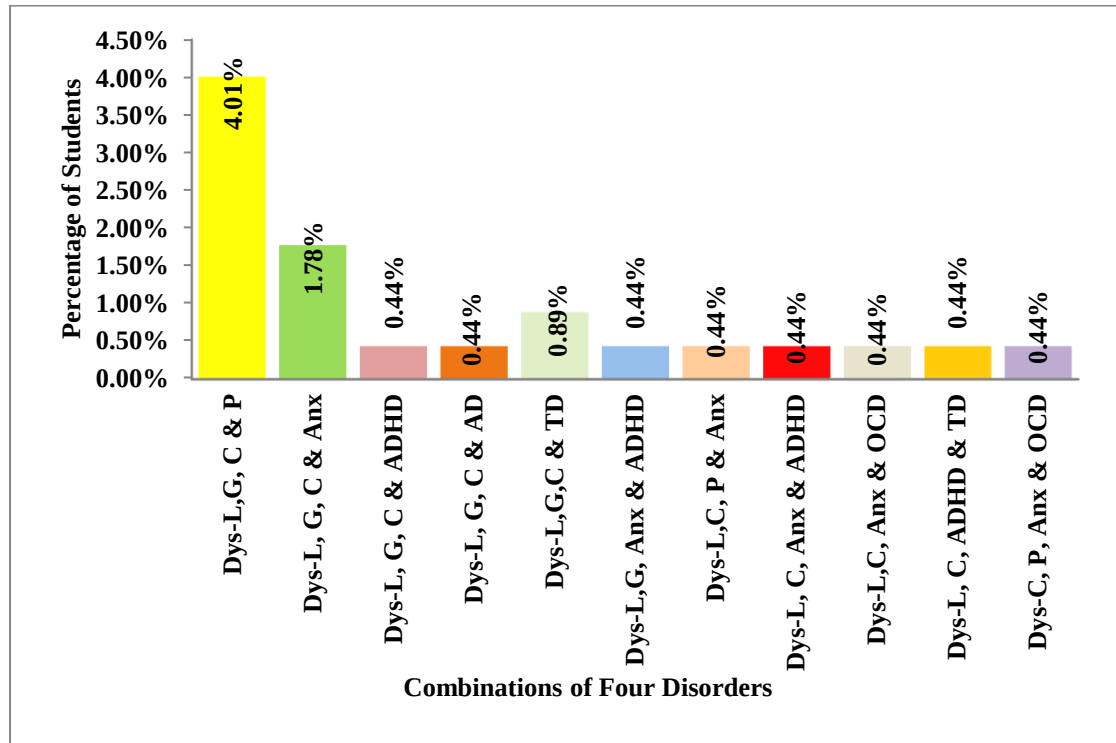


Figure 4.6 details the combination of Dys-L, Dys-G, Dys-C, and Dys-P was the most commonly observed, affecting 4.01% of students with co-morbid conditions. The next most frequent combination, involving Dys-L, Dys-G, Dys-C, and Anx, was seen in 1.79% of students. A combination involving Dys-L, Dys-G, Dys-C, and TD affected 0.89% of students. Other combinations, each present in 0.44% of students, included Dys-L, Dys-G, Dys-C, and ADHD; Dys-L, Dys-G, Dys-C, and AD; Dys-L, Dys-G, Anx, and ADHD; Dys-L, Dys-G, Dys-P, and Anx; Dys-L, Dys-C, Anx, and ADHD; Dys-L, Dys-C, Anx, and OCD; Dys-L, Dys-C, ADHD, and AD; and Dys-C, Dys-P, Anx, and OCD. These findings highlight the diverse range of co-morbid conditions present among the student population.

Figure 4.7

Percentage of Students Corresponding to Combinations of Five Disorders

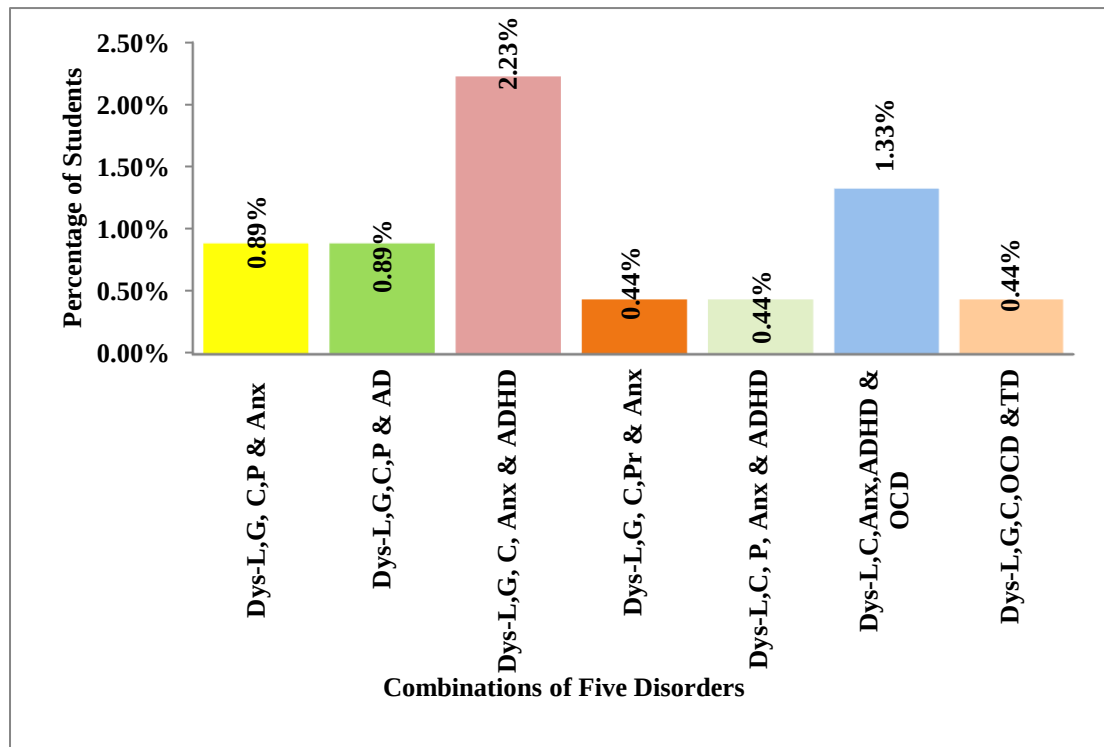


Figure 4.7 illustrates that the most common combination, consisting of Dys-L, Dys-G, Dys-C, Anx, and ADHD, was observed in 2.23% of students with co-morbid conditions. This was followed by the combination of Dys-L, Dys-C, Anx, ADHD, and OCD, affecting 1.33% of students. The combinations of Dys-L, Dys-G, Dys-C, Dys-P, and Anx, along with Dys-L, Dys-G, Dys-C, Dys-P, and AD, were each found in 0.89% of students. Additional combinations, each seen in 0.44% of the student population, included Dys-L, Dys-G, Dys-C, Dys-Pr, and Anx; Dys-L, Dys-G, Dys-C, Dys-P, Anx, and ADHD; and Dys-L, Dys-G, Dys-C, OCD, and TD. These findings underscore the complexity of co-morbid conditions among this group of students.

4.1.5 Patterns of Co-morbid Conditions among Middle School Students

The patterns of co-morbidity among middle school students with co-morbid conditions were explored by following three steps mentioned below:

- First, the researcher fixed one primary disorder out of identified ten primary disorders i.e., Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, Dyspraxia, Anxiety, Attention Deficit Hyperactivity Disorder, Obsessive-Compulsive Disorder, Autism, and Tic Disorder.

- Second, count the number of students having prevalence of one fixed primary disorders along with rest nine secondary disorders among students.
- The researcher initially selected a primary disorder from the ten previously identified disorders and then assessed the extent to which the remaining nine disorders were associated with this primary disorder by counting the number of students, and
- Finally count the number of students keeping one primary disorder fixed and its association with other nine disorders.

This process was repeated for each of the nine remaining primary disorders and the results are presented in Table 4.2.

The exploration of co-morbid conditions reveals captivating patterns that illuminate the intricate nature of co-morbid conditions. In the table 4.2, we gain insights into the occurrence of secondary disabilities in relation to a primary disability, shedding light on the interplay between these conditions.

Table 4.2

Distribution of Number of Middle School Students with Co-morbid Conditions across the Various Combination of Primary and Secondary Disorders

	Dys-L	Dys-G	Dys-C	Dys-P	Dys-Pr	Anx	ADHD	OCD	AD	TD
Dsy-L (n = 185)	-	125	173	22	2	30	16	6	3	4
Dsy-G (n = 151)		-	142	14	1	18	7	1	3	3
Dsy-C (n = 207)			-	22	2	34	15	7	3	4
Dsy-P (n = 22)				-	1	6	2	1	2	0
Dsy-Pr (n = 2)					-	2	1	0	0	0
Anx (n = 42)						-	12	9	0	0
ADHD (n = 19)							-	5	0	1
OCD (n = 13)								-	0	1
AD (n = 3)									-	0
TD (n = 4)										-

Table 4.2 depicts that despite of the high prevalence of co-morbidity, different patterns has been seen among students as well. Table 4.2 shows **“Dsy-L”** as a primary disorder with 82.58% (185 out of 224) of prevalence associated with Dsy-G(67.56%), Dsy-C(93.51%), Dsy-P(11.89%), Dsy-Pr(1.08%), Anx (16.21%), ADHD (8.64%), OCD (3.24%), AD (1.62%) & TD (2.162%) as a secondary prevalent disorder among students; **“Dsy-G”** as a primary disorderwith 67.41% (151 out of 224) of prevalence associated with Dsy-L (82.78%), Dsy-C (94.03%), Dsy-P (9.27%), Dsy-Pr (0.66%), Anx (11.92%), ADHD (4.63%), OCD (0.662%), AD (1.986%) & TD (1.986%) as a secondary prevalent disorder among students; **“Dsy-C”** as a primary disorder with 92.41 % (207 out of 224) of prevalenceassociated with Dsy-L (83.57%), Dsy-G (68.5%), Dsy-P (10.62%), Dsy-Pr (0.96%), Anx (16.42%), ADHD (7.24%), OCD (3.38%), AD (1.44%) & TD (1.93%) as a secondary prevalent disorder among students; **“Dsy-P”** as a primary disorderwith 10.26% (22 out of 224) of prevalence associated with Dsy-L (95.65%), Dsy-G (60.86%), Dsy-C (10.62%), Dsy-Pr (4.34%), Anx (26.0%), ADHD (8.69%), OCD (4.34%), AD (8.69%) & TD (0%) as a secondary prevalent disorder among students; **“Dsy-Pr”** as a primary disorder with 0.89% (2 out of 224) of prevalence associated with Dsy-L (100%), Dsy-G (50%), Dsy-C (100%), Dsy-P (50%), Anx (100%), ADHD (50%), OCD (0%), AD (0%) & TD (0%) as a secondary prevalent disorder among students; **“Anx”** as a primary disorderwith 18.75% (42 out of 224) of prevalence associated with Dsy-L (71.42%), Dsy-G(42.85%), Dsy-C (80.95%), Dsy-P (14.28%), Dsy-Pr (4.76%), ADHD (28.57%), OCD (21.42%), AD (0%) & TD (0%) as a secondary prevalent disorder among students; **“ADHD”** as a primary disorder with 8.48% (19 out of 224) of prevalence associated with Dsy-L (84.21%), Dsy-G (36.84%), Dsy-C (78.94%), Dsy-P (10.5%), Dsy-Pr (5.26%), Anx (63.15%), OCD (26.3%), AD (0%) & TD (5.26%) as a secondary prevalent disorder among students; **“OCD”** as a primary disorder with 5.80% (13 out of 224) of prevalence associated with Dsy-L (46.15%), Dsy-G (7.69%), Dsy-C (53.8%), Dsy-P (7.69%), Dsy-Pr (0%), Anx (69.23%), ADHD (38.4%), AD (0%) & TD (7.69%) as a secondary prevalent disorder among students; **“AD”** as a primary disorder with 1.33% (3 out of 224) of prevalence associated with Dsy-L (100%), Dsy-G (100%), Dsy-C (100%), Dsy-P (66.66%), Dsy-Pr (0%), Anx (0%), ADHD (0%), OCD (0%) & TD (0%) as a secondary prevalent disorder among students; and **“TD”** as a primary disorder with 1.78% (4 out of 224) of prevalence associated with Dsy-L (100%), Dsy-G (75%), Dsy-C (100%), Dsy-P (0%), Dsy-Pr

(0%), Anx (0%), ADHD (25%), OCD (25%) & AD (0%) as a secondary prevalent disorder among students.

4.1.6 Comparison in the Prevalence Rates of Neuro-Developmental and Neuro-Behavioral Disorders among Middle School Students with Co-morbid Conditions

In order to provide valuable insights into the prevalence of overlapping conditions between neuro-behavioral and neuro-developmental disorders, which are two distinct yet interconnected domains, the percentage of students exhibiting co-morbid conditions within the categories of neuro-behavioral and neuro-developmental disorders was computed and illustrated in figure 4.8.

Figure 4.8

Percentage of Students Corresponding to Neuro-developmental and Neuro-behavioral Disorders

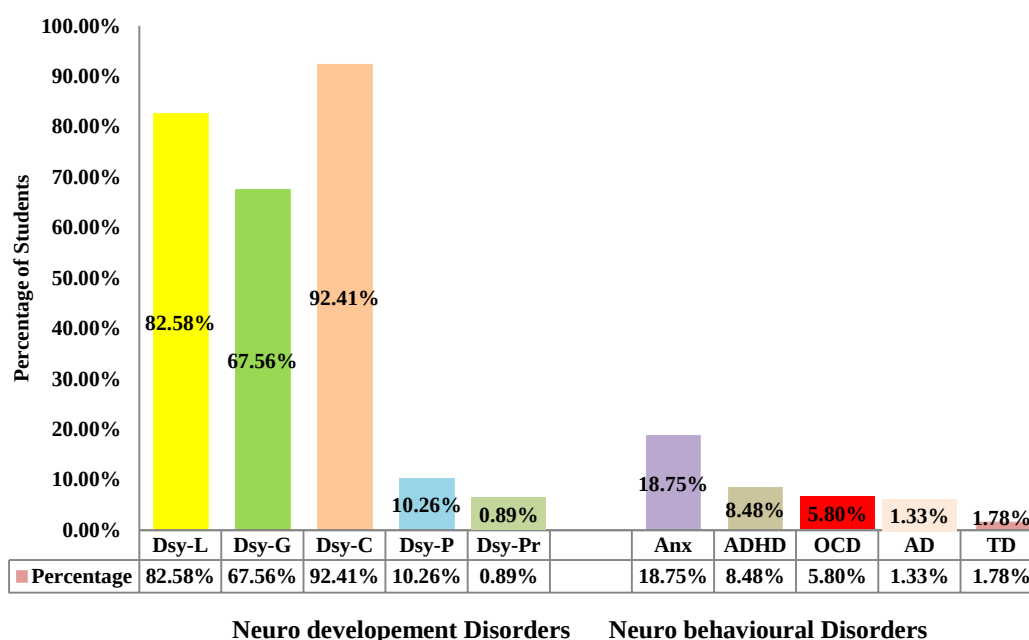


Figure 4.8 compares the prevalence rates of neuro-developmental disorders and neuro-behavioral disorders among government middle school students. The rates for neuro-developmental disorders are: Dyslexia (Dsy-L) at 82.58%, Dysgraphia (Dsy-G) at 67.56%, Dyscalculia (Dsy-C) at 92.41%, Dysphasia (Dsy-P) at 10.26%, and

Dyspraxia (Dsy-Pr) at 0.89%. In contrast, the rates for neuro-behavioral disorders are: Anxiety (Anx) at 18.75%, Attention Deficit Hyperactivity Disorder (ADHD) at 8.48%, Obsessive-Compulsive Disorder (OCD) at 5.80%, Autism Disorder (AD) at 1.33%, and Tic Disorder (TD) at 1.78%.

The figure 4.8 underscores that government middle school students are more commonly affected by neuro-developmental disorders than neuro-behavioral disorders.

Conclusion

The study reveals a significant prevalence of various disorders. The most common disorders found were Dyscalculia, Dyslexia, and Dysgraphia. Additionally, Anxiety, Dysphasia, ADHD, OCD, Tic Disorder, Autism, and Dyspraxia were also present, although to a lesser extent. The research highlights the complex interplay of co-morbid conditions among government middle school students, with notable combinations of learning and behavioral disorders. The results underscore the necessity of focused treatments to tackle the varied and intersecting requirements of students with co-morbid conditions, underscoring the significance of customized educational and psychological assistance.

4.2 Demographic Characteristics of Middle School Students with Co-morbidity

The second objective was to study the demographic characteristics of middle school students having co-morbidity. Researcher proposed analysis of middle school students having co-morbidity with respect to demographic characteristics especially gender differences due to the reason that research studies conducted by Daniel and Wang (2023b); Fraticelli et al. (2022); Arnett et al. (2017); Abdalah (2018); Krafnick and Evans (2019); Williamson & Johnston (2015); Moll et al. (2014); Quinn and Wagner (2013) found significance differences among boys/males and girls/females with respect to co-morbid conditions. The data was collected from the 70 government middle schools of 10 districts of Jammu Province viz. Rajouri, Poonch, Reasi, Jammu, Kathua, Udhampur, Jammu, Doda, Ramban and Khistawar through survey method. The demographic characteristics of middle school students with co-morbid conditions divided into four categories i.e., gender, locale, age, and socio-economic status. The data was analyzed to identify students having co-morbidity with respect to

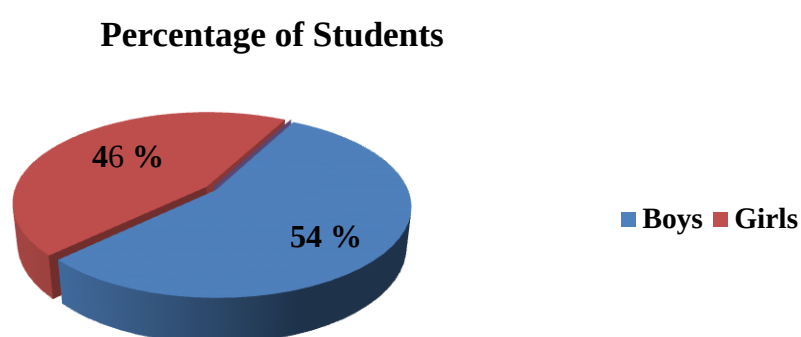
gender, locale, age, and socio-economic status by computing percentage and results discussed under the following headings:

4.2.1 Prevalence of Co-morbid Conditions among Middle School Students with respect to Gender

The data was analysed by considering the gender as a significant factor influencing the prevalence of co-morbidities among government middle school students and the percentage of boys and girls with co-morbid conditions was computed and presented in figure 4.9.

Figure 4.9

Percentage of Boys and Girls with Co-morbid Conditions



It has been found in figure 4.9 that the percentage of government middle school students with co-morbid conditions varies with respect to gender. Figure 4.9 depicts that the prevalence of co-morbidity is higher in boys (54.01%) as compared to girls (46.87%). The result emphasised the need of identification of disorders for an awareness of learned gender differences. This can be used to develop more targeted assessment and intervention strategies that may better meet the needs of children who differ in their specific learning requirements (Moll et al., 2014). The neuro-biological factors responsible for learning disabilities towards improvement in diagnosis and therapies (Abdalah, 2018), so, any kind of miscalculations in treatment often lead to insufficient management of the disease, with significant social consequences (Fratice et al., 2022).

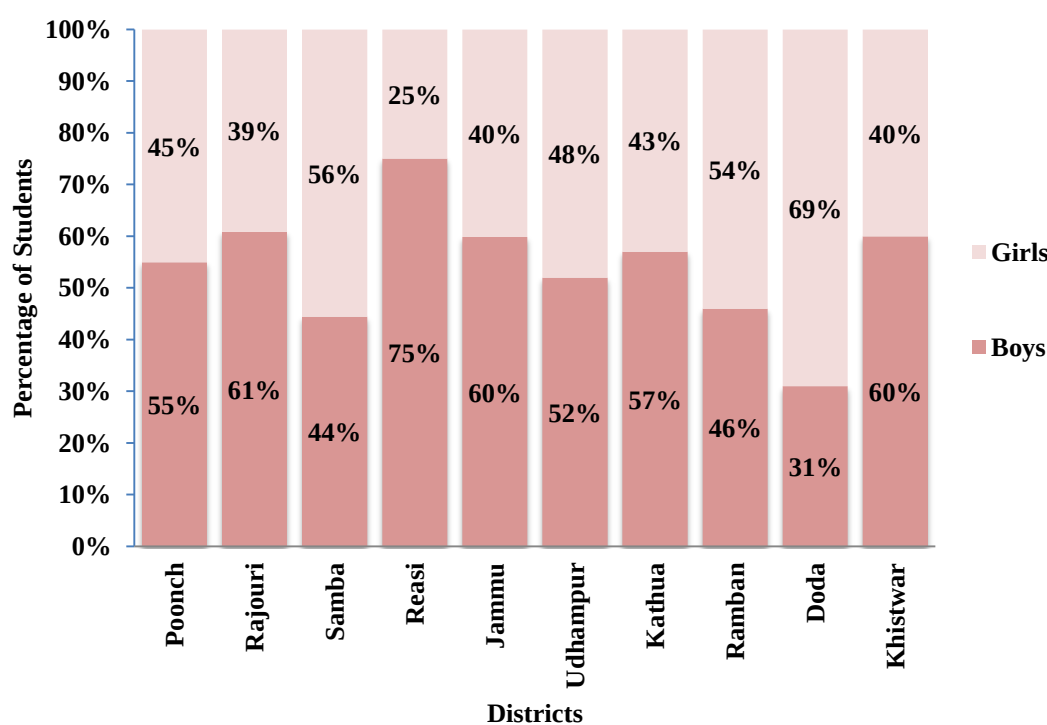
4.2.1.1 Prevalence of Co-morbid Conditions among Middle School Boys and Girls with respect to Districts

The analysis of data indicates that the prevalence of co-morbid conditions among middle school boys and girls varies across districts i.e., different districts show diverse rates of co-morbidities within their student populations, affecting both boys and girls. The co-morbidity rates among boys and girls in various districts are shown in figure 4.10.

Figure 4.10 illustrates the co-morbidity rates among boys and girls in various districts as follows: Poonch (55% boys, 45% girls), Rajouri (61% boys, 39% girls), Samba (44% boys, 56% girls), Reasi (75% boys, 25% girls), Jammu (60% boys, 40% girls), Udhampur (52% boys, 48% girls), Kathua (57% boys, 43% girls), Ramban (46% boys, 54% girls), Doda (31% boys, 69% girls), and Kishtwar (60% boys, 40% girls). Notably, the districts of Doda, Ramban, and Samba have a higher proportion of girls with co-morbid conditions, while Reasi, Rajouri, Jammu, Kishtwar, Kathua, Poonch, and Udhampur exhibit a higher percentage of boys with co-morbidities.

Figure 4.10

Percentage of Boys and Girls with Co-morbid Conditions Corresponding to Different Districts of Jammu Province



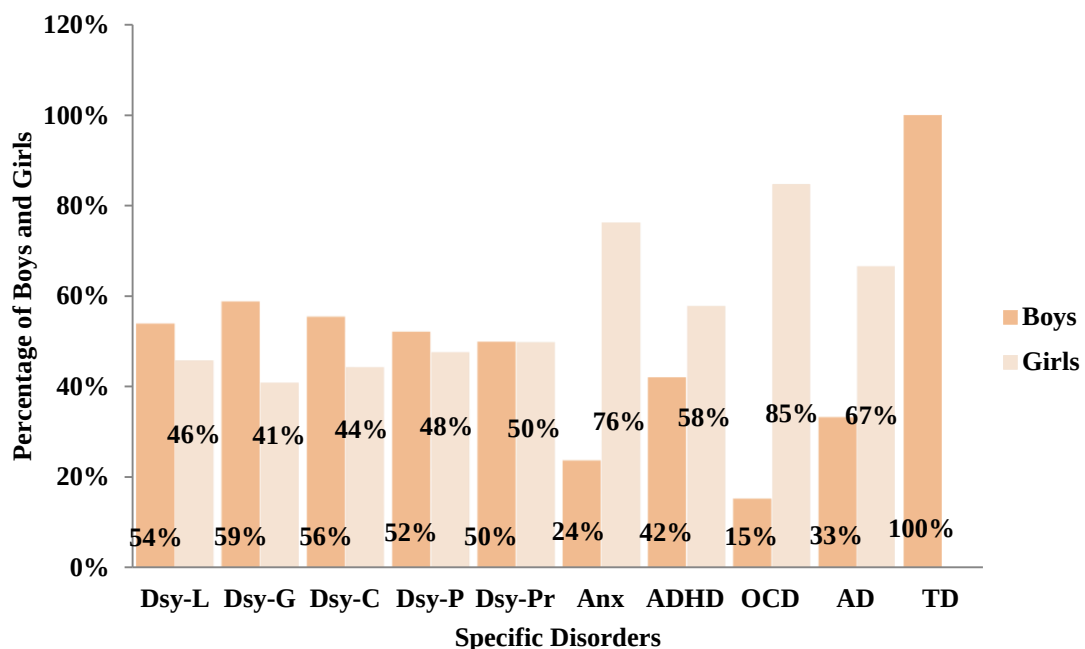
4.2.1.2 Prevalence of Specific Disorders among Middle School Boys and Girls with Co-morbid Conditions

The analysis of data indicates that the percentage of middle school boys and girls with co-morbid conditions varies across specific disorders. The percentage of boys and girls against specific disorders are shown in figure 4.11.

Figure 4.11 provides insights into the prevalence of specific disorders among boys and girls with co-morbid conditions. The prevalence of dyslexia (Dsy-L) is higher in boys (54%) compared to girls (46%), whereas Dysgraphia (Dsy-G) is more widespread in boys (59%) than girls (41%). Dyscalculia (Dsy-C) affects 56% of boys and 44% of girls, Dysphasia (Dsy-P) affects 52% of boys and 48% of girls, and Dyspraxia (Dsy-Pr) affects boys and girls equally (50%). Anxiety (Anx) is more prevalent among girls (76%) compared to boys (24%), while Attention Deficit Hyperactivity Disorder (ADHD) affects 42% of boys and 58% of girls. Obsessive-Compulsive Disorder (OCD) is more prevalent in girls (85%) than boys (15%), Autism Disorder (AD) affects 33% of boys and 67% of girls, and Tic Disorder (TD) is prevalent only among boys.

Figure 4.11

Percentage of Boys and Girls with Co-morbid Conditions Corresponding to Specific Disorders



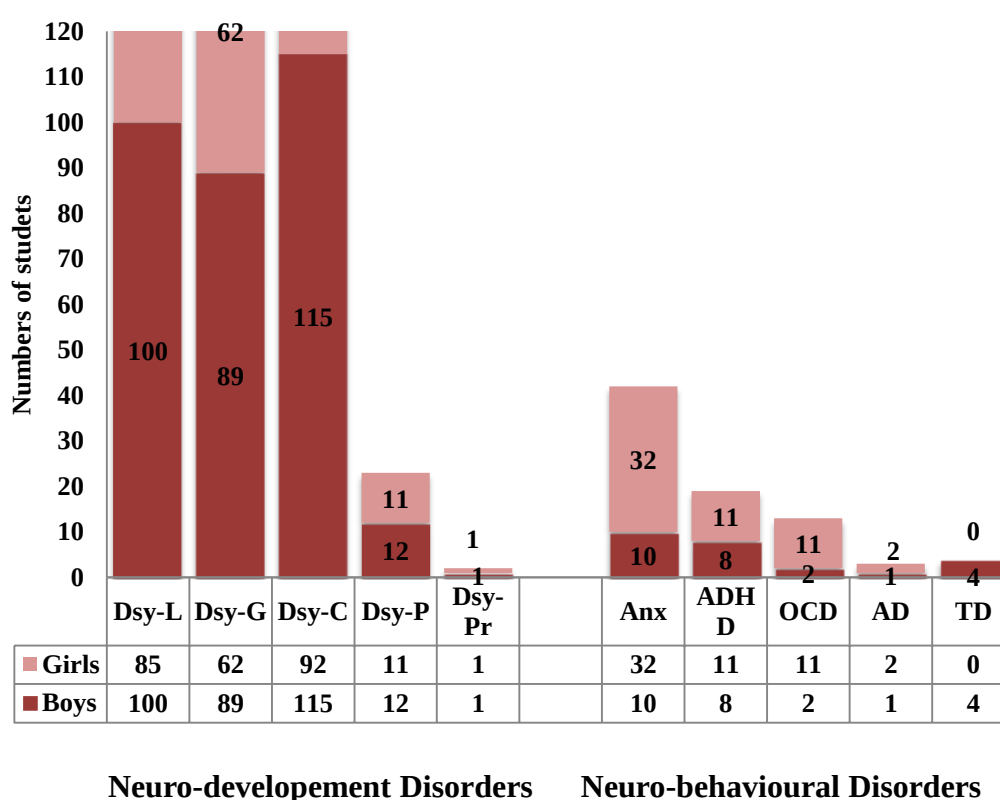
The figure 4.11 highlights that boys have higher rates of Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, and Tic Disorder, whereas girls have higher rates of Anxiety, ADHD, OCD, and AD. Also, it has been observed that Dyspraxia is equally prevalent among both genders.

4.2.1.3 Prevalence of Neuro-Developmental and Neuro-Behavioral Disorders among Middle School Boys and Girls with Co-morbid Conditions

The analysis of data indicates that the number of middle school boys and girls with co-morbid conditions varies between neuro-developmental and neuro-behavioral disorders. The difference in the number of boys and girls against neuro-developmental and neuro-behavioral disorder is better understood by observing the figure 4.12.

Figure 4.12

Number of Middle School Boys and Girls Corresponding to Neuro-developmental and Neuro-behavioral Disorders



The figure 4.12 highlights that boys in government middle schools are more prone to neuro-developmental disorders, while girls are more susceptible to neuro-behavioral disorders.

4.2.1.4 Prevalence of Different Number of Co-morbidities among Middle School Boys and Girls with Co-morbid Conditions

The analysis of data indicates that the percentage of middle school boys and girls with co-morbid conditions varies in different groups of co-morbidities with the combinations of two, three, four, five, and six disorders presented in the figure 4.13.

Figure 4.13

Percentage of Boys and Girls Corresponding to Different Combinations of Disorders

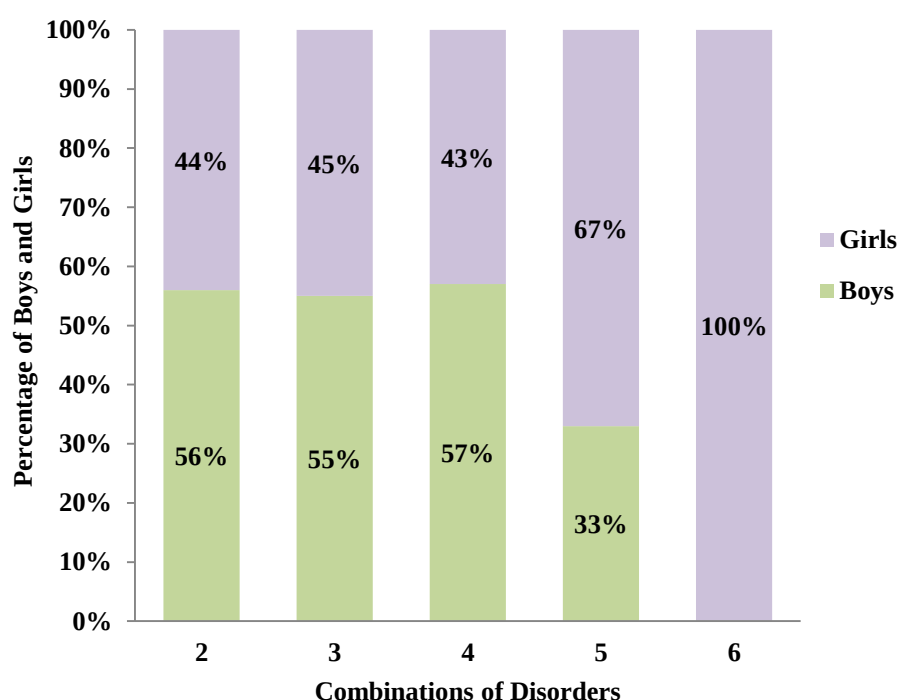


Figure 4.13 reveals that 56% of boys and 44% of girls exhibited combinations of two disorders, while 55% of boys and 45% of girls exhibited combinations of three disorders. Additionally, 57% of boys and 43% of girls showed combinations of four disorders, and 33% of boys and 67% of girls exhibited combinations of five disorders. Notably, 100% of students exhibiting combinations of six disorders were girls, with no students displaying symptoms of more than six disorders. This data highlights a

higher prevalence of co-morbid conditions among boys in different combinations, except in cases involving combinations of five and six disorders, where girls are more affected.

4.2.1.5 Prevalence of Different Combinations of Disorders among Middle School Boys and Girls with Co-morbid Conditions

In order to find the proportion of co-morbid conditions with different combinations of disorder prevalent among middle school boys and girls, researcher further classified the boys and girls with all combinations of two, three, four, five, and six disorders presented in the figure 4.14, 4.15, 4.16, and 4.17.

Figure 4.14

Percentage of Boys and Girls Corresponding to Combinations of Two Disorders

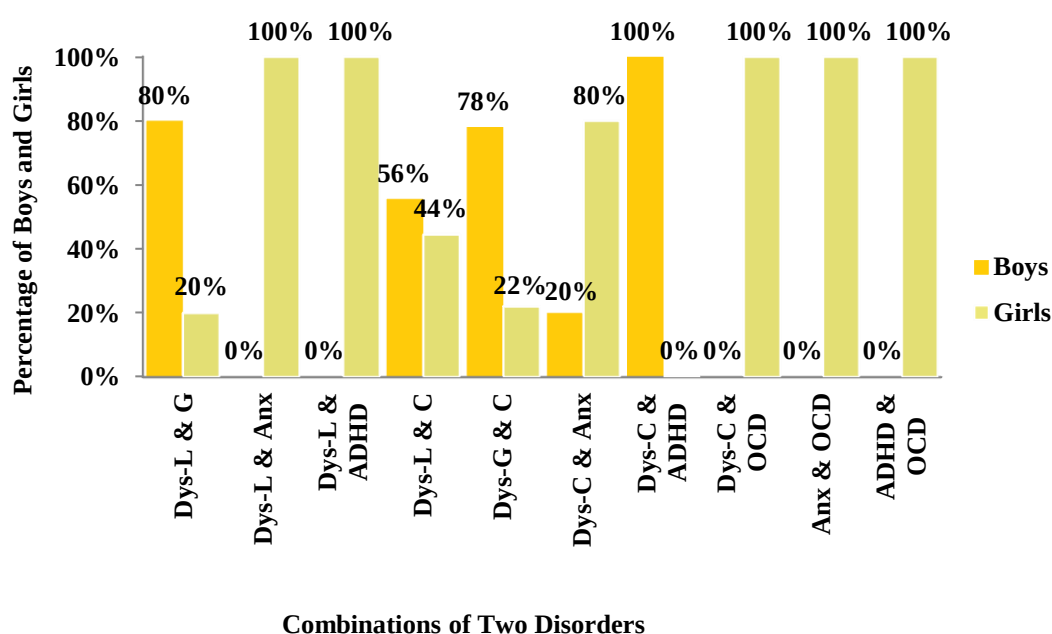


Figure 4.14 illustrates the prevalence of combinations of two disorders among government middle school boys and girls with co-morbid conditions. The data reveals that the Dyslexia (Dsy-L) and Dysgraphia (Dsy-G) pair is observed in 80% of boys

and 20% of girls with co-morbid conditions. Other pairs pre-dominantly seen among girls include Dyslexia& Anxiety (Anx), Dyslexia & ADHD, Dyscalculia (Dsy-C) & OCD, Anxiety & OCD, and ADHD & OCD, each with a prevalence of 100% among girls. The Dyslexia and Dyscalculia (Dsy-C) pair is prevalent in 56% of boys and 44% of girls. Additionally, the Dysgraphia (Dsy-G) and Dyscalculia (Dsy-C) pair is observed in 78% of boys and 22% of girls, while the Dyscalculia (Dsy-C) and Anxiety (Anx) pair is seen in 20% of boys and 80% of girls. The figure 4.14 highlights that pairs such as Dyslexia & Dysgraphia, Dyslexia & Dyscalculia, Dysgraphia & Dyscalculia, and Dyscalculia & ADHD are more prevalent among boys, while pairs such as Dyslexia & Anxiety, Dyslexia & ADHD, Dyscalculia & Anxiety, Dyscalculia & OCD, Anxiety & OCD, and ADHD & OCD are more prevalent among girls.

Figure 4.15

Percentage of Boys and Girls Corresponding to Combinations of Three Disorders

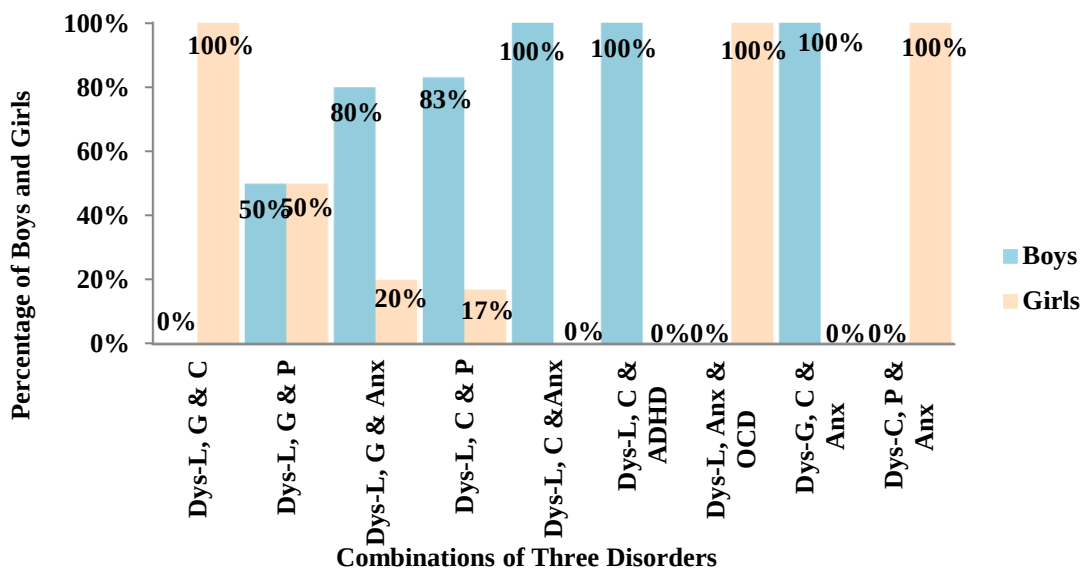


Figure 4.15 illustrates the prevalence of combinations of three disorders among government middle school boys and girls with co-morbid conditions. The data reveals that the Dyslexia (Dsy-L), Dysgraphia (Dsy-G), and Dyscalculia (Dsy-C) combination is observed in 57% of boys and 43% of girls with co-morbid conditions. Other prevalent combinations predominantly seen among boys include Dyslexia (Dsy-L), Dysgraphia (Dsy-G), and Dysphasia (Dsy-P), as well as Dyslexia (Dsy-L),

Dyscalculia (Dsy-C), and Anxiety (Anx), both with 80% of boys and 20% of girls. Additionally, combinations such as Dyslexia (Dsy-L), Dysgraphia (Dsy-G), & Dyscalculia (Dsy-C); Dyslexia (Dsy-L), Dyscalculia (Dsy-C), & Anxiety (Anx); Dyslexia (Dsy-L), Dyscalculia (Dsy-C), & ADHD; Dyslexia (Dsy-L), Anxiety (Anx), & OCD, and Dyscalculia (Dsy-C), Dysphasia (Dsy-P), & Anxiety (Anx) show a prevalence of 100% among boys. Among girls, combinations like Dyslexia (Dsy-L), Dysgraphia (Dsy-G), & Dysphasia (Dsy-P) and Dysgraphia (Dsy-G), Dyscalculia (Dsy-C), & Anxiety (Anx) are prevalent with 100% occurrence. The figure 4.15 highlights that the combinations Dyslexia (Dsy-L), Dysgraphia (Dsy-G), & Dyscalculia (Dsy-C); Dyslexia (Dsy-L), Dyscalculia (Dsy-C), & Dysphasia (Dsy-P); Dyslexia (Dsy-L), Dyscalculia (Dsy-C), & Anxiety (Anx); Dyslexia (Dsy-L), Dyscalculia (Dsy-C), & ADHD; Dyslexia (Dsy-L), Anxiety (Anx), & OCD; and Dyscalculia (Dsy-C), Dysphasia (Dsy-P), & Anxiety (Anx) were more prevalent among boys, while the combinations Dyslexia (Dsy-L), Dysgraphia (Dsy-G), & Dysphasia (Dsy-P) and Dysgraphia (Dsy-G), Dyscalculia (Dsy-C), & Anxiety (Anx) were more prevalent among girls with co-morbid conditions.

Figure 4.16

Percentage of Boys and Girls Corresponding to Combinations of Four Disorders

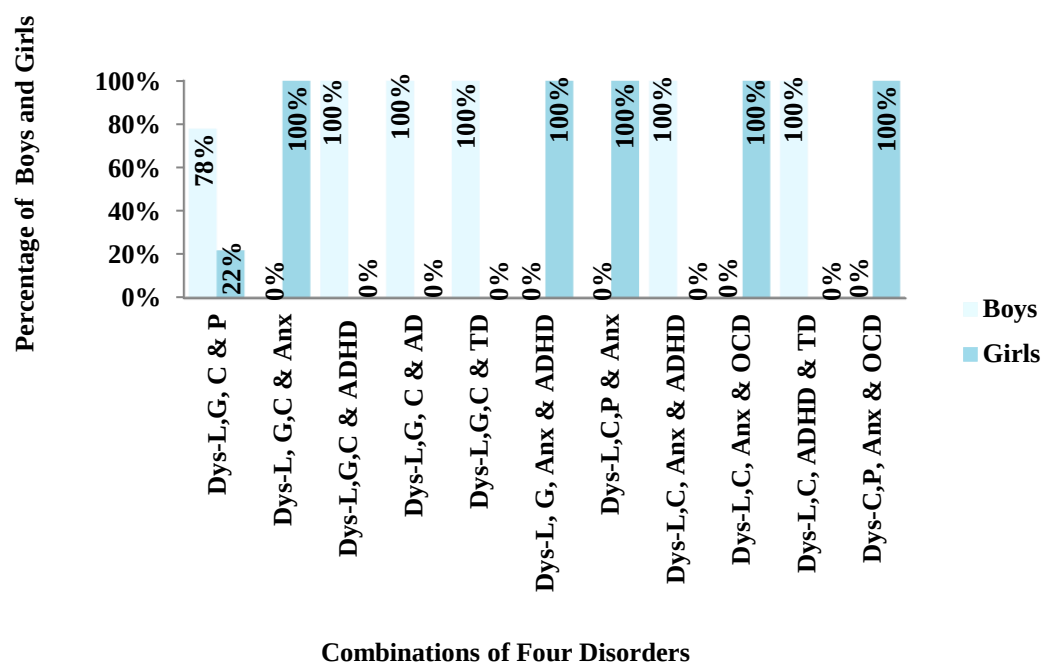


Figure 4.16 illustrates the prevalence of combinations of four disorders among government middle school boys and girls with co-morbid conditions. The data reveals that the Dys-L, Dys-G, Dys-C & Dys-P combination is observed among 78% of boys and 22% of girls with co-morbid conditions. Other prevalent combination predominantly seen among boys include Dys-L, Dys-G, Dys-C & ADHD, Dys-L, Dys-G, Dys-C & AD, Dys-L, Dys-C, Anx & ADHD, and Dys-L, Dys-C, ADHD & TD, all with a prevalence of 100% among boys. Among girls, combination such as Dys-L, Dys-G, Dys-C & Anx, Dys-L, Dys-G, Anx & ADHD, Dys-L, Dys-C, Dys-P & Anx, Dys-L, Dys-C, Anx & OCD, and Dys-C, Dys-P, Anx & OCD show a prevalence of 100%. The figure emphasizes that the combinations Dys-L, Dys-G, Dys-C & Dys-P, Dys-L, Dys-G, Dys-C & ADHD, Dys-L, Dys-G, Dys-C & AD, Dys-L, Dys-C, Anx & ADHD, and Dys-L, Dys-C, ADHD & TD were more prevalent among boys, while the pairs Dys-L, Dys-G, Dys-C & Anx, Dys-L, Dys-G, Anx & ADHD, Dys-L, Dys-C, Dys-P & Anx, Dys-C, Anx & OCD, and Dys-C, Dys-P, Anx & OCD were more prevalent among girls with co-morbid conditions.

Figure 4.17

Percentage of Boys and Girls Corresponding to Combinations of Five Disorders

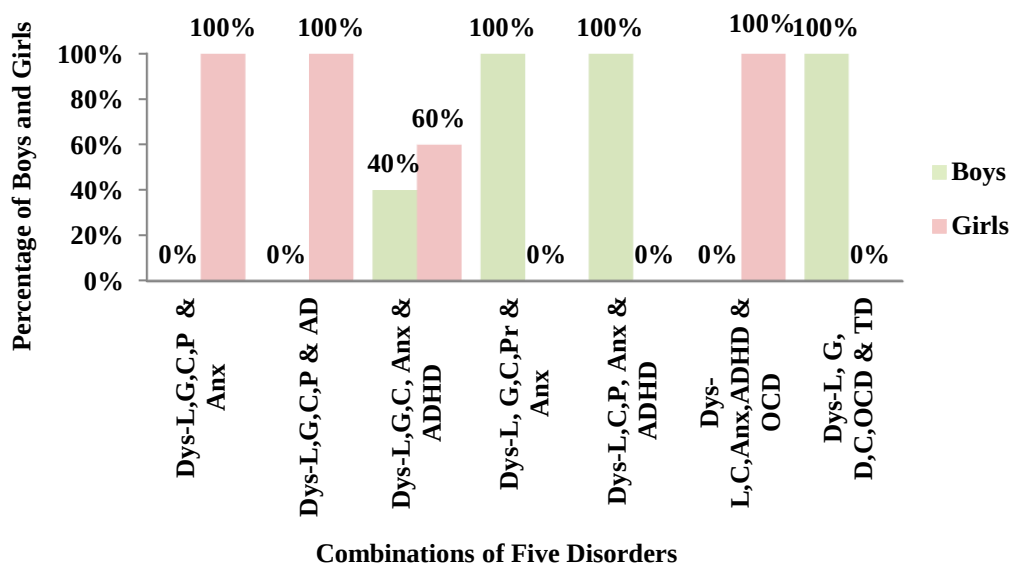


Figure 4.17 visually presents the prevalence of combinations of five disorders among government middle school boys and girls with co-morbid conditions. The data reveals

that the combination of Dsy-L, Dsy-G, Dsy-C, Anx & ADHD is observed among 40% of boys and 60% of girls with co-morbid conditions. Other prevalent combinations predominantly seen among boys include Dsy-L, Dsy-G, Dsy-C, Dsy-P & Anx; Dsy-L, Dsy-C, Dsy-P, Anx & ADHD; and Dsy-L, Dsy-G, Dsy-C, OCD & TD, all with a prevalence of 100% among boys. Among girls, combinations such as Dsy-L, Dsy-G, Dsy-C, Dsy-P & Anx; Dsy-L, Dsy-G, Dsy-C, Dsy-P & AD; and Dsy-L, Dsy-C, Anx, ADHD & OCD show a prevalence of 100%.

The figure 4.17 emphasizes that the combinations of Dsy-L, Dsy-G, Dsy-C, Anx & ADHD; Dsy-L, Dsy-G, Dsy-C, Dsy-P & Anx; Dsy-L, Dsy-C, Dsy-P, Anx & ADHD; and Dsy-L, Dsy-G, Dsy-C, OCD & TD were more prevalent among girls, while the combinations of Dsy-L, Dsy-G, Dsy-C, Dsy-P & Anx; Dsy-L, Dsy-G, Dsy-C, Dsy-P & AD; and Dsy-L, Dsy-C, Anx, ADHD & OCD were more prevalent among boys with co-morbid conditions.

4.2.2 Prevalence of Co-morbid Conditions among Middle School Students with respect to Locale

The data was analysed by considering the locale as a significant factor influencing the prevalence of co-morbidities among middle school students and the percentage of urban and rural government middle school students with co-morbid conditions was computed and presented in figure 4.18.

Figure 4.18

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions

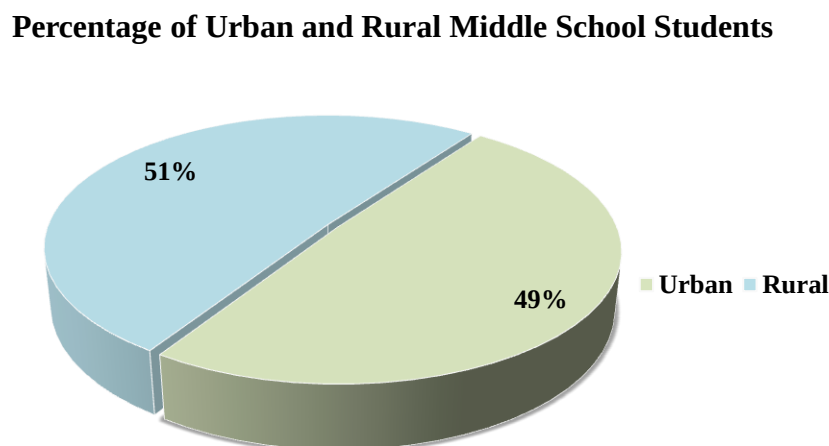


Figure 4.18 reveals differing prevalence rates of co-morbidities among students in two locales, such as urban and rural areas. Figure 4.18 illustrates a slightly higher prevalence of co-morbidity in rural students (51%) compared to urban students (49%).

4.2.2.1 Prevalence of Co-morbid Conditions among Urban and Rural Middle School Students with respect to Districts

The analysis of data indicates that the prevalence of co-morbid conditions among urban and rural middle school students varies across districts i.e., different districts show diverse rates of co-morbidities within their student populations, affecting both urban and rural students. The co-morbidity rates among urban and rural students in various districts are shown in figure 4.19.

Figure 4.19

Percentage of Urban and Rural Students with Co-morbid Conditions Corresponding to Different Districts of Jammu Province

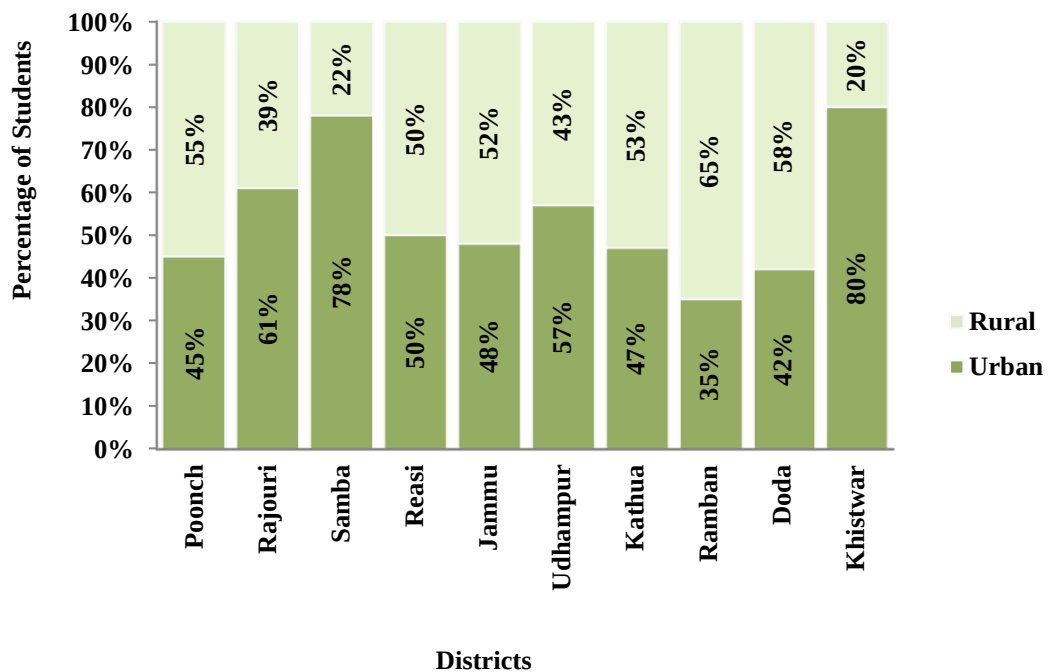


Figure 4.19 illustrates that in Poonch district, 45% of the students with co-morbidities are from urban areas, while 55% are from rural areas. Rajouri district has 61% urban and 39% rural students with co-morbid conditions. In Samba district, 78% of affected students are urban, compared to 22% rural. Reasi district

shows an equal distribution, with 50% urban and 50% rural students. Jammu district has 48% urban and 52% rural students with co-morbidities. Udhampur district records 57% urban and 43% rural students affected. Kathua district has 47% urban and 53% rural students with co-morbid conditions. In Ramban district, 35% of the students with co-morbidities are urban, while 65% are rural. Doda district shows 42% urban and 58% rural students with co-morbid conditions. Lastly, Kishtwar district has 80% urban and 20% rural students with co-morbidities. The data reveals that the districts of Kishtwar, Samba, Rajouri, and Udhampur have a higher percentage of urban students with co-morbid conditions, while Ramban, Doda, Poonch, Kathua, and Jammu have a higher percentage of rural students. Reasi district shows an equal distribution between urban and rural students.

4.2.2.2 Prevalence of Specific Disorders among Urban and Rural Middle School Students with Co-morbid Conditions

The analysis of data indicates that the percentage of urban and rural middle school students with co-morbid conditions varies across specific disorders. The percentage of urban and rural middle school students against specific disorders is shown in figure 4.20.

Figure 4.20

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to Specific Disorders

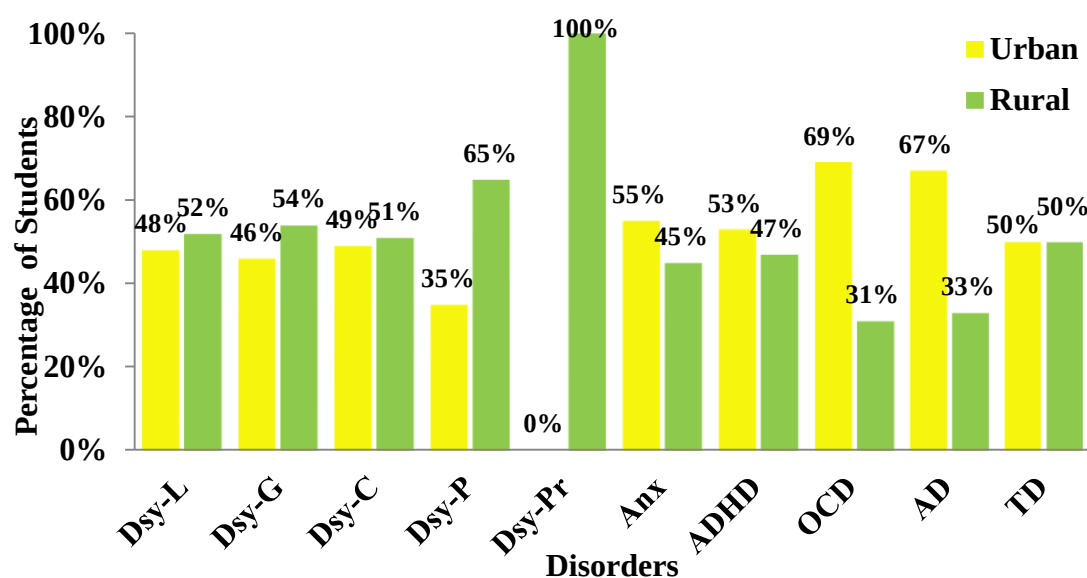


Figure 4.20 illustrates Dyslexia (Dsy-L) affects 48% of urban students and 52% of rural students, while Dysgraphia (Dsy-G) is present in 46% of urban students and 54% of rural students. Dyscalculia (Dsy-C) is slightly higher in rural students (51%) than urban students (49%). Dysphasia (Dsy-P) is more prevalent in rural areas, with 35% urban and 65% rural students. Notably, Dyspraxia (Dsy-Pr) is found exclusively among rural students (100%). Anxiety (Anx) is more common among urban students (55%) than rural students (45%), and Attention Deficit Hyperactivity Disorder (ADHD) exhibits more by urban students (53%) as compared to rural students (47%). Obsessive-Compulsive Disorder (OCD) is significantly more prevalent in urban areas (i.e., 69% urban vs. 31% rural), as is Autism (AD) with 67% urban and 33% rural students affected. Tic Disorder (TD) is equally prevalent among urban and rural students, with each group comprising 50% of the affected students.

Overall, the data highlights that urban students are more affected by Anxiety, ADHD, OCD, and AD, whereas rural students show higher prevalence rates for Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, and Dyspraxia. Tic Disorder shows an equal prevalence between urban and rural students.

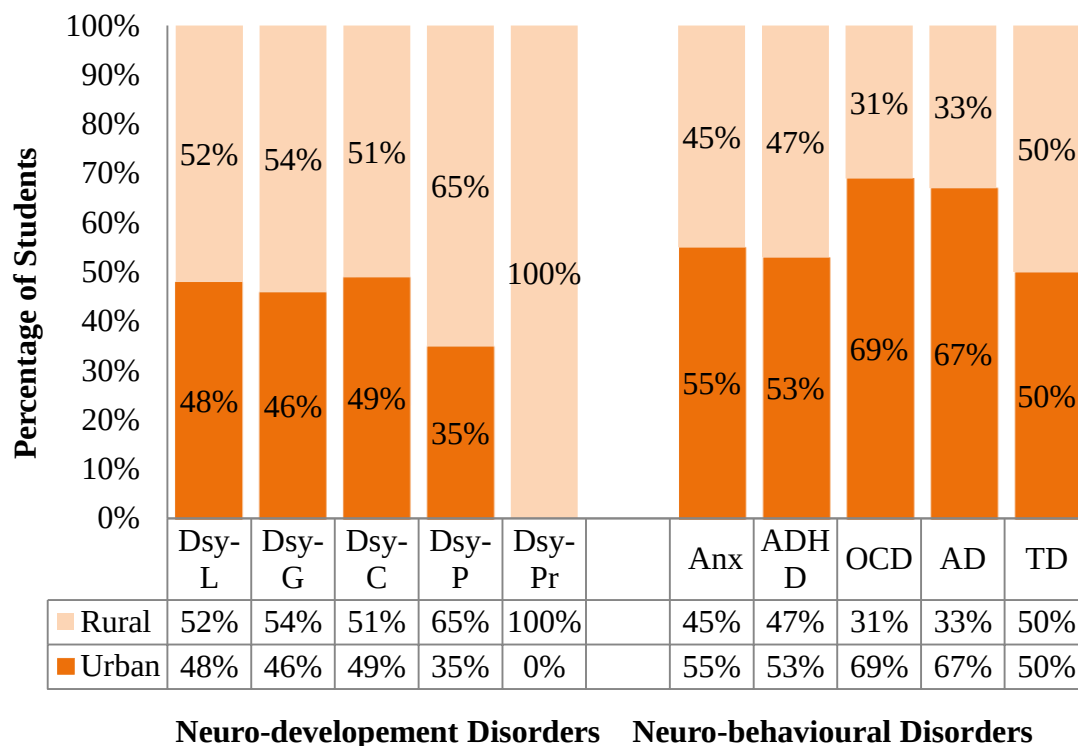
4.2.2.3 Prevalence of Neuro-Developmental and Neuro-Behavioral Disorders among Urban and Rural Middle School Students with Co-morbid Conditions

The analysis of data indicates that the number of urban and rural middle school students with co-morbid conditions varies between neuro-developmental and neuro-behavioral disorders. The difference in the percentage of urban and rural middle school students against neuro-developmental and neuro-behavioral disorder is better understood by observing the figure 4.21.

Figure 4.21 highlights the disparity in prevalence rates of neuro-developmental and neuro-behavioral disorders among urban and rural students with co-morbid conditions. Neuro-developmental disorders such as Dyslexia (Dsy-L) are present in 48% of urban students and 52% of rural students, Dysgraphia (Dsy-G) in 46% urban and 54% rural, Dyscalculia (Dsy-C) in 49% urban and 51% rural, and Dysphasia (Dsy-P) in 35% urban and 65% rural. Dyspraxia (Dsy-Pr) exclusively affects rural students at 100%.

Figure 4.21

Percentage of Urban and Rural Middle School Students Corresponding to Neuro-developmental and Neuro-behavioral Disorders



In terms of neuro-behavioral disorders, Anxiety (Anx) is prevalent in 55% of urban students and 45% of rural students, while ADHD affects 53% urban and 47% rural students. OCD is found in 69% of urban students and 31% of rural students, and Autism (AD) is seen in 67% urban and 33% rural students. Tic Disorder (TD) shows an equal prevalence of 50% among both urban and rural students.

Overall, the data indicates that neuro-developmental disorders are more common among rural students, while urban students are more affected by neuro-behavioral disorders.

4.2.2.4 Prevalence of Different Number of Co-morbidities among Urban and Rural Middle School Students with Co-morbid Conditions

The analysis of data indicates that the percentage of urban and rural middle school students with co-morbid conditions varies in different groups of co-morbidities with the combinations of two, three, four, five, and six disorders presented in the figure 4.22.

Figure 4.22

Percentage of Urban and Rural Middle School Students Corresponding to Different Combinations of Disorders

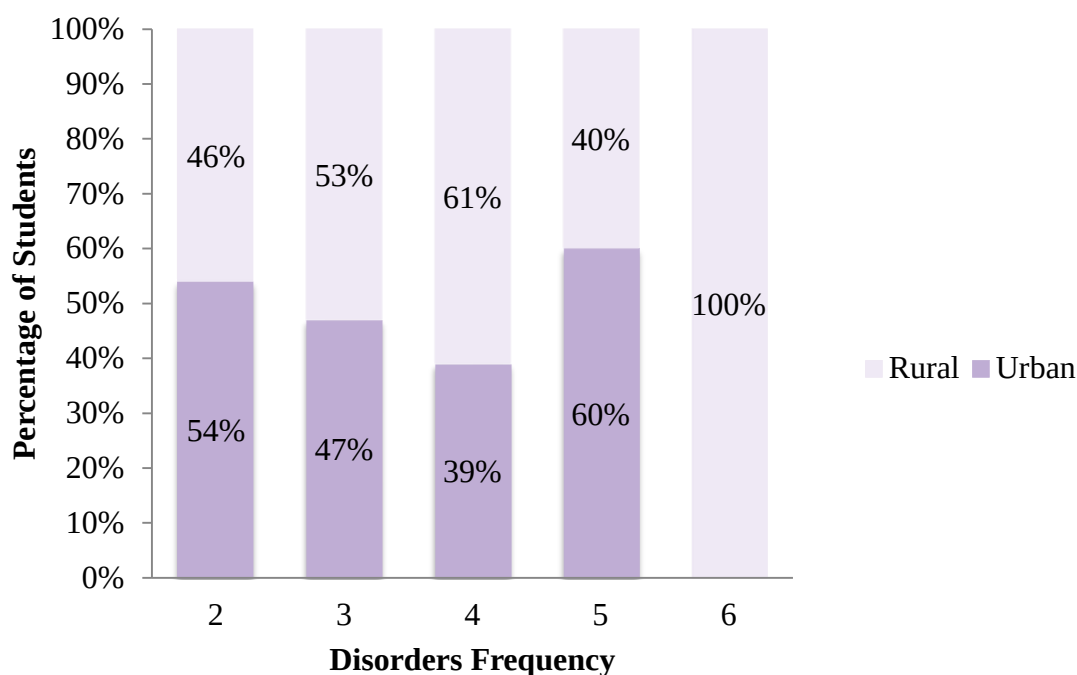


Figure 4.22 visually depicts that 54% of urban and 46% of rural students exhibit combinations of two disorders. For those with the combinations of three disorders, the distribution is 47% urban and 53% rural. Among students displaying the combinations of four disorders, 39% are urban and 61% are rural. In the case the combinations of five disorders, 60% are urban and 40% are rural. Interestingly, 100% of students with the combinations of six disorders are from rural areas, with no students exhibiting more than six disorders.

4.2.2.5 Prevalence of different Combinations of Disorderamong Urban and Rural Middle School Students with Co-morbid Conditions

In order to find the proportion of co-morbid conditions with different combinations of disorder prevalent among urban and rural middle school students, researcher further classified the urban and rural students with all combinations of two, three, four, five, and six disorders presented in the figure 4.23, 4.24, 4.25, and 4.26.

Figure 4.23

Percentage of Urban and Rural Middle School Students Corresponding to Combinations of Two Disorders

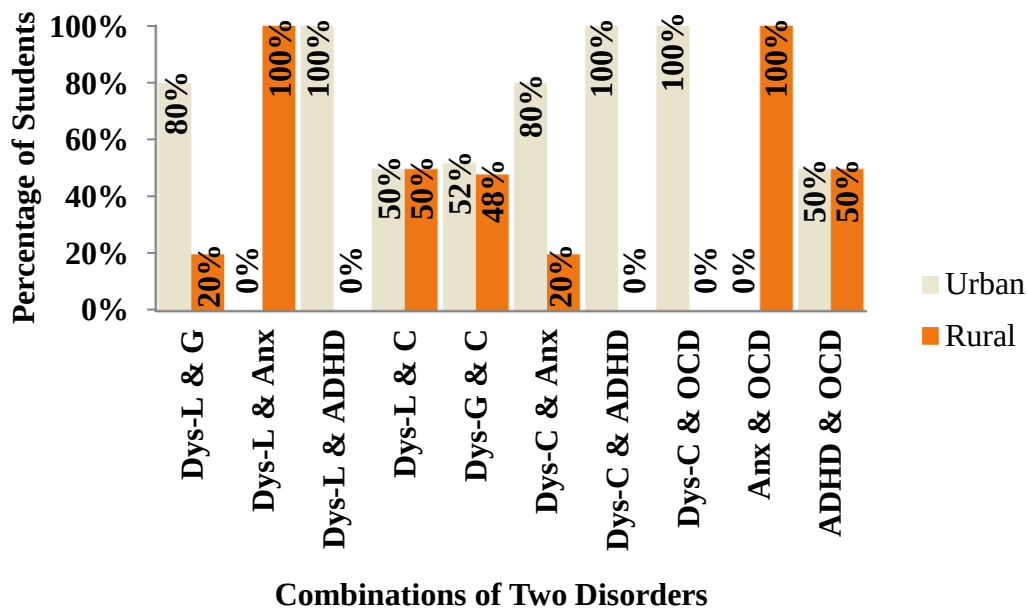


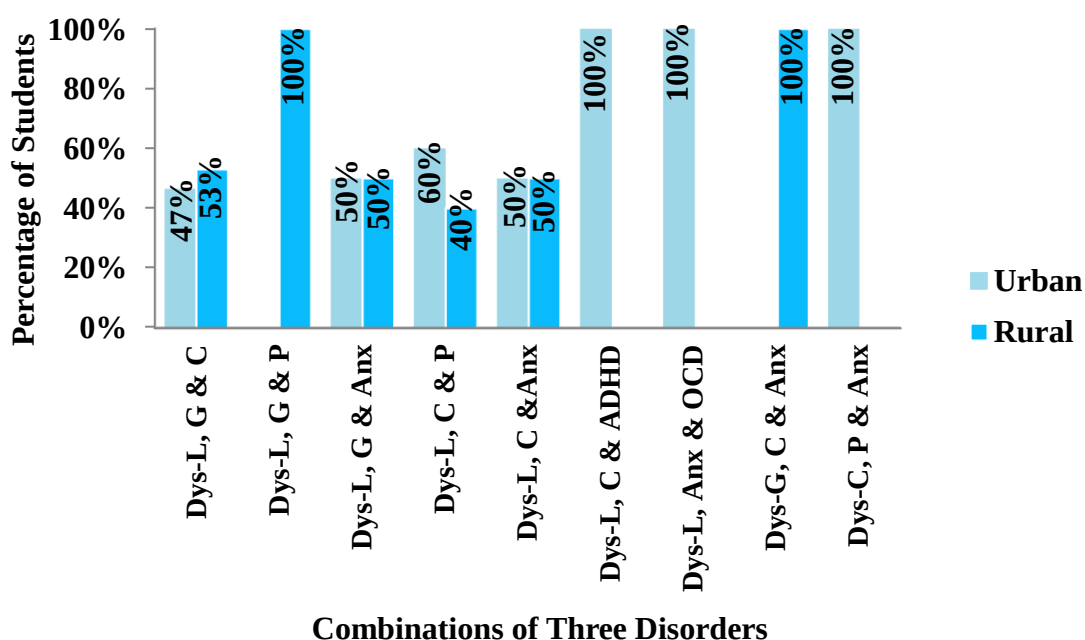
Figure 4.23 illustrates that the pairs Dyslexia (Dsy-L) & Dysgraphia (Dsy-G) and Dyscalculia (Dsy-C) & Anxiety (Anx) are seen in 80% of urban students and 20% of rural students. Pairs such as Dsy-L & ADHD, Dsy-C & ADHD, and Dsy-C & OCD are found exclusively among urban students (100%). Conversely, Dsy-L & Anx and Anx & OCD pairs are found only among rural students (100%). The pairs Dsy-L & Dsy-C and ADHD & OCD are equally distributed between urban and rural students (50% each). Lastly, the pair Dsy-G & Dsy-C is observed in 52% of urban and 48% of rural students. This data highlights that pairs such as Dsy-L & Dsy-G, Dsy-L & ADHD, Dsy-G & Dsy-C, Dsy-C & Anx, Dsy-C & ADHD, and Dsy-C & OCD are more prevalent among urban students.

Figure 4.24 illustrates that the combinations of Dyslexia (Dsy-L), Dysgraphia (Dsy-G), and Dyscalculia (Dsy-C) is seen in 47% of urban students and 53% of rural students. Combinations such as Dsy-L, Dsy-C, & ADHD; Dsy-L, Anx, & OCD; and Dsy-C, Dsy-P, & Anx are found exclusively among urban students (100%). Conversely, the combinations of Dsy-L, Dsy-G, & Dsy-P and Dsy-G, Dsy-C, & Anx are seen exclusively among rural students (100%). The combinations of Dsy-L, Dsy-

G, & Anx and Dsy-L, Dsy-C, & Anx are equally distributed between urban and rural students (50% each). Additionally, the combination of Dsy-L, Dsy-C, & Dsy-P is found in 60% of urban students and 40% of rural students.

Figure 4.24

Percentage of Urban and Rural Middle School Students Corresponding to Combinations of Three Disorders

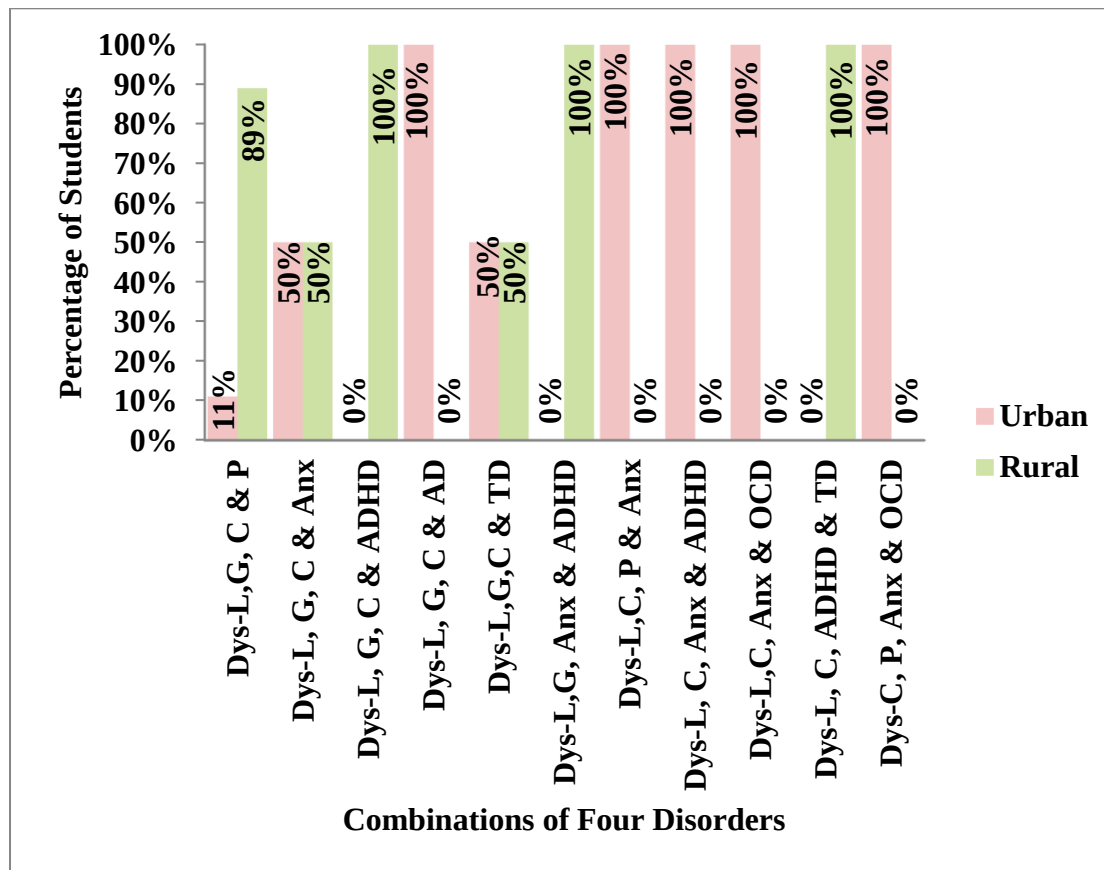


This data highlights that the combinations of Dsy-L, Dsy-C, & Dsy-P, and Dsy-L, Anx, & OCD are more prevalent among urban students, while Dsy-L, Dsy-G, & Dsy-C and Dsy-G, Dsy-C, & Anx are more common among rural students. The combinations of Dsy-L, Dsy-G, & Anx and Dsy-L, Dsy-C, & Anx show an equal prevalence between urban and rural students.

Figure 4.25 illustrates that the combinations of Dyslexia (Dsy-L), Dysgraphia (Dsy-G), Dyscalculia (Dsy-C), and Dysphasia (Dsy-P) is observed in 11% of urban students and 89% of rural students with co-morbid conditions. Other prevalent combinations of disorders seen exclusively among urban students (100%) include Dsy-L, Dsy-G, Dsy-C, & Autism (AD); Dsy-L, Dsy-C, Dsy-P, & Anxiety (Anx); Dsy-L, Dsy-C, Anx, & ADHD; Dsy-L, Dsy-C, Anx, & Obsessive-Compulsive Disorder (OCD); and Dsy-C, Dsy-P, Anx, & OCD.

Figure 4.25

Percentage of Urban and Rural Middle School Students Corresponding to Combinations of Four Disorders



In contrast, certain combinations of disorders are found exclusively among rural students (100%), such as Dsy-L, Dsy-G, Dsy-C, & ADHD; Dsy-L, Dsy-G, Anx, & ADHD; and Dsy-L, Dsy-C, ADHD, & Tic Disorder (TD). Additionally, the combinations of Dsy-L, Dsy-G, Dsy-C, & Anx and Dsy-L, Dsy-G, Dsy-C, & TD are equally prevalent among both urban and rural students (50%).

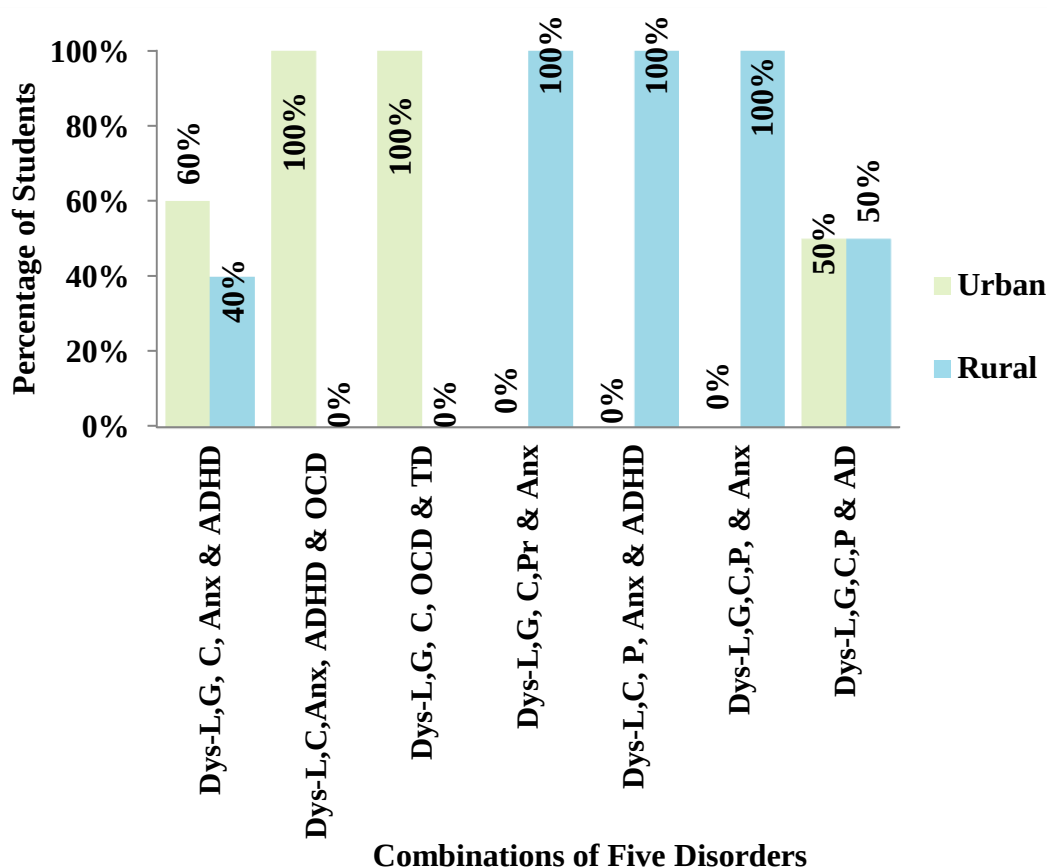
This data highlights that urban students are more likely to exhibit combinations of disorders involving AD, Anx, and OCD, whereas rural students show higher prevalence rates for combinations of disorders involving ADHD and TD. The combinations of Dsy-L, Dsy-G, Dsy-C, & Anx and Dsy-L, Dsy-G, Dsy-C, & TD show an equal prevalence among urban and rural students.

Figure 4.26 illustrates that the combinations of Dyslexia (Dsy-L), Dysgraphia (Dsy-G), Dyscalculia (Dsy-C), Anxiety (Anx), and ADHD is observed in 60% of urban students and 40% of rural students with co-morbid conditions. Other prevalent combinations of disorders seen exclusively among urban students (100%) include

Dsy-L, Dsy-C, Anx, ADHD, & OCD, and Dsy-L, Dsy-G, Dsy-C, OCD, & Tic Disorder (TD).

Figure 4.26

Percentage of Urban and Rural Middle School Students Corresponding to Combinations of Five Disorders



In contrast, certain combinations of disorders are found exclusively among rural students (100%), such as Dsy-L, Dsy-G, Dsy-C, Dyspraxia (Dsy-Pr), & Anx, and Dsy-L, Dsy-C, Dysphasia (Dsy-P), Anx, & ADHD. Additionally, the combinations Dsy-L, Dsy-G, Dsy-C, Dsy-P, & Anx, and Dsy-L, Dsy-G, Dsy-C, Dsy-P, & Autism (AD) are equally prevalent among both urban and rural students (50%).

This data highlights that urban students are more likely to exhibit combinations of disorders involving OCD and TD, whereas rural students show higher prevalence rates for combinations of disorders involving Dsy-Pr and Dsy-P. The combinations of Dsy-L, Dsy-G, Dsy-C, Dsy-P, & Anx, and Dsy-L, Dsy-G, Dsy-C, Dsy-P, & AD show equal prevalence among urban and rural students.

4.2.3 Prevalence of Co-morbid Conditions among Middle School Students with respect to Age

The data was analysed by considering the age as a significant factor influencing the prevalence of co-morbidities among government middle school students and the percentage of students aged 11-12 years and 13-15 years with co-morbid conditions presented in figure 4.27.

Figure 4.27

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups

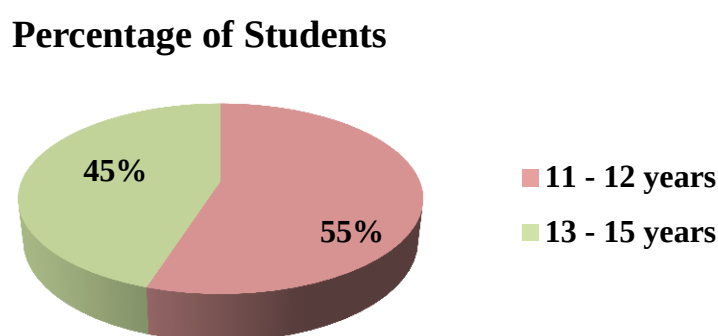


Figure 4.27 illustrates that 55% of students aged 11-12 years in the Jammu province of J&K exhibit co-morbid conditions, compared to 45% of students aged 13-15 years. This indicates a greater occurrence of co-morbidity in the younger age group, highlighting significant variation in co-morbid conditions across different age groups within the Jammu province.

4.2.3.1 Prevalence of Co-morbid Conditions among Middle School Students in the Two Specific Age Groups with respect to Districts

The analysis of data indicates that the prevalence of co-morbid conditions among middle school students within the age group of 11-12 years and 13-15 years varies across districts i.e., different districts show diverse rates of co-morbidities within their student populations, affecting both the defined specific age groups. The co-morbidity rates among students with co-morbid conditions within the age group of 11-12 years and 13-15 years in various districts are shown in figure 4.28.

Figure 4.28

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Different Districts of Jammu Province

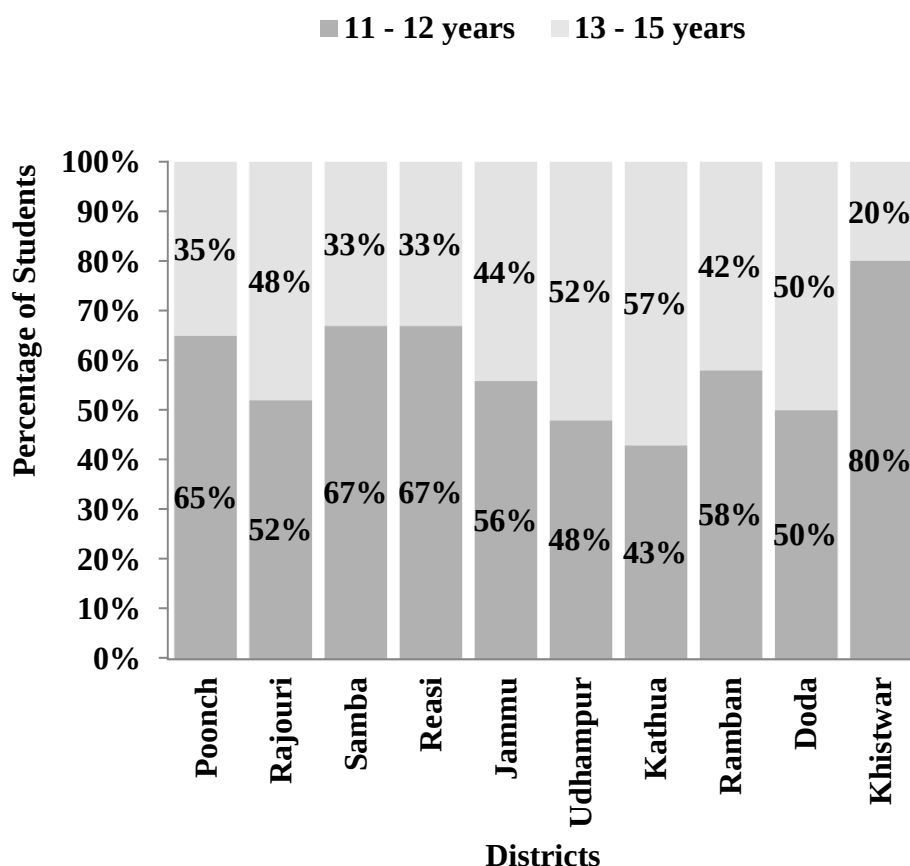


Figure 4.28 illustrates that the Poonch district has the highest co-morbidity rate, with 65% of students aged 11-12 years and 35% aged 13-15 years affected. Rajouri follows with 52% (11-12 years) and 48% (13-15 years). Both Samba and Reasi show rates of 67% (11-12 years) and 33% (13-15 years). In Jammu district, the rates are 56% (11-12 years) and 44% (13-15 years). Udhampur has 48% (11-12 years) and 52% (13-15 years), while Kathua shows 43% (11-12 years) and 57% (13-15 years). Ramban exhibits 58% (11-12 years) and 42% (13-15 years). Khistawar district has the highest disparity with 80% (11-12 years) and 20% (13-15 years). Doda district shows an equal co-morbidity rate of 50% for both age groups.

Overall, the districts of Khistawar, Samba, Reasi, Poonch, Ramban, Jammu, and Rajouri have higher co-morbidity rates among students aged 11-12 years, while Doda has an equal distribution between the two age groups.

4.2.3.2 Prevalence of Specific Disorders among Middle School Students with Co-morbid Conditions in the Two Specific Age Groups

The analysis of data indicates that the percentage of students with co-morbid conditions within the age group of 11-12 years and 13-15 years varies across specific disorders. The percentage of students within the age group of 11-12 years and 13-15 years against specific disorders are shown in figure 4.29.

Figure 4.29

Percentage of Middle School Students with Co-morbid Conditions in the Two Specific Age Groups Corresponding to Specific Disorders

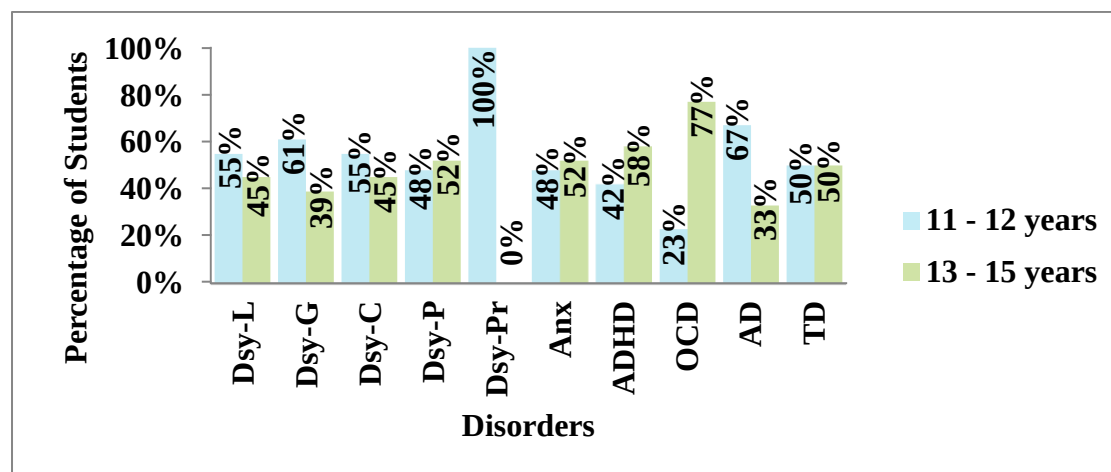


Figure 4.29 illustrates that the Dyslexia (Dsy-L) is more common among younger students, affecting 55% of those aged 11-12 years and 45% of those aged 13-15 years. Dysgraphia (Dsy-G) shows a higher prevalence in the younger group, with 61% (11-12 years) compared to 39% (13-15 years). Dyscalculia (Dsy-C) has a prevalence rate of 55% among students aged 11-12 years and 45% among students aged 13-15 years, while Dyphasia (Dsy-P) is more prevalent in the older group, affecting 48% students aged 11-12 years and 52% of 13-15 years. Dyspraxia (Dsy-Pr) is exclusively found in the 11-12 years of age group (100%).

Anxiety (Anx) and Attention Deficit Hyperactive Disorder (ADHD) are more prevalent among older students, with Anxiety affecting 48% of students aged 11-12 year and 52% of students aged 13-15 years, and ADHD affecting 42% of the younger group and 58% of the older group. Obsessive Compulsive Disorder (OCD) is significantly more common in the 13-15 age groups (77%) compared to the 11-12 age

groups (23%). Autism (AD) is more prevalent in the younger group, affecting 67% of students aged 11-12 years and 33% of students aged 13-15 years. Tic Disorder (TD) affects 50% of students in both age groups equally.

Overall, the data highlights that Dyslexia, Dysgraphia, Dyscalculia, Dyspraxia, and Autism are more dominant among students aged 11-12 years, while Dyphasia, Anxiety, ADHD, and OCD are more prevalent among students aged 13-15 years, with Tic Disorder equally affecting both age groups.

4.2.3.3 Prevalence of Neuro-Developmental and Neuro-Behavioral Disorders among Middle School Students with Co-morbid Conditions in the Two Specific Age Groups

The analysis of data indicates that the percentage of middle school students with co-morbid conditions within the age group of 11-12 years and 13-15 years varies between neuro-developmental and neuro-behavioral disorders. The difference in the number of students within the age group of 11-12 years and 13-15 years against neuro-developmental and neuro-behavioral disorder is better understood by observing the figure 4.30.

Figure 4.30

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Neuro-developmental and Neuro-behavioral Disorders

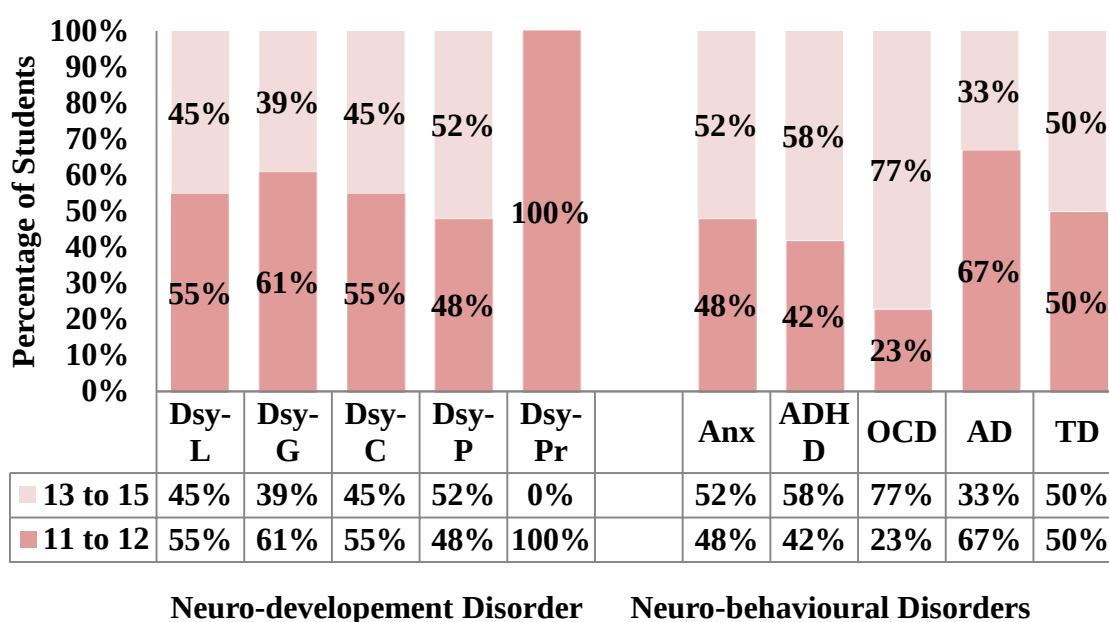


Figure 4.30 highlights the percentage disparity in neuro-developmental disorders and neuro-behavioral disorders among students aged 11-12 years and 13-15 years with co-morbid conditions. Among neuro-developmental disorders, Dyslexia (Dsy-L) was prevalent in 55% of students aged 11-12 years and 45% of students aged 13-15 years. Dysgraphia (Dsy-G) affected 61% (11-12 years) and 39% (13-15 years), Dyscalculia (Dsy-C) affected 55% (11-12 years) and 45% (13-15 years), Dyphasia (Dsy-P) affected 48% (11-12 years) and 52% (13-15 years), and Dyspraxia (Dsy-Pr) showed 100% prevalence among students aged 11-12 years. Among neuro-behavioral disorders, Anxiety (Anx) affected 48% (11-12 years) and 52% (13-15 years), Attention Deficit Hyperactive Disorder (ADHD) affected 42% (11-12 years) and 58% (13-15 years), Obsessive-Compulsive Disorder (OCD) affected 23% (11-12 years) and 77% (13-15 years), Autism (AD) affected 67% (11-12 years) and 33% (13-15 years), and Tic Disorder (TD) had an equal prevalence of 50% among students in both age groups with co-morbid conditions.

Furthermore, the figure 4.30 also indicates that middle school students in the age range of 11-12 years who attend government schools are more prone to neuro-developmental diseases than neuro-behavioral disorders. On the other hand, government middle school students in the age group of 13-15 years are more prone to neuro-behavioral disorders in comparison to neuro-developmental disorders.

4.2.3.4 Prevalence of Different Number of Co-morbidities among Middle School Students with Co-morbid Conditions in the Two Specific Age Groups

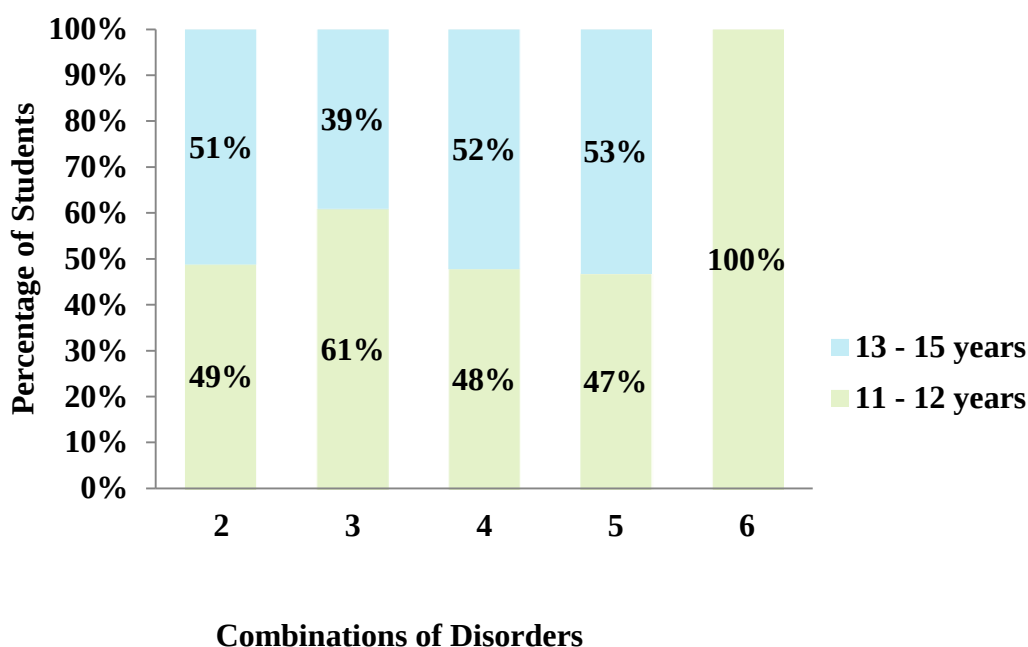
The analysis of data indicates that the percentage of middle school students with co-morbid conditions within the age group of 11-12 years and 13-15 years varies in different groups of co-morbidities with the combinations of two, three, four, five, and six disorders presented in the figure 4.31.

Figure 4.31 illustrates that among students aged 11-12 years, 49% exhibited combinations of two disorders, compared to 51% in the 13-15 years of age group. The data further reveals that 61% of the students aged 11-12 years and 39% of the students aged 13-15 years, displayed combinations of three disorders. For combinations of four disorders, 48% of students were in the 11-12 years of age groups, while 52% were in the 13-15 years of age group. Additionally, 47% of students aged 11-12 and 53% of those aged 13-15 showed combinations of five disorders. Notably, one student

demonstrating combinations of six disorders simultaneously was in the 11-12 years of age groups.

Figure 4.31

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Different Combinations of Disorders



4.2.3.5 Prevalence of Different Combinations of Disorderamong Middle School Students with Co-morbid Conditions in the Two Specific Age Groups

In order to find the proportion of co-morbid conditions with different combinations of disorder prevalent among middle school students with co-morbid conditions within the age group of 11-12 years and 13-15 years, researcher further classified the students with all combinations of two, three, four, five, and six disorders presented in the figure 4.32, 4.33, 4.34, and 4.35.

Figure 4.32 illustrates that the Dyslexia (Dsy-L) and Dysgraphia (Dsy-G) pair, alongwith the Dyscalculia (Dsy-C) and Anxiety (Anx) pair, were observed in 60% of students aged 11-12 years and 40% of students aged 13-15years. Conversely, the pairs Dyslexia (Dsy-L) and Anxiety (Anx), Dyscalculia (Dsy-C) and ADHD, Dyscalculia

(Dsy-C) and OCD, and Anxiety (Anx) and OCD were exclusively seen in 100% of the 13-15 years of age group. The ADHD and OCD pair was equally prevalent in both the age groups, affecting 50% of students aged 11-12 years and 13-15 years. The Dyslexia (Dsy-L) and Dyscalculia (Dsy-C) pair was seen in 44% of students aged 11-12 years and 56% of those aged 13-15 years. The Dysgraphia (Dsy-G) and Dyscalculia (Dsy-C) pair was present in 61% of students aged 11-12 years and 39% of those aged 13-15 years.

Figure 4.32

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Combinations of Two Disorders

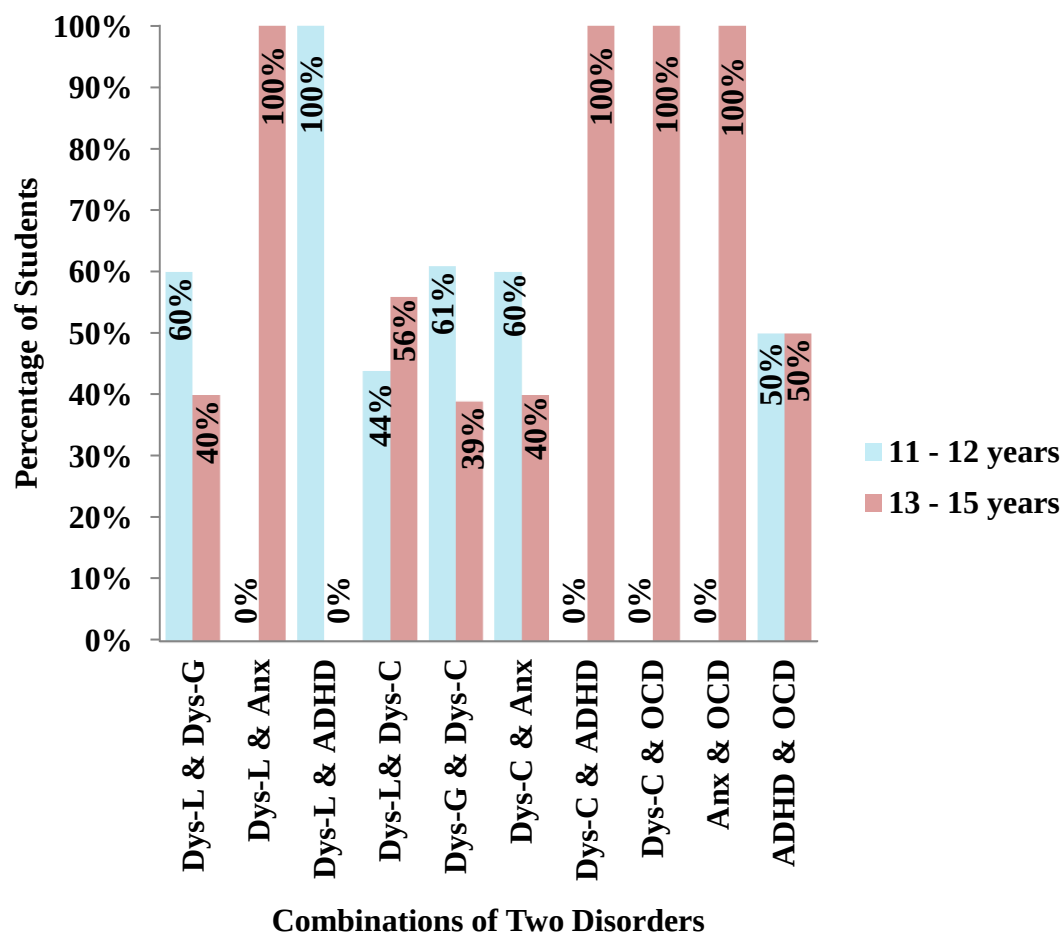


Figure 4.32 highlights that the pairs of Dsy-L & Dsy-G; Dsy-L & ADHD; Dsy-G & Dsy-C; and Dsy-C & Anx are more prevalent among students aged 11-12 years with co-morbid condition.

Figure 4.33

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Combinations of Three Disorders

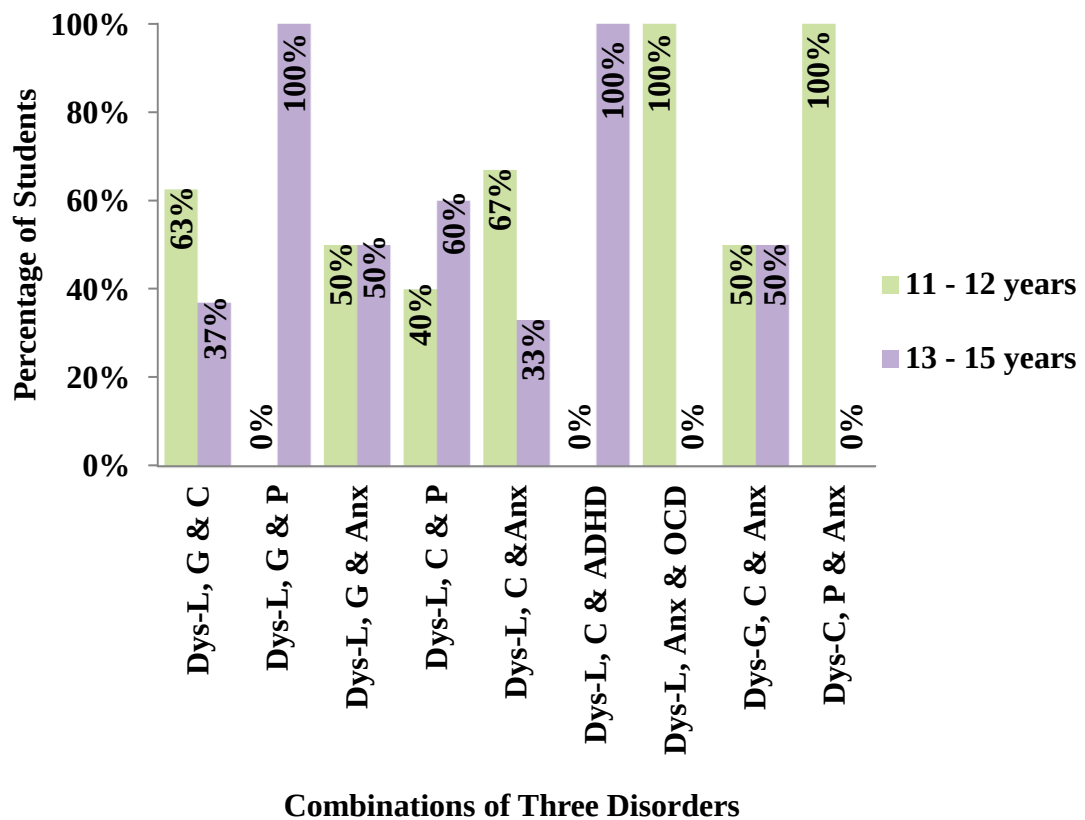


Figure 4.33 depicts that the Dyslexia (Dsy-L), Dysgraphia (Dsy-G), and Dyscalculia (Dsy-C) was seen in 63% of students aged 11-12 years and 37% of those aged 13-15 years. The Dyslexia (Dsy-L), Dysgraphia (Dsy-G), and Dyphasia (Dsy-P) affected 40% of students aged 11-12 years and 60% of those aged 13-15 years. The Dyslexia (Dsy-L), Dyscalculia (Dsy-C), and Anxiety (Anx) trio was prevalent in 67% of students aged 11-12 years and 33% of those aged 13-15 years. Both the combinations of three disorders namely Dyslexia (Dsy-L), Dysgraphia (Dsy-G), & Anxiety (Anx) and Dysgraphia (Dsy-G), Dyscalculia (Dsy-C), & Anxiety (Anx) were equally prevalent in both age groups, each affecting 50% of students. The Dyslexia (Dsy-L), Anxiety (Anx), and OCD trio, along with the Dyscalculia (Dsy-C), Dyphasia (Dsy-P), and Anxiety (Anx) trio, was exclusively seen in 100% of students aged 11-12 years. Meanwhile, the Dyslexia (Dsy-L), Dysgraphia (Dsy-G), and Dyphasia (Dsy-P), along with the Dyslexia (Dsy-L), Dyscalculia (Dsy-C), and ADHD trio, affected 100% of students aged 13-15 years.

These findings indicate that the combinations of Dys-L, Dys-G, & Dys-C; Dys-L, Dys-C, & Anx; Dys-L, Anx, & OCD; and Dys-C, Dys-P, & Anx were more prevalent among students aged 11-12 years. Conversely, the combinations of Dys-L, Dys-G, & Dys-P; Dys-L, Dys-C, & Dys-P; and Dys-L, Dys-C, & ADHD were more common among students aged 13-15 years with co-morbid conditions.

Figure 4.34

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Combinations of Four Disorders

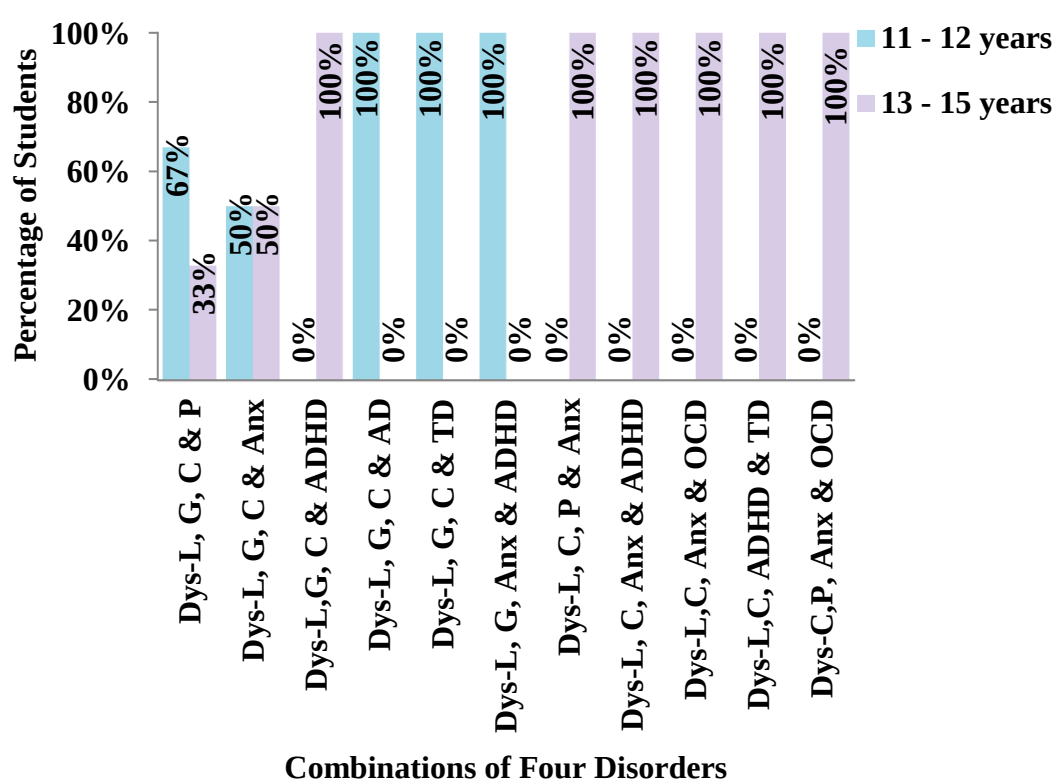


Figure 4.34 highlights that the Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), and Dyspraxia (Dys-P) combinations is seen in 67% of students aged 11-12 years and 33% of those aged 13-15 years. The combinations of Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), and Anxiety (Anx) is equally prevalent in both age groups, affecting 50% of students each. The combinations of Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), & Autism Disorder (AD); Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), & Tic Disorder (TD); and Dyslexia (Dys-L), Dysgraphia (Dys-G), Anxiety (Anx), & ADHD are seen exclusively among students aged 11-12 years.

Conversely, several combinations are only observed in students aged 13-15 years. These include Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), & ADHD; Dyslexia (Dys-L), Dyscalculia (Dys-C), Dyspraxia (Dys-P), & Anxiety (Anx); Dyslexia (Dys-L), Dyscalculia (Dys-C), Anxiety (Anx), & ADHD; Dyslexia (Dys-L), Dyscalculia (Dys-C), Anxiety (Anx), & OCD; Dyslexia (Dys-L), Dyscalculia (Dys-C), ADHD, & TD; and Dyscalculia (Dys-C), Dyspraxia (Dys-P), Anxiety (Anx), & OCD.

Figure 4.35

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Combinations of Five Disorders

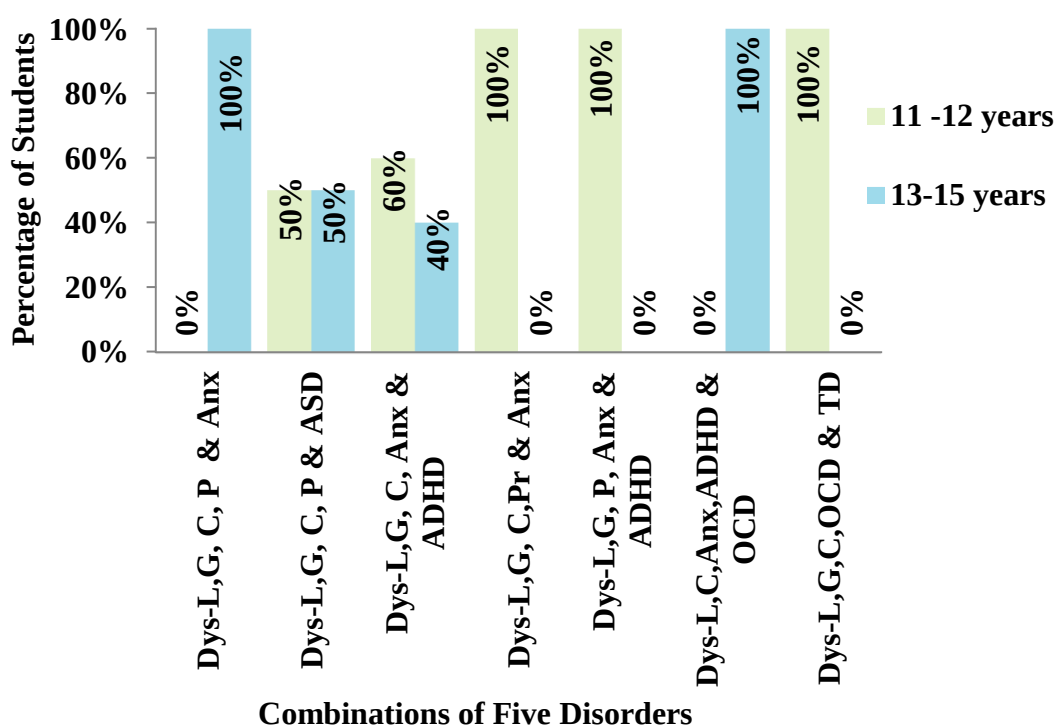


Figure 4.35 highlights that the combinations of Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), Anxiety (Anx), and ADHD is seen in 60% of students aged 11-12 years and 40% of students aged 13-15 years. The combinations of Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), Dyspraxia (Dys-P), and Autism Disorder (AD) is equally prevalent in both age groups, affecting 50% of students each.

Certain combinations of five disorders, which are exclusively seen in the 11-12 years of age group, are as follows: Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), Dyspraxia (Dsy-Pr), & Anxiety (Anx); Dyslexia (Dys-L), Dyscalculia (Dys-C), Dyspraxia (Dsy-P), Anxiety (Anx), & ADHD; and Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), Obsessive-Compulsive Disorder (OCD), & Tic Disorder (TD).

Conversely, some combinations of five disorders which are only observed in the 13-15 years of age group are as follows: Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), Dyspraxia (Dsy-P), and Anxiety (Anx); and Dyslexia (Dys-L), Dyscalculia (Dys-C), Anxiety (Anx), ADHD, and OCD.

These findings indicate that while some combinations of five disorders are more prevalent among younger students, others are more common in older students, with a few combinations of five disorders affecting both age groups equally.

4.2.4 Prevalence of Co-morbid Conditions among Middle School Students with respect to Socio-Economic Status (SES)

The data was analysed by considering the socio-economic status (SES) as a significant factor influencing the prevalence of co-morbidities among government middle school students and the percentage of students in the low and middle SES presented in figure 4.36.

Figure 4.36

Percentage of Middle School Students with Co-morbid Conditions Corresponding to Socio-Economic Status

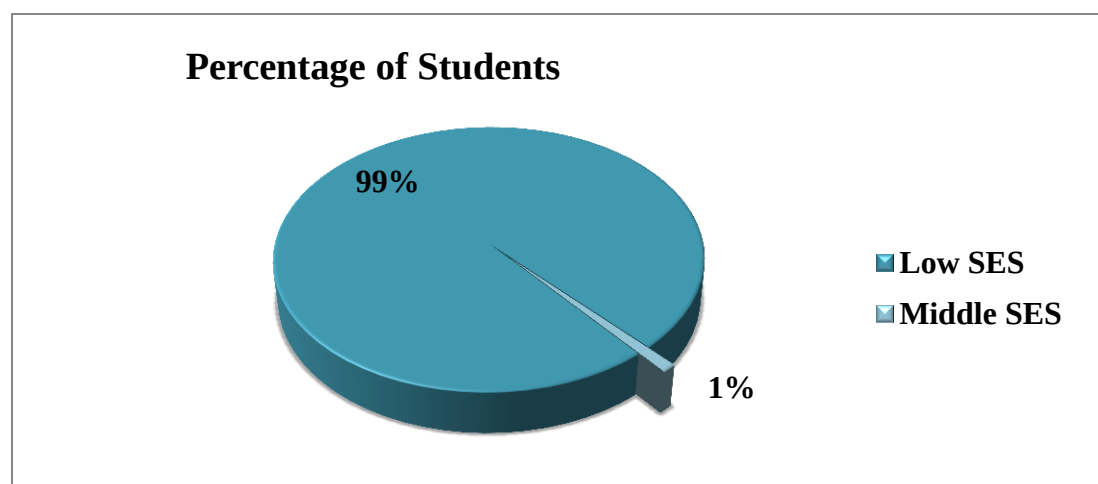


Figure 4.36 reveals that 99% of government middle school students with co-morbid conditions come from low socio-economic backgrounds, while only 1% is from middle socio-economic backgrounds. Notably, none of the students with co-morbid conditions belong to high socio-economic status.

4.2.4.1 Prevalence of Co-morbid Conditions among Middle School Students of Different Socio-Economic Status with respect to Districts

The analysis of data indicates that the prevalence of co-morbid conditions among middle school students of different socio-economic status varies across districts i.e., different districts show diverse rates of co-morbidities within their student populations belongs to different socio-economic status. The co-morbidity rates among students with co-morbid conditions with respect to different specific socio-economic status in various districts are shown in figure 4.37.

Figure 4.37

Percentage of Middle School Students with Co-morbid Conditions with respect to different SES Corresponding to Different Districts of Jammu Province

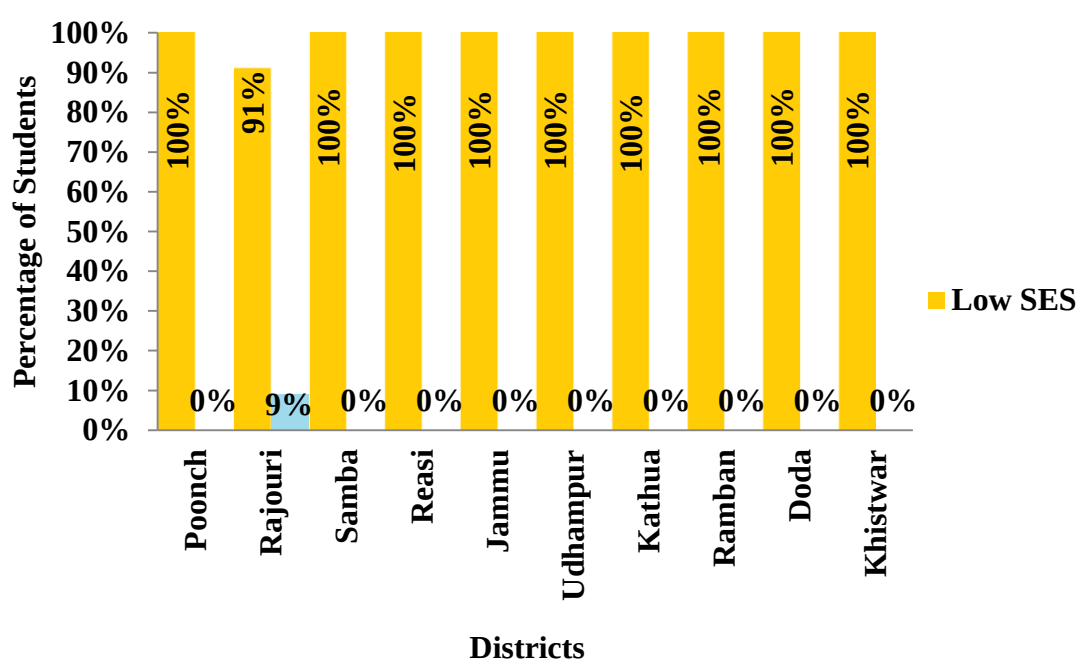


Figure 4.37 illustrates that in Rajouri district, 91% of students with co-morbid conditions belong to low SES, while 9% belong to middle SES. In contrast, 100% of

students with co-morbid conditions in the districts of Poonch, Samba, Reasi, Jammu, Udhampur, Kathua, Ramban, Doda, and Khistawar fall into the low SES category.

4.2.4.2 Prevalence of Specific Disorders among Middle School Students with Co-morbid Conditions with respect to Different Socio-Economic Status

The analysis of data indicates that the percentage of students with co-morbid conditions within the low and middle SES varies across specific disorders. The percentage of students within the low and middle SES corresponding to specific disorders are shown in figure 4.38.

Figure 4.38

Percentage of Middle School Students with Co-morbid Conditions with respect to Different Socio-Economic Status Corresponding to Specific Disorders

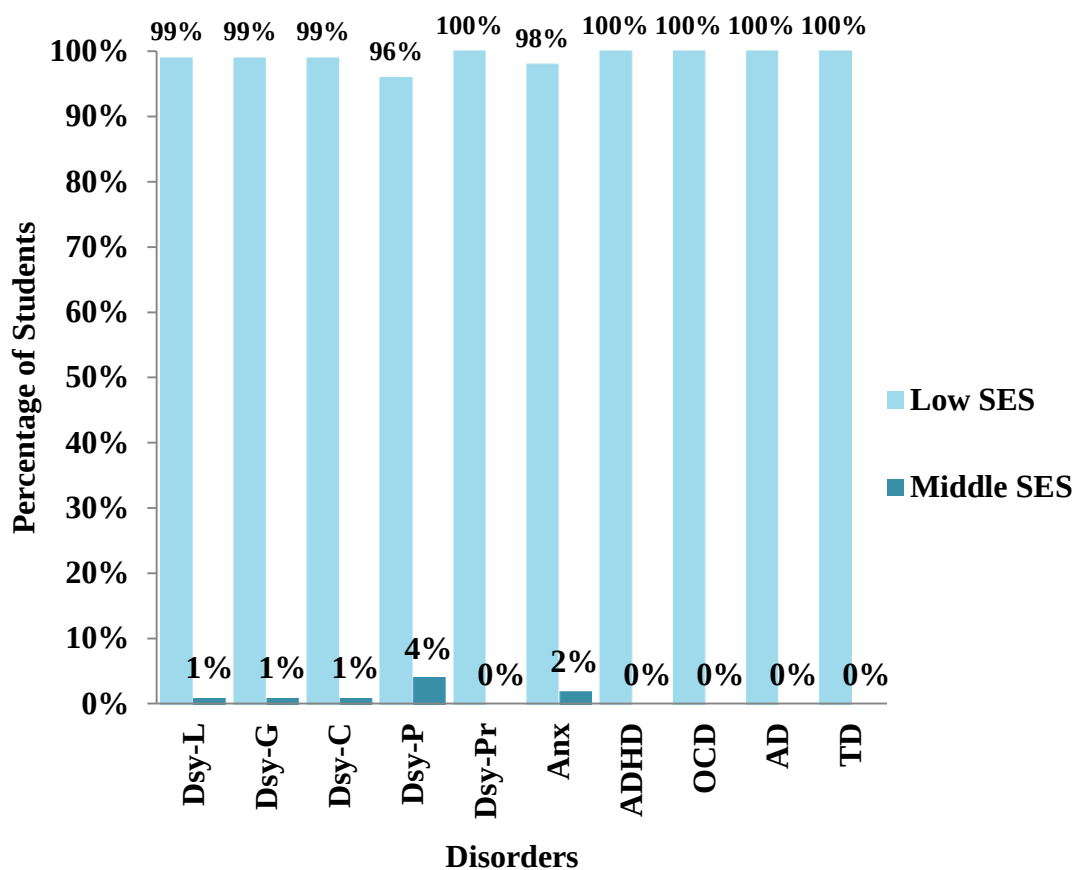


Figure 4.38 illustrates that 99% of students with Dyslexia (Dsy-L), Dysgraphia (Dsy-G), and Dyscalculia (Dsy-C) belong to low SES, with only 1% in each category belonging to middle SES. For Dyphasia (Dsy-P), 96% of affected students are from low SES and 4% from middle SES. All students with Dyspraxia (Dsy-Pr) are from

low SES. Among those with Anxiety (Anx), 98% are from low SES and 2% from middle SES. Notably, 100% of students with Attention Deficit Hyperactive Disorder (ADHD), Obsessive Compulsive Disorder (OCD), Autism (AD), and Tic Disorders (TD) belong to low SES.

4.2.4.3 Prevalence of Different Number of Co-morbidities among Middle School Students with Co-morbid Conditions with respect to Different Socio-Economic Status

The analysis of data indicates that the percentage of middle school students with co-morbid conditions within the low and middle SES varies in different groups of co-morbidities with the combinations of two, three, four, five, and six disorders presented in the figure 4.39.

Figure 4.39

Percentage of Middle School Students with Co-morbid Conditions with respect to Different Socio-Economic Status Corresponding to Different Combinations of Disorders

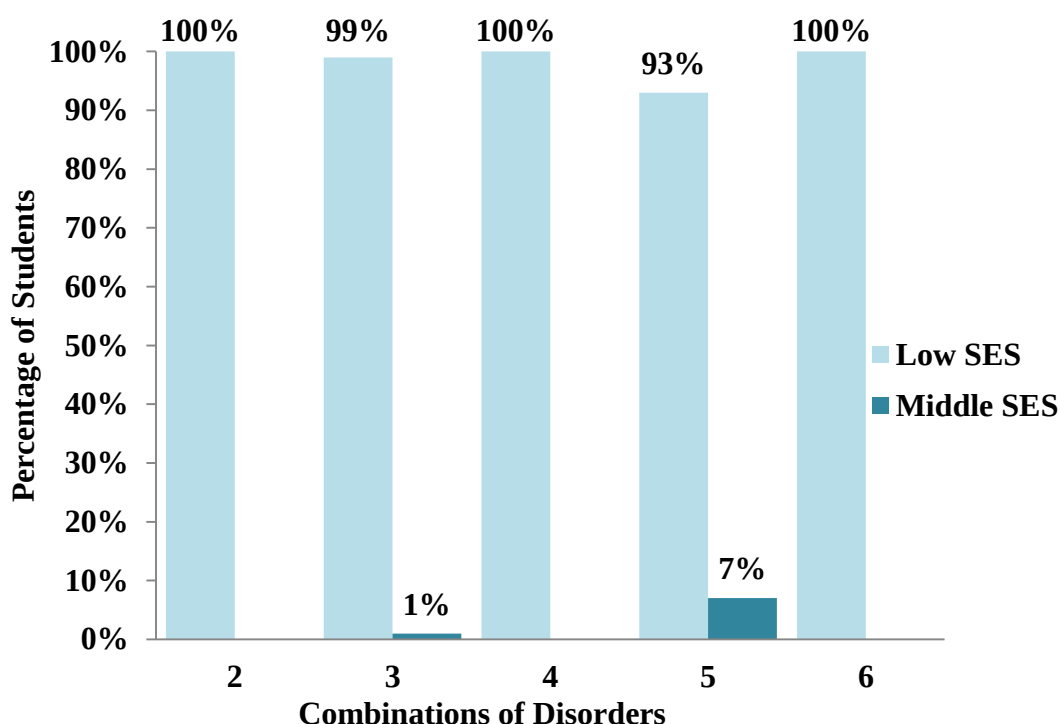


Figure 4.39 illustrates the prevalence of different combinations of disorders among government middle school students with co-morbid conditions in Jammu province,

categorized by socio-economic status (SES). The data reveals that 100% of students exhibiting combinations of 2, 4, and 6 disorders are from low SES backgrounds. For students showing combinations of 3 disorders, 99% are from low SES and 1% from middle SES. Additionally, 93% of students with combinations of 5 disorders belong to low SES, while 7% are from middle SES.

4.3 Analysis of the Responses of Students with Co-morbid Conditions and Teachers to Various Questions of Semi-Structured Interview Schedule for Academic Problems with respect to Gender, Age and Locale

The third objective was to study the academic problems of middle school students having co-morbidity. The data was collected from the government middle school students with co-morbid conditions and teachers of ten districts of Jammu Province viz. Rajouri, Poonch, Reasi, Jammu, Kathua, Udhampur, Jammu, Doda, Ramban and Khistawar.

To enhance the credibility and depth of the findings, this section adopts a triangulated approach by integrating quantitative data with qualitative insights obtained through semi-structured interviews. While percentage-based summaries offer a numerical overview of students' academic problems, the narrative responses provide contextual depth, revealing how these issues are experienced differently across gender, age groups, and locale. This combination allows for a richer, more comprehensive understanding of the nature and impact of co-morbid conditions among middle school students.

The primary academic difficulties observed in the students can be attributed to their underlying co-morbid conditions, such as dyslexia, ADHD, and speech-language impairments. These neurodevelopmental issues inherently impact areas like reading, writing, and attention. Therefore, the challenges are not necessarily a result of teacher behavior or environmental inadequacies. However, qualitative feedback from students and teachers indicated that unsupportive classroom practices - such as lack of remedial instruction, use of harsh language, or neglect during class time - may further exacerbate these difficulties. While the root causes lie within the clinical diagnoses, the school environment plays a significant role in either mitigating or amplifying the academic struggles of these students.

The academic problems of middle school students with co-morbid conditions will be divided and discussed under the following headings:

4.3.1 Analysis of Responses of Students with Co-morbid Conditions to Various Questions of Interview Schedule for Academic Problems with respect to Gender, Age and Locale

To enhance the credibility and depth of the findings, this section adopts a triangulated approach by integrating quantitative data with qualitative insights obtained through semi-structured interviews. While percentage-based summaries offer a numerical overview of students' academic challenges, the narrative responses provide contextual depth, revealing how these issues are experienced differently across gender, age groups, and locale. This combination allows for a richer, more comprehensive understanding of the nature and impact of co-morbid conditions among middle school students.

To get an insight into the responses of middle school students with co-morbid conditions towards their academic problems, qualitative analysis of answers given by students corresponding to various questions of interview schedule for academic problems of students with co-morbid conditions was done and results presented below:

Table 4.3

Number of Middle School Students with Co-morbid Conditions Corresponding to Different Academic Problems with respect to Gender, Age, and Locale

Q. No.	Academic Problems	Total Students	Category					
			Gender		Age		Locale	
			Boys	Girls	(In years)		Urban	Rural
1					11-12	13-15		
What types of problems you are facing in your studies?	Reading (R)	209	114	95	115	94	102	107
	Writing (W)	165	94	71	96	69	76	89
	Calculation (C)	211	117	94	116	95	105	106
	Hard to Focus (HF)	108	48	60	61	47	47	61
	Easily Distracted (ED)	17	07	10	10	07	07	10
	Speaking	20	12	08	10	10	07	13

Problem (SP)								
Poor Eye- Sight (PE)	05	02	03	03	02	01	04	

Following are the observations from table 4.3 regarding the opinion of middle school students with co-morbid conditions w. r. t. the different types of academic problems they are facing in their studies.

The most prevalent academic issues are basic calculation and reading difficulties, affecting 94% and 93% of students respectively. Writing problems are also significant, impacting 74% of the students, followed by difficulty focusing (48%), speaking problems (9%), easy distraction (5%), and poor eyesight (2%).

It has been observed that the most frequently reported academic difficulties among students with co-morbid conditions were related to basic calculation and reading. Students expressed that they were not adequately taught how to read, nor were they given guidance in pronunciation. Several students mentioned that teachers would simply read aloud in class and leave, without ensuring that students understood the content or had opportunities to practice. A similar pattern was observed in the domain of mathematics. Students reported that their difficulties in calculation were never addressed with empathy or curiosity. Rather than being asked why they were unable to solve problems, they were often scolded or physically punished.

In relation to writing and speaking difficulties as well, students shared that no genuine efforts were made to understand the root causes of their struggles. Instead of receiving encouragement or instructional support, they were subjected to harsh criticism and labelled with derogatory terms such as “nalayak” (useless) or “incapable.” These findings reflect a critical lack of supportive pedagogical practices in certain schools, where emotional safety and constructive feedback are often missing for students facing learning challenges.

The present study identified substantial difficulties with attention, task sequencing, and focus among students with co-morbid conditions, particularly boys. These challenges are consistent with neuropsychiatric patterns such as ADHD, which Choudhary et al. (2018) found to be prevalent among children, especially those with low IQ and school non-attendance. Their findings suggest that symptoms like inattention and distractibility may have deeper neurological underpinnings,

reinforcing the need for interdisciplinary diagnosis and management in school-aged children, particularly in resource-limited settings.

The table 4.3 also details the distribution of different academic problems by gender, age, and locale. The comparison of the opinion of middle school students with co-morbid conditions corresponding to the different types of academic problems with respect to gender, age, and locale is shown in figure 4.40, 4.41, and 4.42.

Figure 4.40

Percentage of Middle School Boys and Girls with Co-morbid Conditions Corresponding to Different Academic Problems

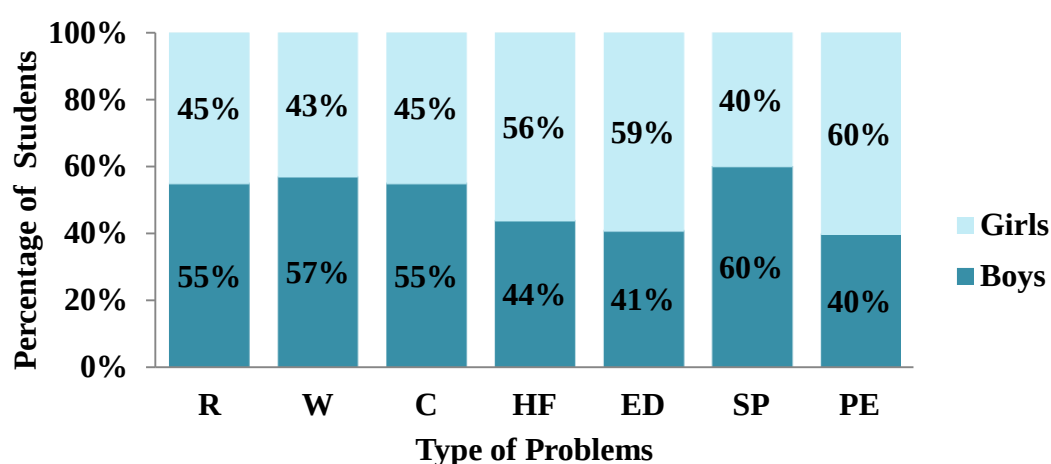


Figure 4.40 illustrates that boys exhibit higher rates of issues in basic calculation and reading (55%), writing (57%), focusing (44%), speaking (60%), distraction (41%), and poor eyesight (40%). In contrast, girls face more problems with poor eyesight (60%), distraction (59%), focusing (56%), reading and calculation (45%), writing (43%), and speaking (40%).

The gender-wise analysis of academic challenges among students with co-morbid conditions reveals not only differences in prevalence but also in the underlying nature of these difficulties. Boys demonstrated higher levels of difficulties in foundational academic skills such as reading, writing, speaking, and basic calculations - suggesting that their learning challenges may be more overt and performance-based, possibly drawing more attention from educators but not always resulting in appropriate support. In contrast, girls reported greater issues with attention and sensory aspects like distraction, focus, and poor eyesight. These more internalized difficulties may be less visibly disruptive and, as a result, often go unnoticed or under-addressed in

classroom settings. Such gendered patterns imply that support mechanisms need to be both inclusive and differentiated - not only acknowledging these variations but also ensuring that identification and intervention strategies are sensitive to how learning difficulties may present differently across genders. These insights are supported by Moll et al. (2014), who advocate for gender-aware educational strategies. They emphasize that recognizing learned gender differences in help-seeking and academic experiences can help tailor assessments and interventions to better support both boys and girls, based on their unique learning needs. This deeper understanding can inform teacher training, classroom management practices, and early screening processes for students with co-morbid conditions.

Figure 4.41

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Different Academic Problems

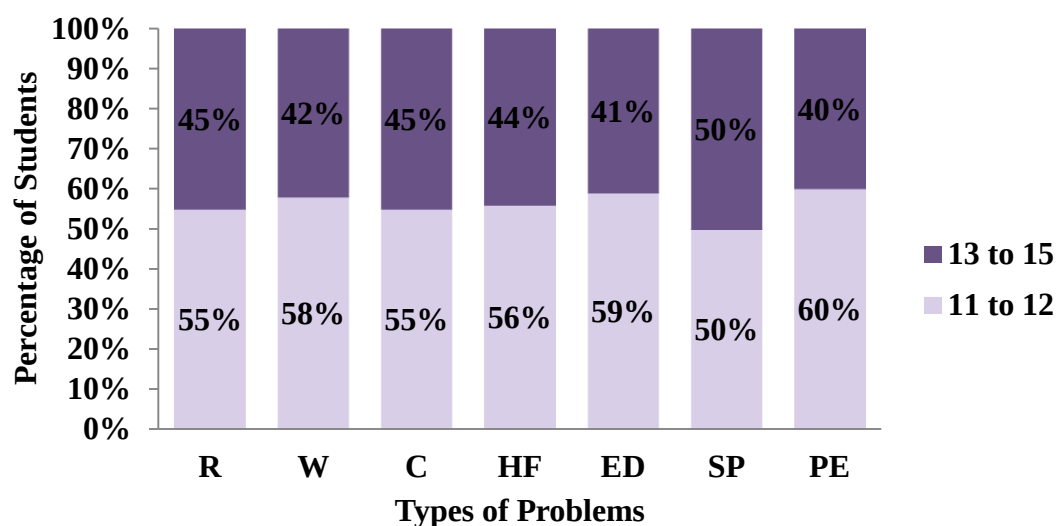


Figure 4.41 illustrates that the students aged 11-12 years experience higher rates of poor eyesight (60%), easy distraction (59%), writing difficulties (58%), trouble focusing (56%), and problems with basic calculation and reading (55%). In contrast, students aged 13-15 years exhibit greater issues with speaking (50%), reading and calculation (45%), focusing (44%), writing (42%), distraction (41%), and poor eyesight (40%).

The age-wise analysis of students with co-morbid conditions highlights developmental differences in the nature and intensity of academic challenges.

Younger students (11-12 years) were found to struggle more with attention-related issues such as distraction and difficulty focusing, along with high rates of writing problems and visual strain. These patterns may reflect their ongoing adjustment to academic demands, limited coping mechanisms, and possibly delayed foundational skill development. In contrast, older students (13-15 years) showed a shift toward difficulties in expressive areas such as speaking, along with persistent challenges in reading, calculation, and attention. This suggests that as academic expectations increase with age, unresolved early learning difficulties may evolve into more complex performance-related struggles. The comparison indicates that early identification and support are crucial, particularly for younger students, to prevent the accumulation and escalation of academic difficulties over time. Tailoring interventions to the developmental stage of students can play a critical role in addressing their specific academic and behavioral needs effectively

Figure 4.42

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to Different Academic Problems

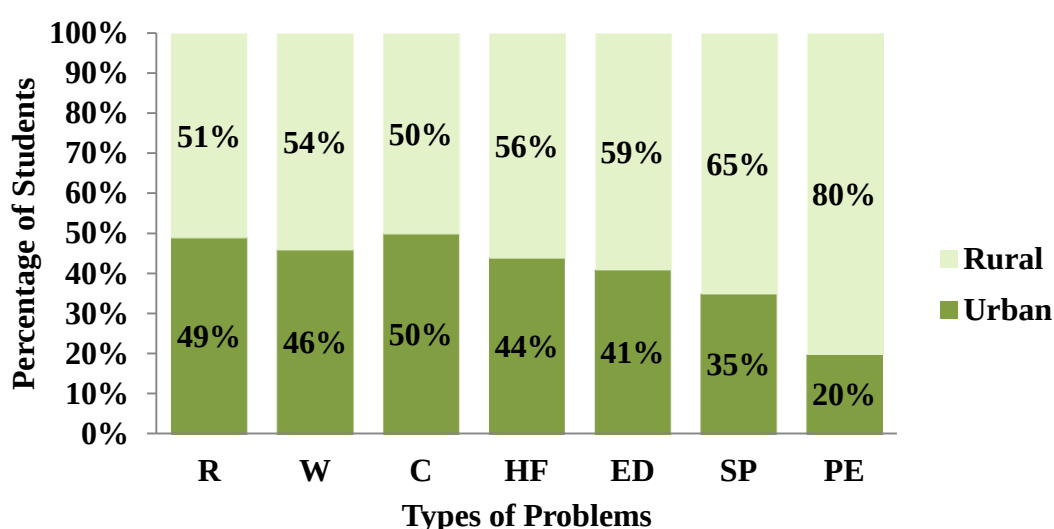


Figure 4.42 illustrates that the urban students experience higher rates of problems in calculation (50%), reading (49%), writing (46%), focusing (44%), distraction (41%), speaking (35%), and poor eyesight (20%). In contrast, rural students face more significant issues with poor eyesight (80%), speaking (65%), distraction (59%), focusing (56%), writing (54%), reading (51%), and calculation (50%).

The analysis based on locale reveals distinct patterns in the academic problems faced by students with co-morbid conditions. Urban students tend to report higher incidences of challenges related to core academic skills such as calculation, reading, and writing, along with moderate issues in attention and speaking. This may reflect the relatively higher academic demands and structured environments often found in urban schools. Conversely, rural students experience more pronounced problems with sensory issues like poor eyesight, as well as greater difficulties in speaking, distraction, and focusing. These challenges might be influenced by limited access to healthcare and educational resources, which can exacerbate both learning and attention-related problems. The contrasting profiles highlight the importance of contextualizing interventions, ensuring that urban students receive support tailored towards academic skill development, while rural students benefit from comprehensive strategies that address both sensory impairments and cognitive-behavioral aspects of learning difficulties.

Table 4.4

Number of Middle School Students with Co-morbid Conditions Corresponding to Different Options of Academic Problems with respect to Gender, Age, and Locale

Q. No. 2	Options of Academic Problem	Total Students	Category					
			Gender		Age (In years)		Locale	
			Boys	Girls	11-12	13-15	Urban	Rural
Out of following academic problems, tick the problem(s) you are facing.	Problem in Reading (O1)	206	111	95	114	92	100	106
	Spellings errors (O2)	209	115	94	117	92	102	107
	Writing problems (O3)	162	92	70	97	65	73	89
	Doing Mathematical calculations (O4)	211	117	94	116	95	107	104
	Self-Organizational problems (O5)	03	02	01	02	01	03	0
	Problem in Understanding Social cues (O6)	03	01	02	02	01	02	01

Auditory Processing Problem (O7)	02	01	01	01	01	01	01
Visual Processing Problem (O8)	07	05	02	05	02	03	04
Mispronounce words while speaking (O9)	31	18	13	18	13	07	24
Difficulty in remaining focused (O10)	124	63	61	66	58	61	60
Hard to focus and follow verbal instructions (O11)	19	10	09	06	13	13	06
Difficulties doing things in sequential order (O12)	15	10	05	06	09	07	08
Difficulties understanding what has been taught (O13)	138	73	65	81	57	67	71
Difficulties taking notes during classes (O14)	133	71	62	76	57	65	68
Difficulty copying what is written on the board (O15)	105	56	49	62	43	50	55
Difficulties expressing your thoughts/ideas while writing (O16)	39	21	18	20	19	21	18
Difficulties in controlling thoughts (O17)	17	08	09	09	08	09	08
Stuck in Repetitions (O18)	1	01	0	01	0	01	01

The data presented in Table 4.4 highlights the multifaceted nature of academic difficulties experienced by students with co-morbid conditions. While basic

mathematical calculation difficulties (94%) and spelling errors (93%) emerge as the most prevalent issues, these core academic skill deficits are closely followed by substantial challenges in reading (92%) and writing (73%). This pattern indicates that foundational literacy and numeracy skills are significant barriers for this population, potentially impeding their overall academic progress.

Moreover, a considerable proportion of students struggle with higher-order academic tasks such as understanding taught material (62%), note-taking (59%), and maintaining focus during lessons (55%), reflecting broader cognitive and attentional deficits that compound their learning difficulties. Challenges with copying from the board (47%) further underscore possible visual processing or working memory limitations.

Less frequently reported issues, including difficulty in expressing ideas in writing (17%) and mispronunciation while speaking (14%), suggest that expressive language deficits also affect a subset of these students. Even lower prevalence problems - such as challenges with following verbal instructions, controlling thoughts, task sequencing, and sensory processing - though reported by fewer students, indicate the complex, often overlapping nature of co-morbid learning disorders.

This comprehensive profile suggests that interventions must extend beyond remediation of isolated academic skills to encompass cognitive, attentional, and executive functioning support. Furthermore, the broad spectrum of reported difficulties underscores the necessity for individualized assessment and tailored educational strategies that address both foundational and higher-level academic challenges within this vulnerable student group. The academic problems reported in Table 4.4 may be symptomatic of underlying emotional or psychiatric disorders rather than purely cognitive limitations. This is consistent with findings from Shafi et al. (2023), who reported a high prevalence of Major Depressive Disorder (13.7%), Obsessive-Compulsive Disorder (4.0%), and Generalized Anxiety Disorder (2.5%) among school-going adolescents in Jammu & Kashmir. These psychiatric conditions often manifest through concentration issues, memory lapses, and task avoidance, all of which mirror the learning struggles identified in this study. The study further emphasized the urgent need for psycho-educational interventions for both teachers and parents to recognize such manifestations early - a gap clearly reflected in the present findings where no structured support mechanisms were reported by students despite these challenges.

The table 4.4 also presents a breakdown of these problems by gender, age, and locale. The comparison in the opinion of middle school students with co-morbid conditions corresponding to the different options of academic problems with respect to gender, age, and locale is shown in figure 4.43, 4.44, and 4.45.

Figure 4.43

Percentage of Middle School Boys and Girls with Co-morbid Conditions Corresponding to Different Academic Problems

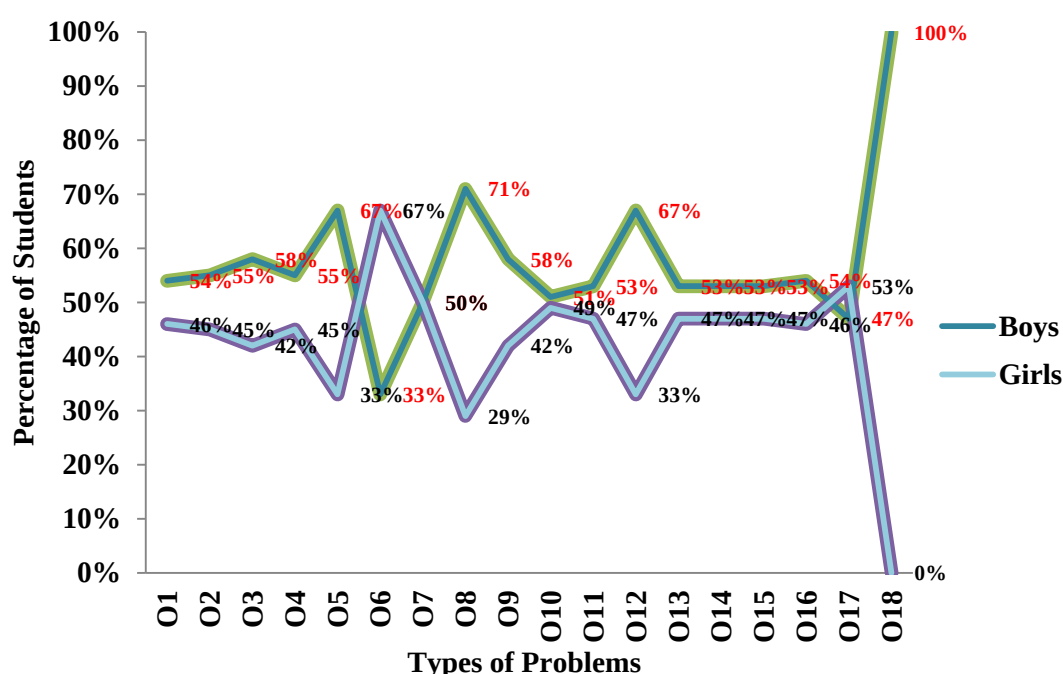


Figure 4.43 illustrates that the boys exhibited more problems in several areas i.e., 54% had reading difficulties compared to 46% of girls, 55% had spelling errors versus 45% of girls, 58% struggled with writing compared to 42% of girls, and 55% faced issues with mathematical calculations, while girls were at 45%. Boys also showed a higher prevalence in self-organizational skills (67% vs. 33%), visual processing (71% vs. 29%), and mispronunciation of words while speaking (58% vs. 42%) as compared to girls.

In contrast, girls faced more problems in understanding social cues (67% vs. 33%) as compared to boys. Both boys and girls were equally affected by auditory processing problems (50% each). Boys had slightly more difficulty in remaining focused (51% vs. 49%), following verbal instructions (53% vs. 47%), and performing tasks in sequential order (67% vs. 33%). Understanding what has been taught, taking notes,

and copying from the board was challenging for 53% of boys and 47% of girls. Expressing thoughts in writing was difficult for 54% of boys and 46% of girls. Controlling thoughts was a greater issue for girls (53% vs. 47% of boys). Notably, 100% of boys reported getting stuck in repetitions.

The gender differences observed in the academic challenges of students with co-morbid conditions reflect variations in the types of difficulties commonly reported by boys and girls. Boys demonstrate higher rates of issues related to basic academic skills and cognitive functions such as self-organization and visual processing, which may contribute to their increased struggles in reading, writing, and calculation. Girls, however, report more difficulties with social cognition and controlling thoughts, indicating challenges that are more related to executive functioning and socio-emotional processing. These distinctions emphasize that co-morbid conditions manifest differently across genders, reinforcing the need for differentiated assessment and intervention approaches. The similarities in auditory processing problems across genders highlight areas where support is universally required. Recognizing these gender-specific patterns helps in developing targeted educational strategies that address the unique needs of boys and girls effectively (Moll et al., 2014).

Figure 4.44

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Different Academic Problems

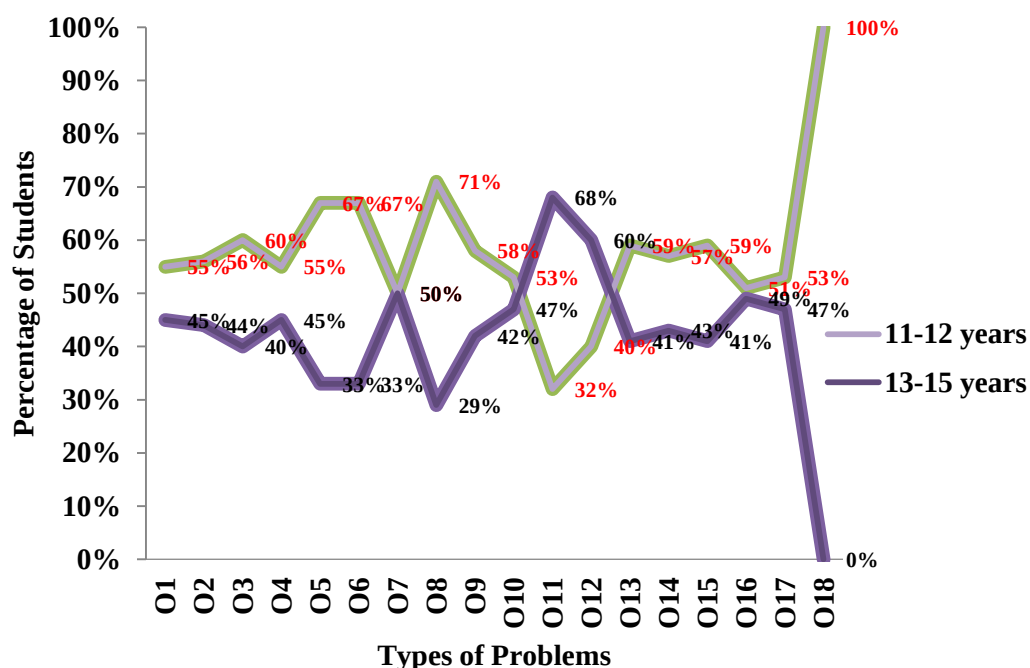


Figure 4.44 illustrates that among students aged 11-12 years, 55% showed problems in reading, compared to 45% in the 13-15 years of age group. Similarly, 56% of the younger group had spelling errors, against 44% of the older group. Writing difficulties affected 60% of the 11-12 years of age group and 40% of the 13-15 years of age group. Issues with mathematical calculations were present in 55% of the 11-12 years of age group and 45% of the 13-15 years of age groups.

Self-organizational skills and understanding social cues were challenging for 67% of the students aged 11-12 years and 33% of the students aged 13-15 years. Auditory processing problems were equally distributed at 50% for both age groups. Visual processing issues were more prevalent in the 11-12 years of age groups at 71%, compared to 29% in the 13-15 years of age groups. Mispronunciation of words affected 58% of the students aged 11-12 years and 42% of the students aged 13-15 years.

Focusing difficulties were experienced by 53% of the 11-12 years of age group and 47% of the 13-15 years of age group. However, hard-to-focus and follow verbal instructions were more problematic for the older group at 68%, compared to 32% for the younger group. Sequential order tasks were difficult for 60% of the 13-15 years of age groups, against 40% of the 11-12 years of age group. Understanding lessons and copying from the board were challenging for 59% of the students aged 11-12 years and 41% of the students aged 13-15 years.

Taking notes during classes was an issue for 57% of the 11-12 years of age group and 43% of the 13-15 years of age group. Expressing thoughts in writing was difficult for 51% of the younger group and 49% of the older group. Controlling thoughts was a problem for 53% of the 11-12 years of age group and 47% of the 13-15 years of age group. Notably, 100% of students aged 11-12 experienced getting stuck in repetitions. The analysis of age-wise differences in academic and cognitive challenges among students with co-morbid conditions reveals distinct developmental patterns. Younger students (11-12 years) exhibit more difficulties in foundational skills such as reading, spelling, writing, and mathematical calculations, as well as in self-organization and visual processing. These challenges indicate that younger students face more pronounced issues with core academic abilities and certain cognitive functions. Conversely, older students (13-15 years) experience greater challenges with tasks requiring higher-order cognitive processes, including focusing, following verbal instructions, and performing tasks sequentially. Both age groups report similar levels

of difficulty in auditory processing, suggesting that this issue spans across developmental stages. The consistent presence of repetitive behaviors in the younger group further highlights specific behavioral patterns that may influence learning. These findings underscore the necessity of age-appropriate assessment and intervention strategies that address both foundational skills in younger students and executive functioning in older students with co-morbid conditions.

Figure 4.45

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to Different Academic Problems

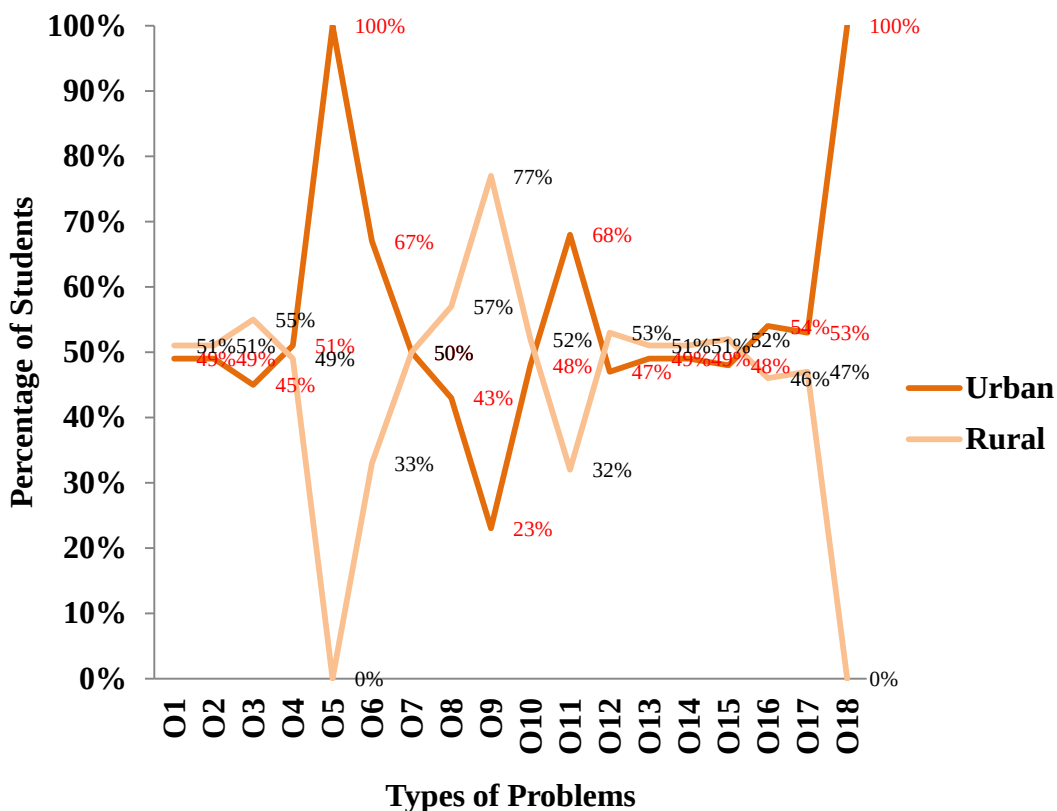


Figure 4.45 illustrates that the reading and spelling errors affected 49% of urban students and 51% of rural students. Writing difficulties were reported by 45% of urban students compared to 55% of rural students. Problems with mathematical calculations were faced by 51% of urban students and 49% of rural students. All urban students (100%) reported issues with self-organizational skills and getting stuck in repetitions.

Understanding social cues was more challenging for 67% of urban students, whereas 33% of rural students faced this issue. Auditory processing problems were equally prevalent in both urban and rural students, affecting 50% in each group. Visual processing problems were reported by 43% of students residing in urban and 57% of students residing in rural regions. Mispronunciation of words while speaking affected 23% of students residing urban and 77% of students residing in rural regions.

Remaining focused was difficult for 48% of students residing in urban and 52% of students residing in rural areas. Urban students found it harder to focus and follow verbal instructions at 68%, compared to 32% of rural students. Performing tasks in sequential order was problematic for 47% of students residing in urban and 53% of students residing in rural areas. Understanding what has been taught and taking notes during classes were challenging for 49% of students residing in urban and 51% of students residing in rural areas. Copying from the board was difficult for 48% of students residing in urban and 52% of students residing in rural areas. Expressing thoughts in writing was challenging for 54% of students residing in urban and 46% of students residing in rural areas, while controlling thoughts was difficult for 53% of students residing in urban and 47% of students residing in rural areas.

The locale-wise analysis highlights meaningful differences in the nature and intensity of academic problems among students with co-morbid conditions. Rural students tend to face more challenges in basic academic skills such as writing, reading, and spelling, along with difficulties in visual processing and mispronunciation - indicating possible gaps in early intervention and access to support resources. In contrast, urban students demonstrate comparatively higher issues related to executive functioning, such as self-organization, following verbal instructions, and expressing thoughts in writing, which may stem from the fast-paced academic environment and performance expectations. The equal prevalence of auditory processing issues across both groups suggests shared neurological challenges, irrespective of locale. These patterns emphasize the influence of contextual and environmental factors on how co-morbid conditions impact learning and underscore the importance of region-specific educational planning that takes into account both infrastructural limitations and cognitive needs. These locale-based disparities echo Mehra et al. (2022)'s conclusion that rural students face the greatest challenges due to limited reach of interventions, lack of service standardization, and poor integration into both school and community systems.

Table 4.5

Number of Middle School Students with Co-morbid Conditions Corresponding to Self-Identification Stages of Academic Problems with respect to Gender, Age, and Locale

Q. No.	Self-	Total	Category					
	Identification	Students	Gender		Age		Locale	
	3	Stage	(In years)					
			Boys	Girls	11-12	13-15	Urban	Rural
How you came to know about your academic problems?	Childhood	106	59	47	59	47	53	53
	1 st standard	05	04	01	02	03	02	03
	2 nd standard	01	01	0	01	0	0	100
	3 rd standard	12	06	06	09	03	09	03
	4 th standard	18	12	06	14	04	09	09
	5 th standard	29	16	13	16	13	16	13
	6 th standard	36	14	22	20	16	14	22
	7 th standard	11	05	06	01	10	05	06
	8 th standard	6	04	02	0	06	03	03

In table 4.5, middle school students with co-morbid conditions reflect on when they first noticed their issues. Nearly half of them, 47%, believed they were born with the problem. However, a significant portion, 2%, pinpointed its onset as early as 1st grade. For others, the problem emerged gradually i.e., 0.44% experienced it in 2nd grade, 5% in 3rd grade, and 8% in 4th grade. By 5th grade, 13% recognized the issue, and by 6th grade, it was noticeable for 16% of students. Even in later grades, the problem persisted for some i.e., for 5% in 7th grade and only for 3% in 8th grade.

The responses reveal that a considerable number of students (47%) believed their academic difficulties were present since birth, suggesting either a lack of early diagnosis or limited awareness about their developmental milestones. This perception could stem from the normalization of their struggles within their environment, where neither parents nor teachers actively identified or addressed the issues. For the rest of the students, the gradual recognition of academic problems across different grades indicates a delayed awareness, possibly triggered by increasing academic demands or comparison with peers. However, the absence of a consistent support system that helps children recognize and articulate their difficulties earlier suggests that identification is reactive rather than proactive. The pattern also highlights a gap in

systematic screening or teacher observation in early grades, which could have facilitated earlier interventions. Thus, while students eventually became aware of their problems, the delayed recognition reflects a systemic oversight in recognizing co-morbid academic issues at the right developmental stages these insights resonate with Nebhinani and Jain (2019), who noted that developmental transitions during school years heighten psychological vulnerability, yet most issues remain undiagnosed due to limited awareness and prevailing stigma, reinforcing the importance of early school-based identification strategies. This delayed self-identification mirrors the structural gaps identified by Mehra et al. (2022), who found that mental health programs across India lack mechanisms for early identification within schools, especially in non-urban areas.

The comparison of the opinion of middle school students with co-morbid conditions corresponding to the self-identification stages of academic problems with respect to gender, age, and locale is shown in figure 4.46, 4.47, and 4.48.

Figure 4.46

Percentage of Middle School Boys and Girls with Co-morbid Conditions Corresponding to Self-Identification Stages of Academic Problems

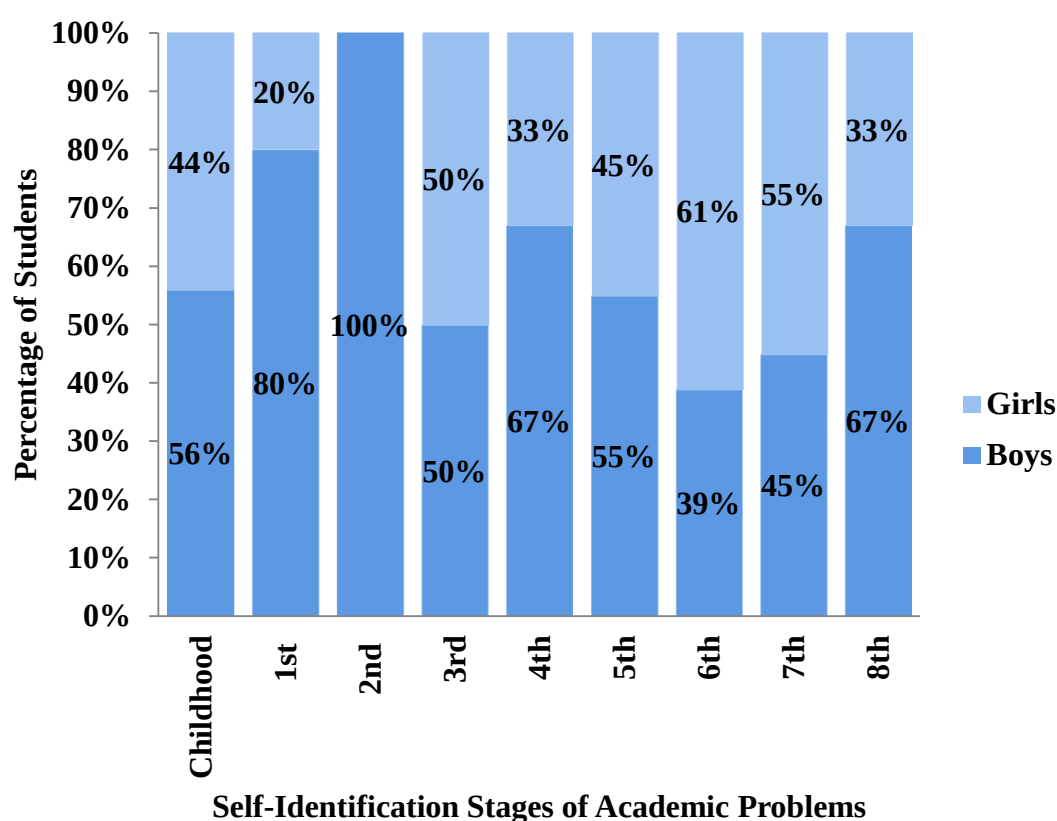


Figure 4.46 reveals that a majority of boys (56%) and a minority of girls (44%) experienced onset during childhood. Additionally, a significant proportion of boys (80%) and a smaller portion of girls (20%) encountered issues starting from 1st grade. Interestingly, 100% of boys reported onset from 2nd grade, while the onset for both boys and girls were evenly split at 50% from 3rd grade. Subsequently, the proportion of boys experiencing onset gradually decreased, with 67% in 4th grade, 55% in 5th grade, and 39% in 6th grade, while the proportion of girls steadily increased from 33% in the 4th grade and reaching to 61% in 6th grade. The proportion of boys and girls experiencing onset again reversed from 7th to 8th grade. By 7th grade, the onset for boys was at 45% and for girls at 55%. Finally, in 8th grade, onset percentages were 67% for boys and 33% for girls. These findings underscore the gender-specific nuances in the emergence of problems.

The gender-wise data reflects important patterns in the onset of academic difficulties among co-morbid students. A higher percentage of boys reported experiencing challenges from early childhood or as early as grade 1, which may indicate that boys' symptoms tend to be more externally visible or disruptive, making them relatively more likely to be noticed earlier. However, this early identification did not necessarily translate into early intervention, as several boys continued to struggle throughout later grades. In contrast, the increasing identification of problems among girls in upper primary classes may suggest that their difficulties remained unnoticed or were internalized for a longer period. This pattern is consistent with expert observations that academic challenges in girls, particularly in co-morbid conditions, are often overlooked due to quieter behavioral expressions. The shift in onset trends from grade 4 onwards, where girls begin to outnumber boys in reporting difficulties, points to the role of increased academic complexity exposing previously hidden struggles. These trends underline the importance of gender-sensitive observation and early screening mechanisms to ensure timely identification and support.

Figure 4.47

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Self-Identification Stages of Academic Problems

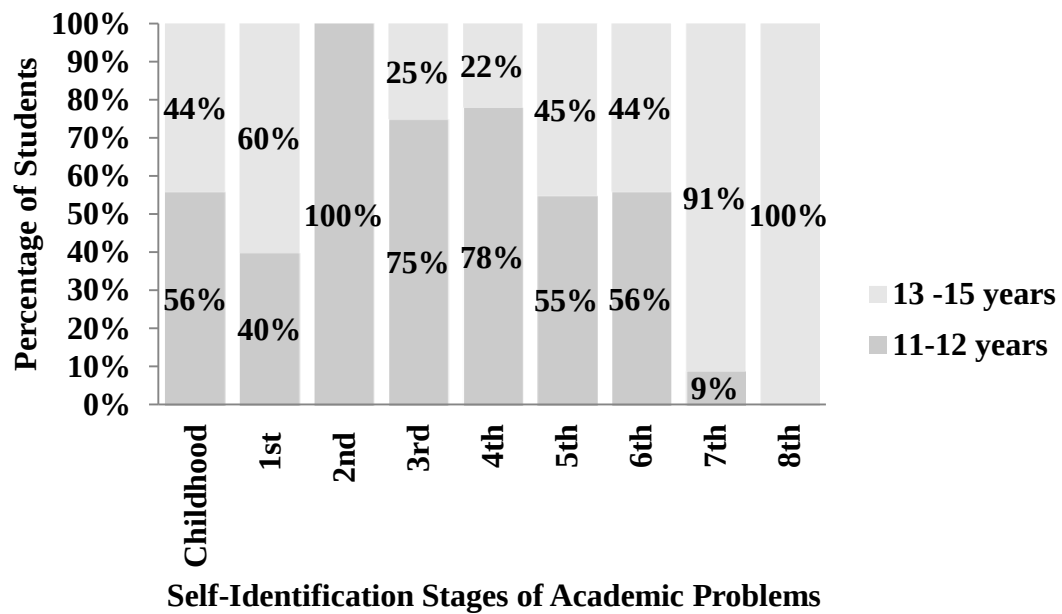


Figure 4.47 illustrates that within the age group of 11-12 years, 56% of students experienced onset from childhood, while 44% within the age group of 13-15 years reported the same. Notably, 40% of students aged 11-12 years and 60% of students aged 13-15 years encountered onset during 1st grade. Surprisingly, all students aged 11-12 years experienced onsets from 2nd grade, while 75% of them and 25% of students aged 13-15 years began experiencing issues from 3rd grade. The trend continued with 78% of students aged 11-12 years and 22% of students aged 13-15 years reporting onset from 4th grade. Similarly, 55% of students aged 11-12 years and 45% of students aged 13-15 years experienced onset from 5th grade. Moreover, 56% of students aged 11-12 years and 44% of students aged 13-15 years encountered onset during 6th grade. However, the disparity between the age groups became pronounced in 7th grade, with 9% of students aged 11-12 years and 91% of students aged 13-15 years reporting onset. Lastly, 100% of students aged 13-15 experienced onsets from 8th grade. These findings highlight variations in problem onset across different age groups.

The findings reveal that students aged 11–12 years encountered academic difficulties much earlier, with a larger proportion reporting onset in childhood and early primary grades. This aligns with patterns typically associated with neuro-developmental

disorders, where early symptoms often go unnoticed or misunderstood within the schooling environment.

In contrast, the older age group (13 - 15 years) showed a delayed emergence of problems, with a higher onset frequency observed from grade 6 onward. This trend may reflect the influence of increasing academic demands, emotional transitions, and behavioral challenges that begin to surface more prominently during early adolescence. The difference in onset patterns between the two age groups reinforces the age-linked trajectory of co-morbid conditions, as previously indicated in broader study results.

Figure 4.48

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to Self-Identification Stages of Academic Problems

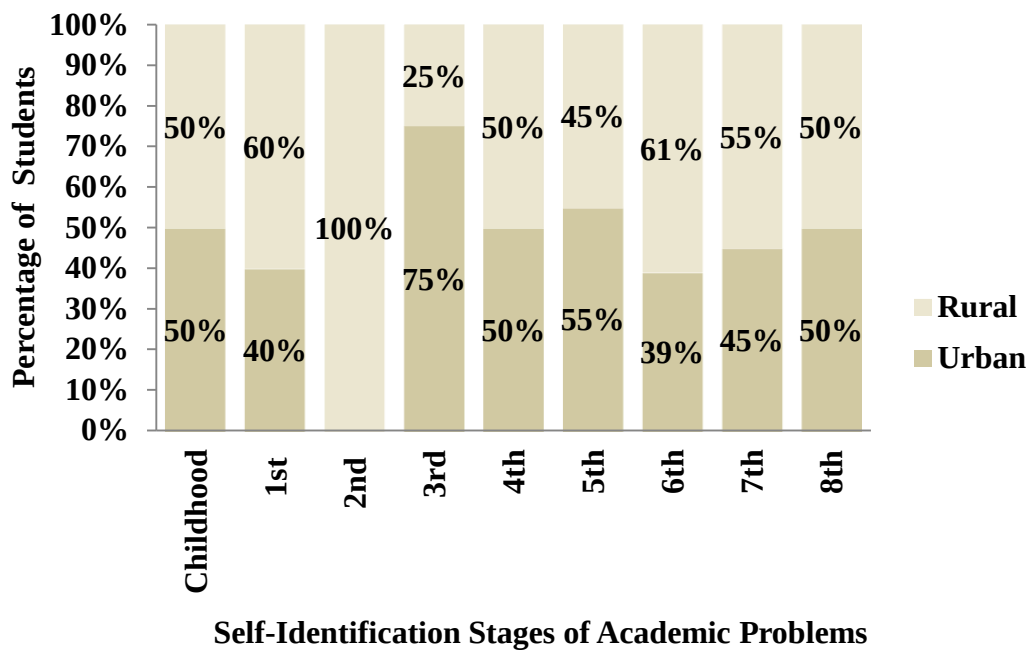


Figure 4.48 shows that 50% of urban & rural students experienced onset of problem from their childhood; 40% of urban & 60% of rural students experienced onset from class 1st; 100% of rural students experienced the onset from class 2nd; 75% of urban & 25% of rural students experienced onset from class 3rd; 50% of urban & rural students experienced onset from class 4th; 55% of urban & 45% of rural students experienced onset from class 5th; 39% of urban & 61% of rural students experienced onset from class 6th; 45% of urban & 55% of rural students experienced onset from class 7th; and 50% of urban & rural students experienced onset from class 8th.

Locale-wise analysis reveals nuanced variations in the timing of onset among urban and rural students. While both groups showed equal identification of problems from childhood, rural students reported earlier and more consistent emergence of academic difficulties across the primary grades. This could reflect the compounded effect of limited early intervention services and lower awareness levels in rural educational setups, leading to late recognition despite early manifestations. The lack of validated diagnostic tools in Indian context further delays identification, especially in rural and underserved regions (Misquitta and Panshikar, 2023).

Urban students, on the other hand, exhibited a more scattered pattern of onset, which may stem from varying levels of academic pressure and early exposure to structured learning environments. The fluctuating onset across grades in urban students could also be attributed to greater access to screening or academic feedback mechanisms, which may help identify issues at different points of schooling.

These findings align with the broader conclusion that neuro-developmental concerns tend to emerge more prominently in rural populations, whereas urban students may experience more behaviorally rooted challenges, often surfacing at later stages in schooling.

Table 4.6

Number of Middle School Students with Co-morbid Conditions Corresponding to Preferred Individuals for Sharing Academic Problems with respect to Gender, Age, and Locale

Q. No. 4	Preferred Individual	Total Students	Category					
			Gender		Age		Locale	
			Boys	Girls	11-12	13-15	Urban	Rural
With whom you generally talk about your academic problems?	No one	168	88	80	91	77	82	86
	Mother	20	12	08	10	10	09	11
	Father	4	03	01	03	01	03	01
	Teacher	1	0	01	01	0	0	01
	Friends	26	16	10	16	10	15	11
	Grandparents	1	01	0	0	01	0	01
	Uncle	1	0	01	01	0	0	01
	Teacher & Mother	1	0	01	01	0	0	01
	Parents & Friends	2	01	01	02	0	1	01

Table 4.6 offers insights into how students with co-morbid conditions share their academic problems with others. The majority, 75% of students, choose not to share their academic problems with anyone. Among those who do, 9% confide in their mothers, while only 2% turn to their fathers for support. A small percentage, 4%, shares their academic problems with teachers, and 12% confide in friends. Additionally, 0.44% shares their academic issues with grandparents, uncles, mothers, and teachers collectively, while only 1% seeks support from both friends and parents. The data clearly indicates a significant reluctance among students with co-morbid conditions to disclose their academic difficulties, as evidenced by the majority (75%) choosing not to share these issues with anyone. This tendency could reflect stigma, fear of judgment, or lack of trust in the available support system, which aligns with broader research highlighting that children with academic challenges often hesitate to seek help due to social and emotional barriers.

Among those who do open up, mothers appear to be the primary confidants, suggesting that maternal support plays a crucial role in the emotional well-being and coping mechanisms of affected students. The relatively low percentages of students confiding in fathers, teachers, or friends underscore potential gaps in awareness, communication, or accessibility of support within both family and school environments.

This pattern emphasizes the urgent need for schools and families to create more open, supportive atmospheres where students feel safe to express their academic struggles. It also reflects the importance of targeted interventions aimed at strengthening communication channels and trust between students and their immediate social circles, thereby enhancing early identification and assistance for academic difficulties. The table 4.6 also provides category-wise (i.e., gender, age, and locale) distributions, which are further clarified through figure 4.49, 4.50, and 4.51aiding in better understanding.

Figure 4.49

Percentage of Middle School Boys and Girls with Co-morbid Conditions Corresponding to Preferred Individuals for Sharing Different Academic Problems

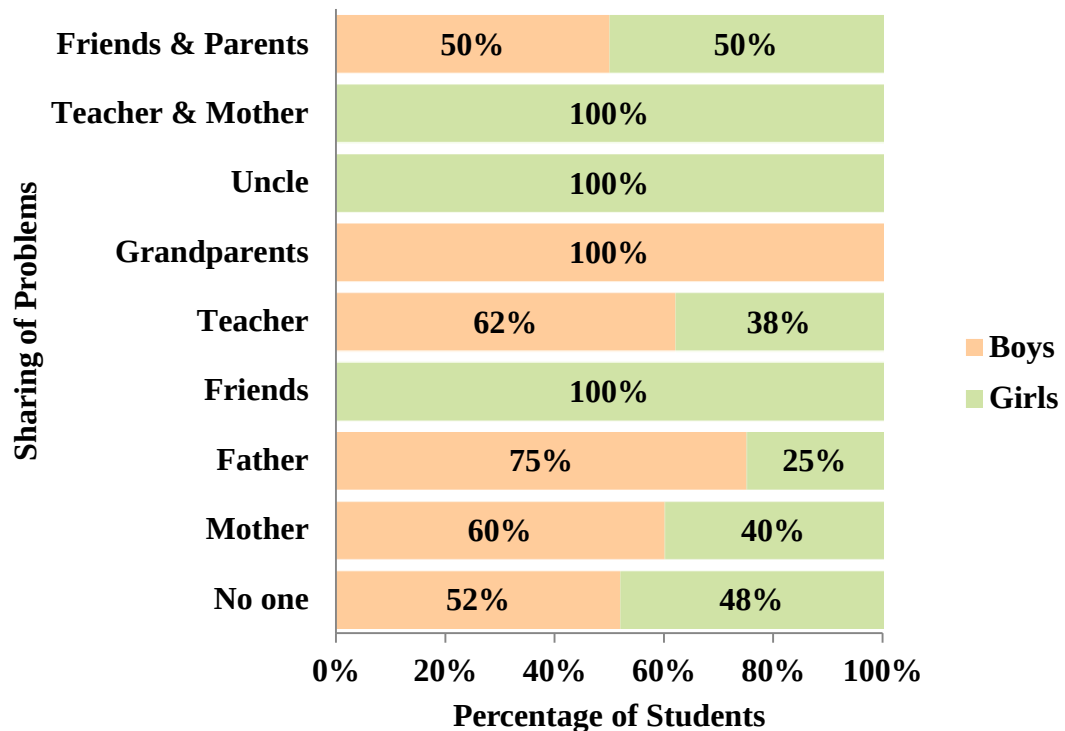


Figure 4.49 illustrates the gender-wise distribution of how students share their problems with others. It shows that 52% of boys and 48% of girls chose not to share their problems with anyone. Among those who did share, 60% of boys and 40% of girls confided in their mothers, while 75% of boys and 25% of girls turned to their fathers. Interestingly, all boys (100%) who shared with grandparents did so exclusively, while all girls (100%) who shared with friends, uncles, teachers, or both parents and teachers, also did so exclusively. Furthermore, 62% of boys and 38% of girls shared their problems with teachers, and an equal distribution of 50% for both boys and girls shared their issues with both friends and parents. These findings highlight distinct gender-based differences in how students choose to share their problems. Moll et al. (2014) further highlight the importance of creating environments where students, especially boys, feel safe to disclose challenges. They note that boys often internalize academic struggles differently and may be less likely to seek help without targeted encouragement and gender-sensitive support mechanisms.

The gender-wise distribution reveals notable differences in how students choose to share their academic problems. Boys tend to rely more heavily on parental figures,

particularly mothers and fathers, indicating a stronger dependence on family support systems. In contrast, girls demonstrate a broader range of confidants, including friends, teachers, and extended family members, reflecting a more diverse social support network. These differences may stem from socio cultural norms that influence communication patterns and comfort levels in expressing personal difficulties. Understanding these gender-specific tendencies is crucial for educators and counselors to tailor interventions and support mechanisms effectively, ensuring that students receive help in a manner that aligns with their preferred communication channels.

Figure 4.50

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Preferred Individuals for Sharing Different Academic Problems

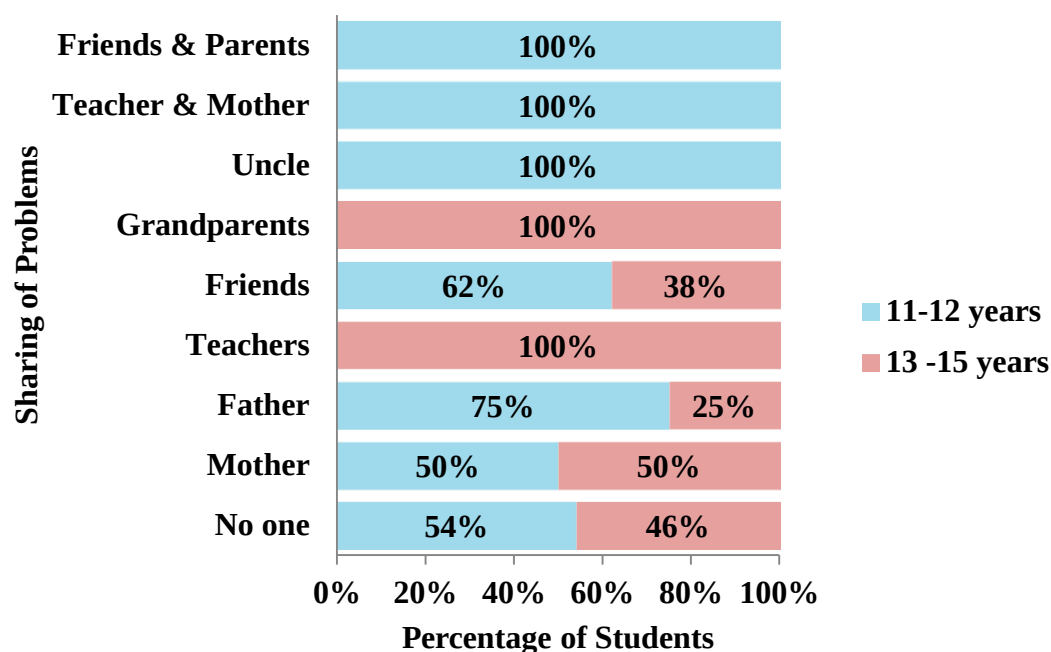


Figure 4.50 illustrates the age-wise distribution of how students share their problems with others. It shows that 54% of students aged 11-12 years and 46% of students aged 13-15 years chose not to share their problems with anyone. Among those who did share, an equal distribution of 50% from both age groups confided in their mothers. However, 75% of students aged 11-12 years and 25% of students aged 13-15 years shared their problems with their fathers. All students aged 11-12 years who shared their issues did so exclusively with uncles, teachers, mothers, friends, and parents. In

contrast, all students aged 13-15 years who shared their problems did so exclusively with teachers and grandparents. Additionally, 62% of students aged 11-12 years and 38% of students aged 13-15 years confided in their friends. These findings highlight the differences in problem-sharing behavior between the two age groups.

The analysis reveals that younger students (11-12 years) tend to rely more on familial and diverse support systems, such as fathers, uncles, and friends, indicating a broader but perhaps less selective network for sharing academic difficulties. This may reflect their early developmental stage where family involvement remains central. In contrast, older students (13-15 years) show a preference for confiding primarily in teachers and grandparents, suggesting a shift towards seeking guidance from authoritative figures outside the immediate family as they navigate more complex academic and social challenges. The tendency of older students to confide less in fathers and friends compared to their younger counterparts may indicate growing independence or changing social dynamics during adolescence. These distinctions highlight the need for age-appropriate counseling strategies that consider the evolving sources of emotional and academic support.

Figure 4.51

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to Preferred Individuals for Sharing Different Academic Problems

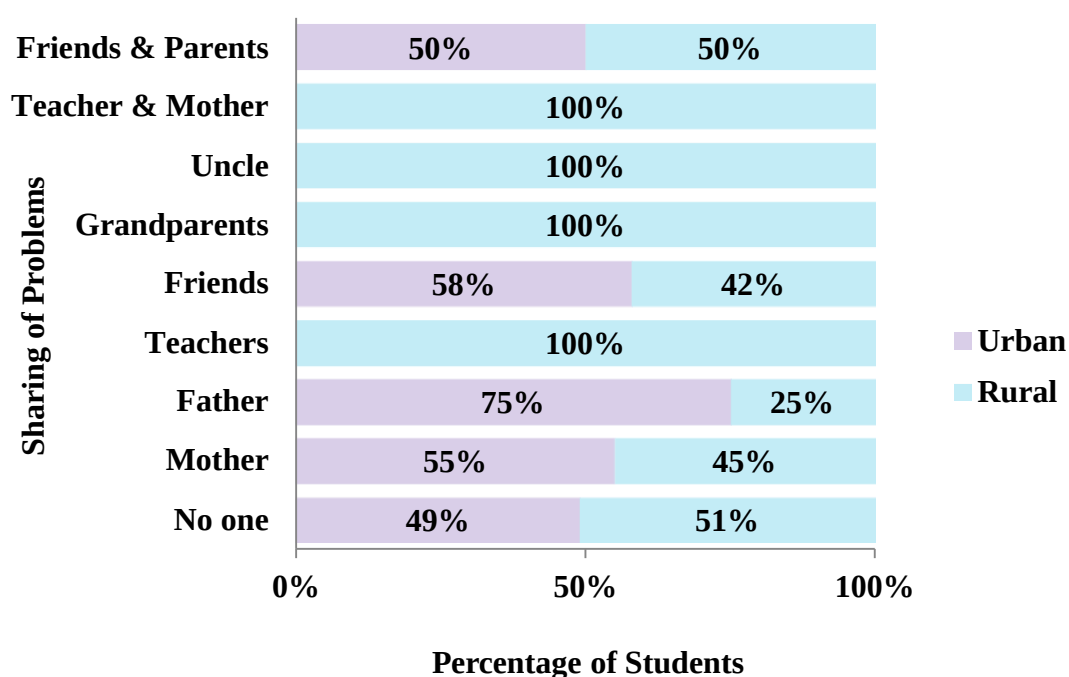


Figure 4.51 illustrates the locale-wise distribution of how students share their problems with others. It reveals that 49% of students residing in urban and 51% of students residing in rural areas chose not to share their problems with anyone. Among those who did share, 55% of students residing in urban and 45% of students residing in rural areas confided in their mothers, while 75% of students residing in urban and 25% of students residing in rural areas turned to their fathers. Additionally, 58% of students residing in urban and 42% of students residing in rural areas shared their problems with friends. An equal proportion of 50% of students residing in both urban and rural areas shared their problems with both friends and parents. Interestingly, 100% of students with co-morbid conditions residing in rural areas shared their problems with teachers, grandparents, uncles, and both teachers and mothers. These findings highlight the differences in problem-sharing behavior between urban and rural students.

The findings indicate notable differences in how urban and rural students with co-morbid conditions approach sharing their academic problems. Urban students appear more inclined to seek support from parents, particularly fathers, and peers, suggesting greater accessibility or comfort in discussing difficulties within these relationships. Conversely, rural students demonstrate a stronger reliance on extended family members and educators, reflecting potentially closer-knit community ties or differing cultural norms around support networks. The exclusive sharing reported by rural students with teachers, grandparents, and uncles underscores the vital role of these figures in rural settings, possibly due to limited peer or parental engagement. These patterns suggest that interventions addressing academic challenges should be context-sensitive, recognizing the distinct social structures influencing students' help-seeking behaviors in urban versus rural locales.

Table 4.7

Number of Middle School Students with Co-morbid Conditions Corresponding to Challenges of Academic Problems with respect to Gender, Age, and Locale

Q. No.	Challenge	Total Students	Category					
			Gender		Age (In years)		Locale	
			Boys	Girls	11-12	13-15	Urban	Rural
5	How these	214	118	96	120	94	108	106
	Low Marks (LM)	212	114	98	118	94	106	106
	Low Confidence							

problems	(LC)							
interfere	Afraid of	114	65	49	59	55	52	62
with your	Teachers							
studies?	(AT)							
	Get	153	79	74	87	66	73	80
	Scolded							
	(GS)							
	Bunk	89	55	34	45	44	48	41
	Classes							
	(BC)							
	Hard to	118	72	46	66	52	59	59
	Grasp							
	(HG)							
	Hard to	106	64	42	61	45	56	50
	Focus							
	(HF)							
	No	6	06	-	05	01	02	04
	Participation							
	(NP)							

Table 4.7 highlights 96% of these students received low marks due to these issues, while 95% experienced low confidence. Additionally, 51% were afraid of their teachers, 68% frequently got scolded, and 40% often bunked classes. Furthermore, 53% of the students struggled to grasp lessons, 47% had difficulties focusing, and only 3% participated in class activities.

The data reveal a profound impact of academic problems on students' overall educational experience. A significant majority of students with co-morbid conditions suffer from low academic performance and diminished self-confidence, highlighting the deep-rooted challenges these issues pose. Jaisoorya et al. (2015)'s findings support the need for mental health screening in schools, particularly for internalized disorders that may go unnoticed but severely impact academic and emotional functioning. The considerable proportion reporting fear of teachers and frequent reprimands suggests a strained teacher-student relationship, which may further hinder learning and motivation. Additionally, the tendency of some students to avoid classes points to disengagement and potential absenteeism, exacerbating their academic difficulties. The low participation in class activities reflects limited active involvement, which is crucial for effective learning. Collectively, these findings emphasize the multifaceted ways in which academic problems disrupt not only cognitive outcomes but also affective and behavioral domains, underscoring the need for comprehensive support mechanisms. The emotional impact of academic problems reported in this study - low

confidence, fear of teachers, and classroom avoidance - reflects deeper psychological vulnerabilities. Hanna et al. (2024) found that among adolescents who attempted suicide, 54% had psychiatric comorbidities, including adjustment and depressive disorders, and the majority exhibited low resilience. These findings underscore the importance of early academic and psychological interventions in school settings to prevent emotional distress from escalating into severe psychiatric outcomes.

The table 4.7 also provides a detailed distribution of the challenges of academic problems across different categories (i.e., gender, age, and locale).

The comparison of the opinion of middle school students with co-morbid conditions corresponding to the challenges of academic problems with respect to gender, age, and locale is shown in figure 4.52, 4.53, and 4.54.

Figure 4.52

Percentage of Middle School Boys and Girls with Co-morbid Conditions Corresponding to Different Challenges of Academic Problems

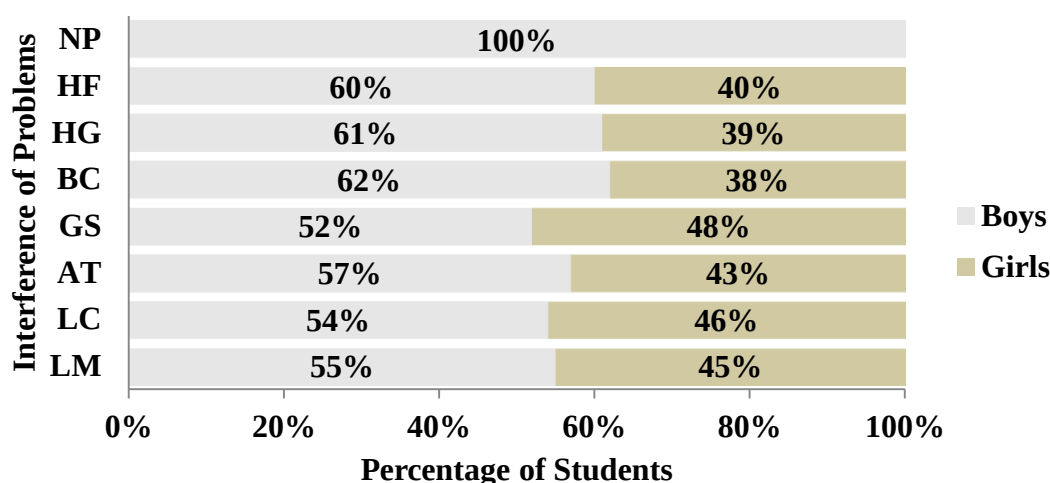


Figure 4.52 reveals that 55% of boys and 45% of girls experienced low marks due to academic issues, while 54% of boys and 46% of girls reported low confidence as a consequence. Moreover, 57% of boys and 43% of girls were afraid of teachers in most cases, and 52% of boys and 48% of girls were frequently scolded in class. Additionally, 62% of boys and 38% of girls admitted to often bunking classes. Furthermore, 61% of boys and 39% of girls found it challenging to grasp lessons, and 60% of boys and 40% of girls struggled with maintaining focus. Notably, 100% of boys did not participate in any class activities.

These findings shed light on the differential impact of academic challenges based on gender. The data reveals that academic difficulties impact both boys and girls, with

boys generally exhibiting a higher intensity of negative effects such as lower confidence, fear of teachers, and absenteeism. These challenges contribute to reduced lesson comprehension and attention, ultimately affecting classroom participation. The gender differences highlight the importance of tailored support strategies that consider these varying experiences to effectively address and mitigate the academic interference caused by co-morbid conditions.

Figure 4.53

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Challenges of Academic Problems

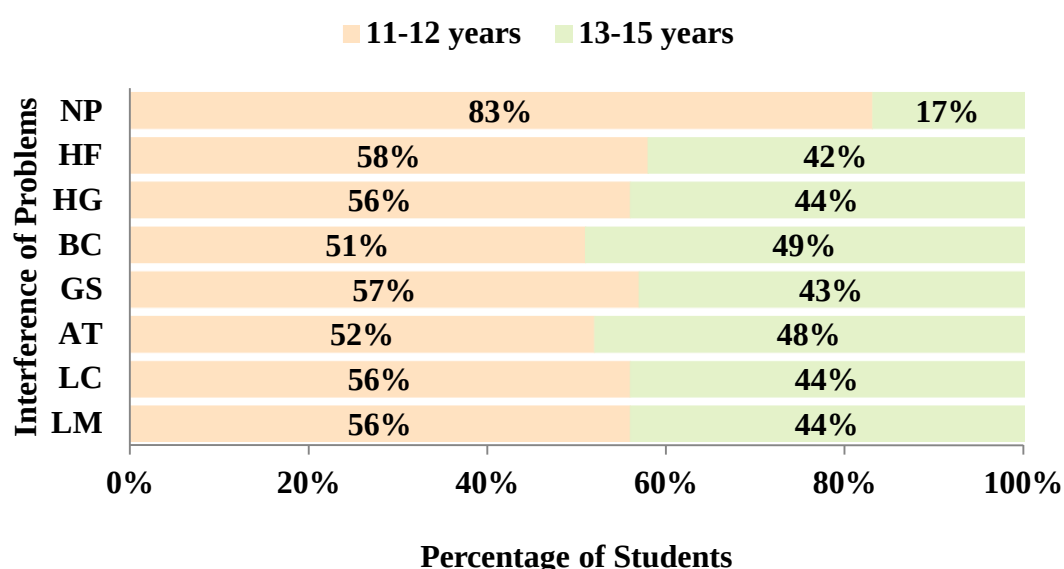


Figure 4.53 depicts 56% of students aged 11-12 years and 44% of students aged 13-15 years faced challenges such as low marks, low confidence, and difficulty in grasping lessons due to academic issues. Additionally, 52% of students aged 11-12 years and 48% of students aged 13-15 years reported fear of teachers as a consequence. Moreover, 57% of students within the age group 11-12 years and 43% of students within the age group 13-15 years were frequently scolded in the classroom. Furthermore, 51% of students aged 11-12 years and 49% of students within the age group of 13-15 years admitted to often bunking classes. Additionally, 58% of students aged 11-12 years and 42% of students aged 13-15 years found it difficult to maintain focus. Notably, 83% of students aged 11-12 years and 17% of students within the age group of 13-15 years did not participate in any class activities.

These findings underscore the varying impact of academic challenges across different age groups. Academic challenges interfere with students' performance and

engagement differently across age groups. Younger students (11-12 years) tend to experience more pronounced effects in terms of confidence loss, classroom discipline issues, and reduced participation in activities. Conversely, older students (13-15 years) also face these difficulties but to a lesser extent. These distinctions suggest that interventions should be age-sensitive, focusing more support on younger students who appear more vulnerable to the adverse effects of academic problems.

Figure 4.54

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to Challenges of Academic Problems

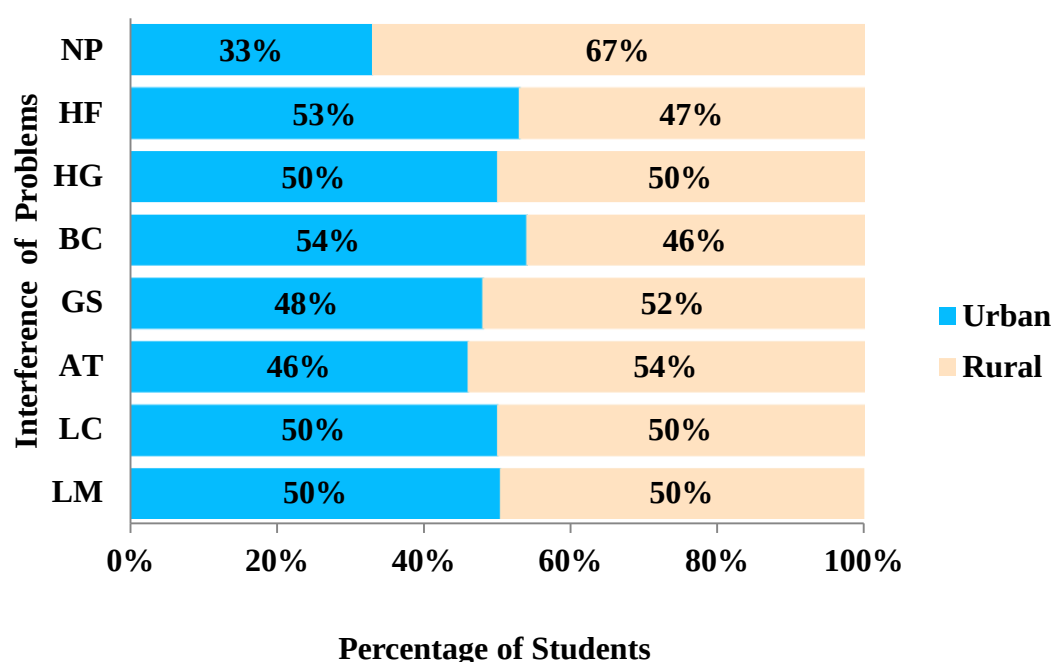


Figure 4.54 illustrates that the 50% of students residing in both urban and rural areas experienced challenges such as low marks, low confidence, and difficulty grasping lessons due to academic issues. Moreover, 46% of students residing in urban and 54% of students residing in rural areas reported fear of teachers as a consequence. Additionally, 48% of students residing in urban and 52% of students residing in rural areas were frequently scolded in the classroom. Furthermore, 54% of students residing in urban and 46% of students residing in rural areas admitted to often bunking classes. Additionally, 53% of students residing in urban and 47% of students residing in rural areas found it difficult to maintain focus. Notably, 33% of students residing in urban and 67% of students residing in rural areas did not participate in any

class activities. These findings highlight the differential impact of academic challenges across urban and rural locales.

The interference of academic problems with students' studies manifests differently across urban and rural settings. While challenges such as low marks, confidence issues, and difficulty in lesson comprehension are equally prevalent, rural students tend to experience greater fear of teachers, more frequent scolding, and lower participation in class activities compared to their urban counterparts. The higher incidence of classroom disengagement, fear, and behavioral challenges among rural students in the present study is consistent with Rajkumar et al. (2022), who reported elevated rates of anxiety, depression, and conduct problems in rural Indian school populations. Their meta-analysis also highlighted key contributing factors such as lack of support systems and academic stress, reinforcing the need for targeted school-based mental health services in rural settings. These disparities suggest that rural students may require targeted psychosocial and academic support to better cope with the negative consequences of their learning difficulties.

Table 4.8

Number of Middle School Students with Co-morbid Conditions Corresponding to Solution of Different Academic Problems with respect to Gender, Age, and Locale

Q. No. 6	Solution of Problem	Category					
		Gender		Age (In years)		Locale	
		Boys	Girls	11-12	13-15	Urban	Rural
Do you solve these problems by your own? If yes, how?	Yes	0	0	0	0	0	0
	No	121	103	123	101	110	114
Q. No. 7							
Do you solve these problems with the help of others? If yes, with whom?	Yes	0	0	0	0	0	0
	No	121	103	123	101	110	114

Table 4.8 shows neither the student, with respect to gender, age, and locale, solve their academic problems by their own nor did they take the help of others to solve them. This reluctance may stem from a lack of self-awareness about their challenges and fear of social stigma. The prevailing societal stereotypes and potential negative labeling discourage these students from reaching out for help, highlighting a critical

barrier that must be addressed through increased awareness, supportive environments, and destigmatization efforts within educational and community settings. These insights are consistent with the findings of Behera et al. (2023), who reported that mental health service delivery in India is significantly hindered by stigma, lack of trained personnel, and inadequate institutional coordination. The reluctance of students with co-morbid conditions to seek help for academic issues reflects this broader pattern of systemic and social barriers that delay or prevent timely support and intervention.

Table 4.9

Number of Middle School Students with Co-morbid Conditions Corresponding to Teachers' Attitude towards Students with respect to Gender, Age, and Locale

Attitude of Teachers towards Students	Total Number of Students	Category					
		Gender		Age (In years)		Locale	
		Boys	Girls	11-12	13-15	Urban	Rural
Good	113	59	54	50	63	49	64
Bad	24	16	08	17	07	13	11
Neutral	26	11	15	20	06	10	16
Sometimes good and Sometimes bad	61	35	26	35	26	39	22

Table 4.9 presents that 50% of students perceived their teachers' attitude as positive, while only 11% perceived it as negative and abusive. Additionally, 12% of students found their teachers' attitude neutral, while 27% reported experiencing a mixed response, with their teachers sometimes displaying good and sometimes bad attitudes. The data indicates a predominantly positive perception of teachers' attitudes among students with co-morbid conditions, with half of the respondents acknowledging supportive and encouraging behavior. However, a notable minority (11%) reported negative and abusive attitudes, which can adversely impact students' academic motivation and emotional well-being. The mixed or unsupportive attitudes reported by students may reflect a lack of preparedness among teachers to effectively support children whose academic and behavioral challenges are compounded by deeper functional difficulties. Research shows that when multiple difficulties co-exist, students are more likely to experience significant day-to-day impairment, making

them especially vulnerable to misunderstanding or neglect in classroom settings (Palaniappan et al., 2013). The presence of mixed attitudes for over a quarter of the students suggests inconsistency in teacher behavior, pointing to the need for increased teacher sensitivity training to foster a consistently positive and nurturing learning environment.

The table 4.9 also provides a breakdown of middle school students, based on their experience, about their teachers' attitude concerning gender, age, and locale.

Figure 4.55

Percentage of Middle School Boys and Girls with Co-morbid Conditions Corresponding to Teachers' Attitude towards Students

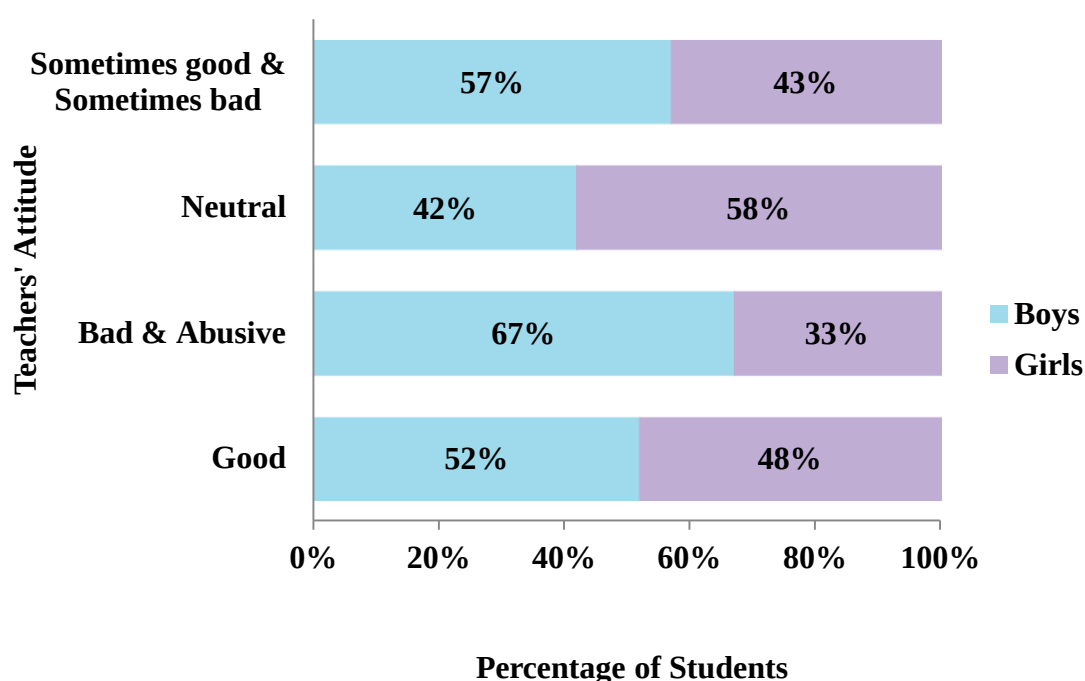


Figure 4.55 illustrates that 52% of boys and 48% of girls perceived their teachers' attitude as good towards them. Conversely, 67% of boys and 33% of girls reported experiencing a bad and abusive attitude from their teachers. Additionally, 42% of boys and 58% of girls found their teachers' attitude neutral towards them, while 57% of boys and 43% of girls reported experiencing a mixed response, of their teachers displaying both good and bad attitudes at times.

The gender differences in students' perceptions of teacher attitudes suggest that boys experience a wider range of teacher behavior - from positive to abusive - more intensely than girls, who tend to perceive teachers as more neutral or consistently

mixed. This indicates potential gender-related challenges in classroom dynamics that may affect boys' academic and emotional experiences more profoundly. Addressing these disparities through targeted teacher awareness programs could promote a more balanced and supportive learning environment for all students.

Figure 4.56

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Teachers' Attitude towards Students

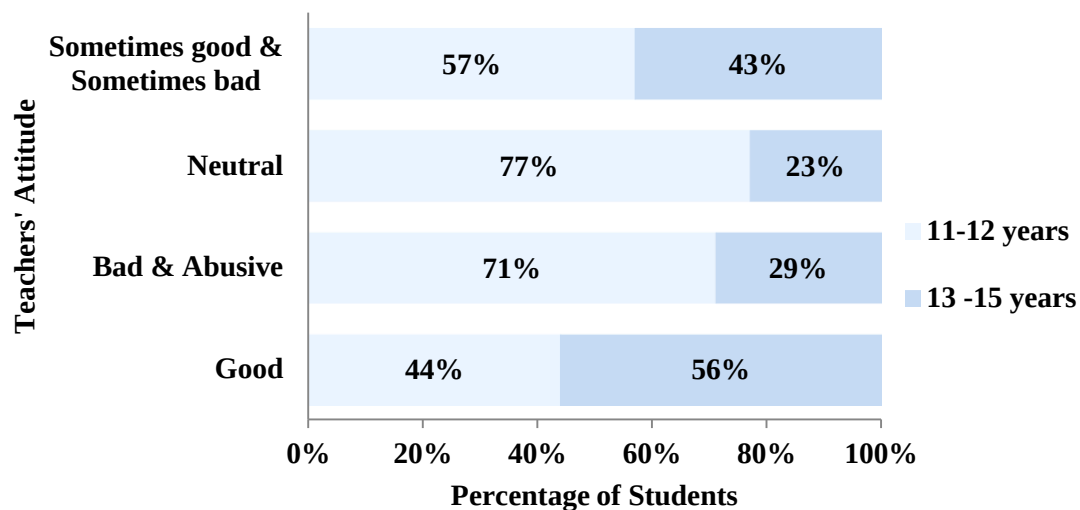


Figure 4.56 presents that 44% of students aged 11-12 years and 56% of students aged 13-15 years perceived their teachers' attitude as good towards them. Conversely, 71% of students aged 11-12 years and 29% of students aged 13-15 years reported experiencing a bad and abusive attitude from their teachers. Additionally, 77% of students aged 11-12 years and 23% of students aged 13-15 years found their teachers' attitude neutral towards them. Furthermore, 57% of students aged 11-12 years and 43% of students aged 13-15 years reported experiencing a mixed response, of their teachers displaying both good and bad attitudes at times.

Younger students (11-12 years) tend to experience a higher incidence of negative or abusive teacher attitudes and are more likely to perceive teacher behavior as neutral or mixed. In contrast, older students (13-15 years) generally report a more positive perception of teacher attitudes. This suggests that younger students might be more vulnerable to inconsistent or harsh treatment from teachers, which could affect their engagement and academic confidence. Tailored teacher training focusing on sensitivity towards younger students could help to create a more supportive classroom atmosphere.

Figure 4.57

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to Teachers' Attitude towards Students

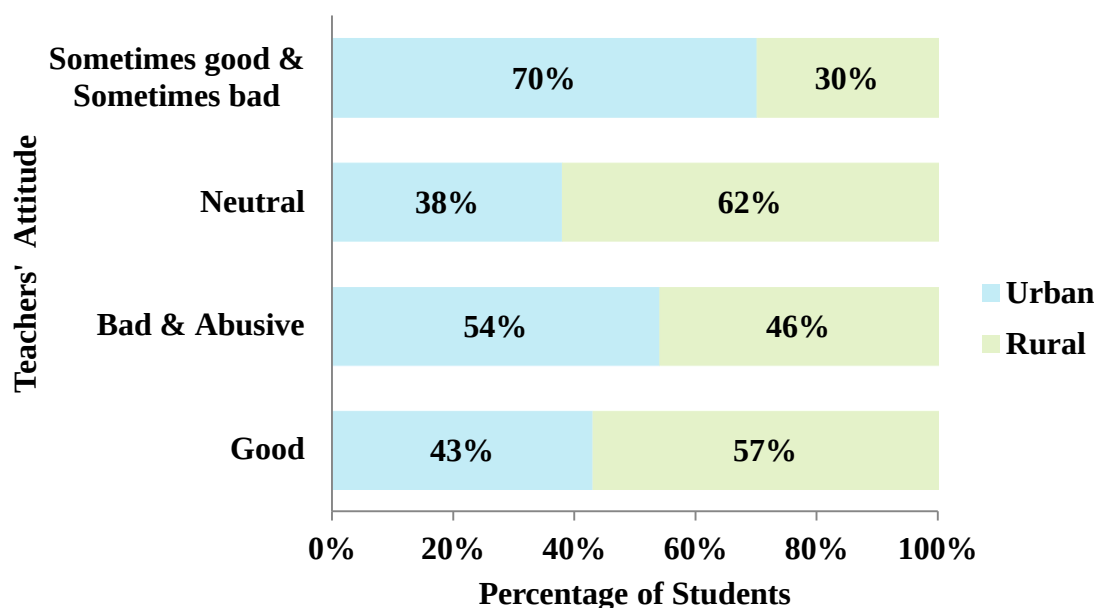


Figure 4.57 depicts that 43% of students residing in urban and 57% of students residing in rural areas perceived their teachers' attitude as good towards them. Conversely, 54% of students residing in urban and 46% of students residing in rural areas reported experiencing a bad and abusive attitude from their teachers. Additionally, 38% of students residing in urban and 62% of students residing in rural areas found their teachers' attitude neutral towards them. Furthermore, 70% of students residing in urban and 30% of students residing in rural areas reported experiencing a mixed response, of their teachers displaying both good and bad attitudes at times.

Students from rural areas generally perceive a more positive attitude from their teachers compared to their urban counterparts, who report a higher incidence of negative or abusive behavior. Additionally, rural students are more likely to experience neutral teacher attitudes, whereas urban students face more mixed teacher behavior. This contrast highlights possible differences in teacher-student dynamics across locales, suggesting the need for context-specific interventions to improve teacher attitudes and create more consistent support for students in both urban and rural settings.

Table 4.10

Number of Middle School Students with Co-morbid Conditions Corresponding to School Authorities' Attitude towards Students with respect to Gender, Age, and Locale

School Authorities Attitude towards Students	Total Number of Students	Category					
		Gender		Age (In years)		Locale	
		Boys	Girls	11-12 years	13-15 years	Urban	Rural
Good	115	61	54	51	64	49	66
Bad	20	13	07	14	06	11	09
Neutral	27	11	16	21	06	11	16
Sometimes good and Sometimes bad	62	36	26	36	26	40	22

Table 4.10 presents that 51% of students perceived their school authorities' attitude as positive, while only 9% perceived it as negative and abusive. Additionally, 12% of students found their school authorities' attitude neutral, while 28% reported experiencing a mixed response, with their school authorities sometimes displaying good and sometimes bad attitudes.

A majority of students perceive the attitude of school authorities as positive, indicating a generally supportive administrative environment. However, a notable proportion of students experience inconsistent or mixed attitudes, reflecting variability in how school authorities engage with students. The relatively low percentage reporting negative or abusive behavior suggests that such adverse experiences are less common but still present, underscoring the importance of continuous efforts to promote a consistently respectful and encouraging atmosphere within schools. These findings are echoed by Balamurugan et al. (2024), who emphasized the critical role of school mental health research in designing culturally responsive and context-specific interventions. Addressing the inconsistency in teacher attitudes and the absence of structured administrative support, as observed in this study, aligns with national priorities to reduce stigma and enhance student well-being across educational settings. The table 4.10 also provides a breakdown of middle school students, based on their experiences, about their school authorities' attitude concerning gender, age, and locale.

Figure 4.58

Percentage of Middle School Boys and Girls with Co-morbid Conditions Corresponding to School Authorities' Attitude towards Students

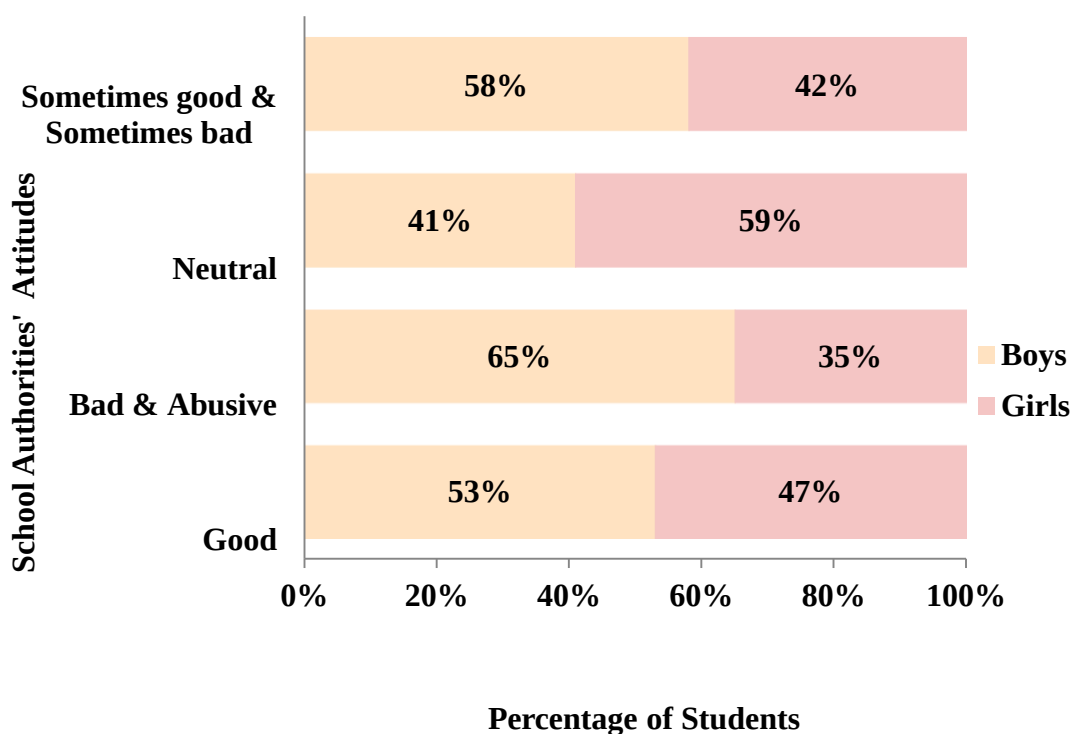


Figure 4.58 illustrates that 53% of boys and 47% of girls perceived their school authorities' attitude as good towards them. In contrast, 65% of boys and 35% of girls reported experiencing a bad and abusive attitude from their school authorities. Additionally, 41% of boys and 59% of girls found their school authorities' attitude neutral towards them. Furthermore, 58% of boys and 42% of girls reported experiencing a mixed response, of their school authorities displaying both good and bad attitudes at times.

The data reveals that while a slight majority of boys and girls perceive the attitude of school authorities as positive, boys report a higher incidence of negative and abusive experiences compared to girls. Girls tend to report more neutral attitudes, whereas boys are more likely to encounter mixed or inconsistent behavior from school authorities. This gender difference highlights the need for tailored interventions to ensure equitable and respectful treatment of all students by school authorities.

Figure 4.59

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to School Authorities' Attitude towards Students

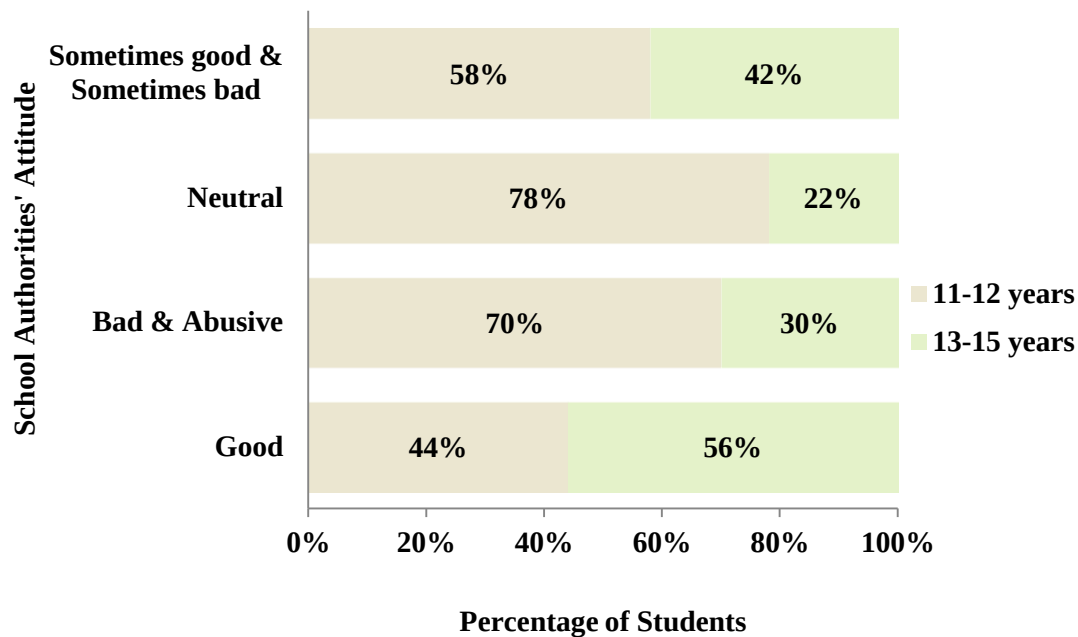


Figure 4.59 displays that 44% of students aged 11-12 years and 56% of students aged 13-15 years perceived their school authorities' attitude as good towards them. Conversely, 70% of students aged 11-12 years and 30% of students aged 13-15 years reported experiencing a bad and abusive attitude from their school authorities. Additionally, 78% of students aged 11-12 years and 22% of students aged 13-15 years found their school authorities' attitude neutral towards them. Furthermore, 58% of students aged 11-12 years and 42% of students aged 13-15 years reported experiencing a mixed response, of their school authorities displaying both good and bad attitudes at times.

The findings indicate that older students (aged 13-15 years) generally perceive school authorities' attitudes more positively compared to younger students (aged 11-12 years). Conversely, younger students report a significantly higher incidence of negative and abusive attitudes. Additionally, a large proportion of younger students perceive the authorities' attitude as neutral, suggesting possible detachment or uncertainty. The mixed responses reported by both age groups highlight variability in school authorities' behavior, which may affect students' overall school experience differently depending on their age.

Figure 4.60

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to School Authorities' Attitude towards Students

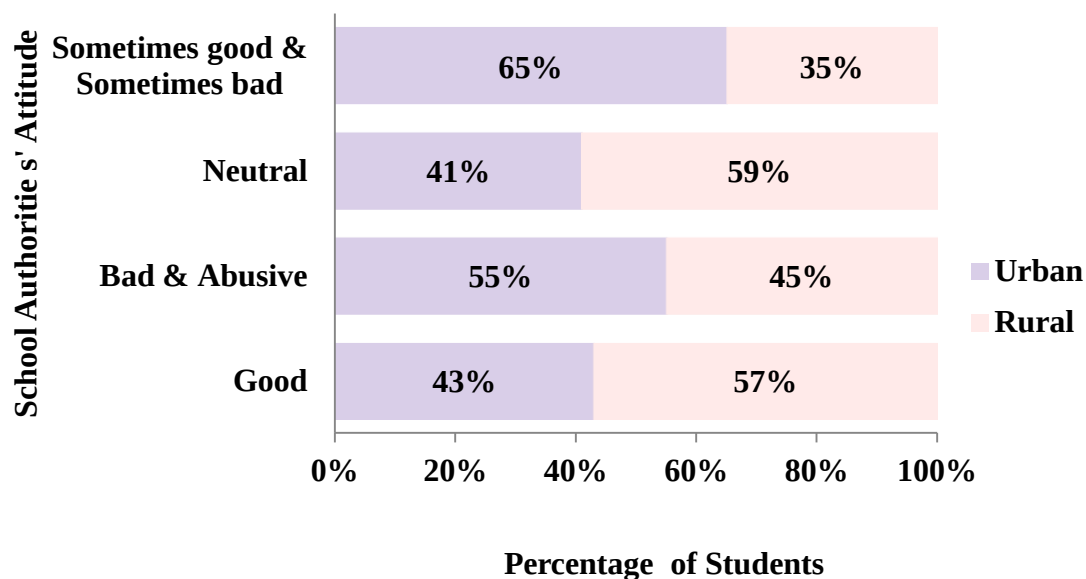


Figure 4.60 presents that 43% of students residing in urban and 57% of students residing in rural areas perceived their school authorities' attitude as good towards them. Conversely, 55% of students residing in urban and 45% of students residing in rural areas reported experiencing a bad and abusive attitude from their school authorities. Additionally, 41% of students residing in urban and 59% of students residing in rural areas found their school authorities' attitude neutral towards them. Furthermore, 65% of students residing in urban and 35% of students residing in rural areas reported experiencing a mixed response, of their school authorities displaying both good and bad attitudes at times.

Students residing in rural areas tend to perceive school authorities' attitudes more positively compared to their urban counterparts. Conversely, urban students report a higher incidence of negative and abusive attitudes from school authorities. Furthermore, a larger proportion of rural students perceive the attitude of school authorities as neutral, which may indicate ambiguity or inconsistency in their interactions. The prevalence of mixed responses, particularly among urban students, suggests variability in school authorities' behavior that could contribute to an uneven student experience depending on locale. The lack of structured support from school authorities, as reported by all students in this study, reflects systemic deficiencies in

the delivery of school-based interventions. There is urgency for scalable and context-sensitive interventions, particularly in rural regions where accessibility remains a major barrier (Mehra et al., 2022).

Table 4.11

Number of Middle School Students with Co-morbid Conditions Corresponding to Peers' Attitude towards Students with respect to Gender, Age, and Locale

Peers' Attitude	Total Number of Students	Category					
		Gender		Age (In years)		Locale	
		Boys	Girls	11-12	13-15	Urban	Rural
Good	177	94	83	98	79	79	98
Bad	01	00	01	01	00	01	00
Neutral	10	05	05	07	03	05	05
Sometimes good and Sometimes bad	03	01	02	02	01	00	03
Makes fun of me	33	20	13	14	19	25	07

Table 4.11 shows that 79% of students found their peers' attitude good towards them while only 0.44%; 4%; and 1% of students found bad & abusive; neutral; and sometime good & sometime bad respectively towards them. 15% of students said their peers make fun of them.

The predominantly positive peer attitude reflects a generally supportive social climate among students. Nonetheless, the presence of teasing highlights underlying social challenges that may contribute to the academic and psychological difficulties faced by some students. This duality emphasizes the need for interventions to foster inclusive peer relationships. The minority of students who reported being made fun of or receiving inconsistent peer treatment may be facing more pronounced and visible challenges. Research suggests that when multiple developmental and behavioral difficulties co-occur, students are more likely to experience heightened social vulnerability, potentially exposing them to negative peer interactions (Jacob et al., 2016).

Also, category wise distribution (i.e., gender, age and locale) of middle school students corresponding to their peers' attitude towards them has also been discussed in the above table 4.11.

Figure 4.61

Percentage of Middle School Boys and Girls with Co-morbid Conditions Corresponding to Peers' Attitude towards Students

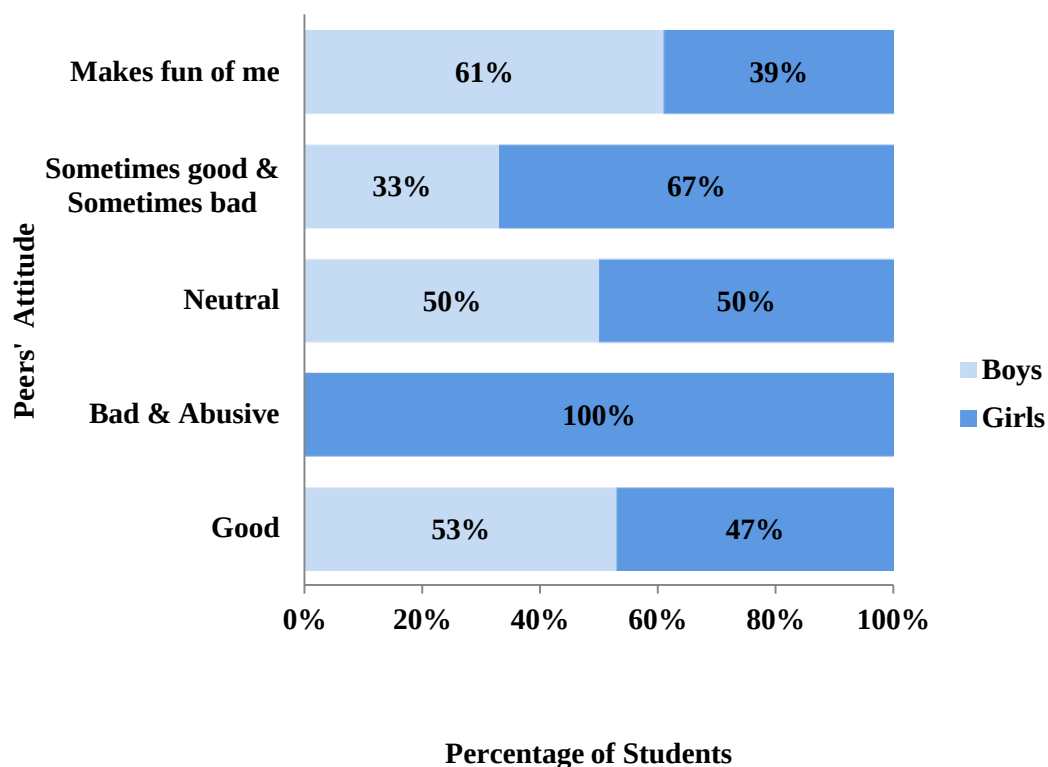


Figure 4.61 illustrates that 53% of boys and 47% of girls perceived their peers' attitude as good towards them. However, a concerning finding reveals that 100% of girls reported experiencing a bad and abusive attitude from their peers. Additionally, 50% of both boys and girls found their peers' attitude neutral towards them. Furthermore, 33% of boys and 67% of girls reported experiencing a mixed response, with their peers displaying both good and bad attitudes at times. Lastly, 61% of boys and 39% of girls stated that their peers make fun of them.

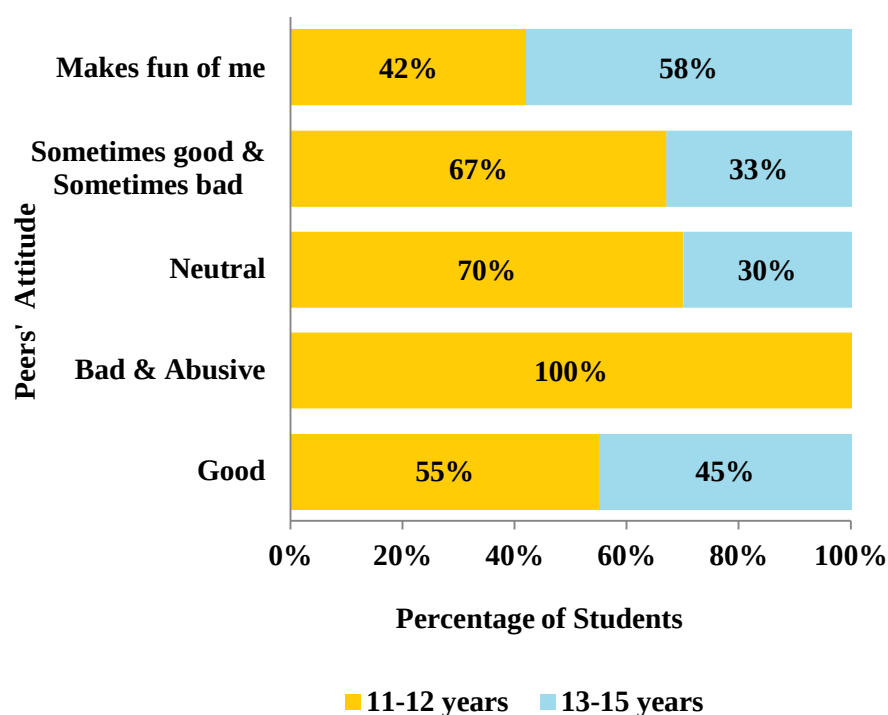
While most students perceive their peers' attitudes positively, the slight gender differences suggest that boys experience a somewhat higher level of peer support compared to girls. However, the occurrence of teasing reported by some students of both genders indicates that social challenges persist, which may affect students' confidence and academic engagement differently for boys and girls.

Figure 4.62 depicts that 55% of students aged 11-12 years reported their peers' attitude as good, while 45% of students aged 13-15 years shared the same sentiment. Alarming, all students aged 11-12 years experienced a bad and abusive attitude

from their peers. Regarding neutrality, 70% of students aged 11-12 years and 30% of students aged 13-15 years found their peers' attitude to be neutral. Moreover, 67% of students aged 11-12 years and 33% of students aged 13-15 years reported experiencing a mixed response from their peers, fluctuating between good and bad attitudes. Lastly, 42% of students aged 11-12 years and 58% of students aged 13-15 years indicated that their peers make fun of them.

Figure 4.62

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Peers' Attitude towards Students



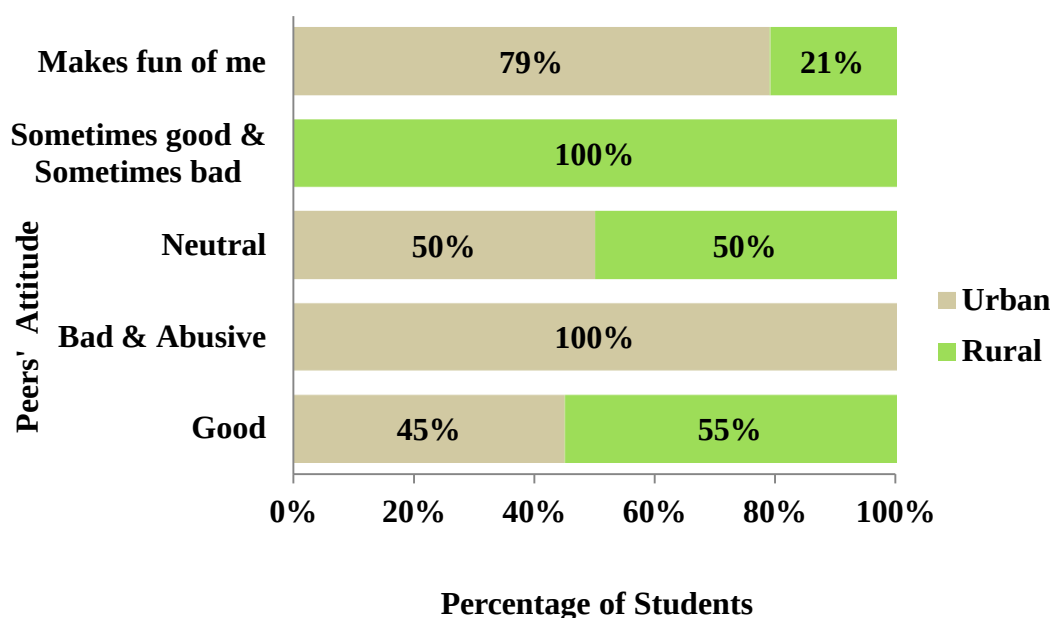
The data indicates a nuanced peer dynamic across age groups. Younger students (11-12 years) tend to experience more extremes in peer behavior, including higher reports of abusive attitudes and neutral interactions, suggesting a volatile social environment. In contrast, older students (13-15 years) seem to encounter relatively more consistent peer support but also report more frequent teasing. These patterns highlight the evolving nature of peer relationships as students grows older, impacting their social and academic experiences differently by age.

Figure 4.63 illustrates that 45% reported their peers' attitude as good while a concerning 100% indicated experiencing a bad and abusive attitude from their peers. Conversely, among rural students, 55% found their peers' attitude to be good. Neutral

attitudes were reported by 50% of students in both urban and rural areas. Interestingly, rural students were more likely to experience a mixed response from their peers, with 100% reporting a fluctuating attitude between good and bad. Additionally, 79% of urban students and 21% of rural students reported being made fun of by their peers.

Figure 4.63

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to Peers' Attitude towards Students



The findings reveal a stark contrast in peer interactions between urban and rural students. While urban students report a lower percentage of positive peer attitudes and a high incidence of abusive behavior, rural students appear to experience more positive and fluctuating peer attitudes. However, the presence of mixed peer responses in rural areas indicates social complexity, where acceptance and conflict coexist. Additionally, teasing is notably more prevalent among urban students, suggesting differing social challenges related to locale that may affect students' academic and emotional well-being.

Table 4.12

Number of Middle School Students with Co-morbid Conditions Corresponding to Parents' Attitude towards Students with respect to Gender, Age, and Locale

Parents' Attitude	Total Number of Students	Category					
		Gender		Age (In years)		Locale	
		Boys	Girls	11-12	13-15	Urban	Rural
Good	193	106	87	100	93	87	106
Bad	6	00	06	04	02	06	0
Neutral	11	07	04	07	04	07	04
Sometimes good and Sometimes bad	14	08	06	11	03	11	03

Table 4.12 presents that remarkably, 86% of students reported a positive attitude from their parents while a mere 3% encountered a negative and abusive stance. A small proportion of 5% indicated a neutral perspective, and 6% experienced a fluctuating attitude from their parents, sometimes supportive and sometimes indifferent.

The data clearly shows that the overwhelming majority of students perceive their parents' attitude towards them as positive and supportive, which is a crucial factor in their overall well-being. The low percentage of negative or abusive attitudes indicates relatively strong parental backing. However, a small fraction of students experiences either neutrality or inconsistent support from parents, highlighting that not all students benefit equally from parental encouragement. The variation in parental attitudes - from supportive to indifferent - may reflect broader gaps in awareness and understanding of child development and academic challenges. Systemic reviews have pointed out that inadequate training, lack of community outreach, and poor integration of child mental health topics into public health discourse have limited parents' ability to recognize and respond to their children's needs effectively (Shastri et al., 2010).

The table 4.12 also provides a breakdown of middle school students, based on their experiences, about their parents' attitude concerning gender, age, and locale.

The comparison of the opinion of middle school students with co-morbid conditions corresponding to parents' attitude towards students with respect to gender, age, and locale is shown in figure 4.64, 4.65, and 4.66.

Figure 4.64

Percentage of Middle School Boys and Girls with Co-morbid Conditions Corresponding to Parents' Attitude towards Students

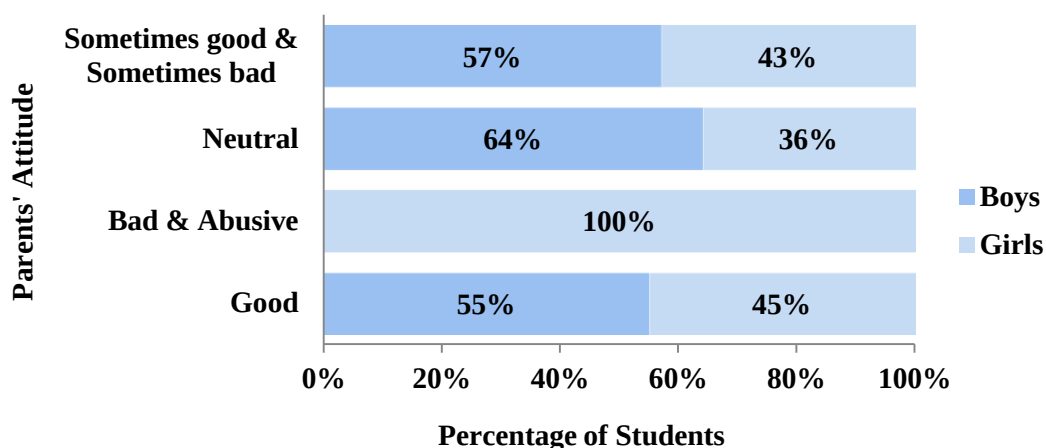


Figure 4.64 illustrates 55% of boys and 45% of girls perceived their parents' attitude as positive. Conversely, all girls reported experiencing a negative and abusive attitude from their parents. Furthermore, 64% of boys and 36% of girls expressed a neutral stance, while 57% of boys and 43% of girls described their parents' attitude as fluctuating between supportive and indifferent.

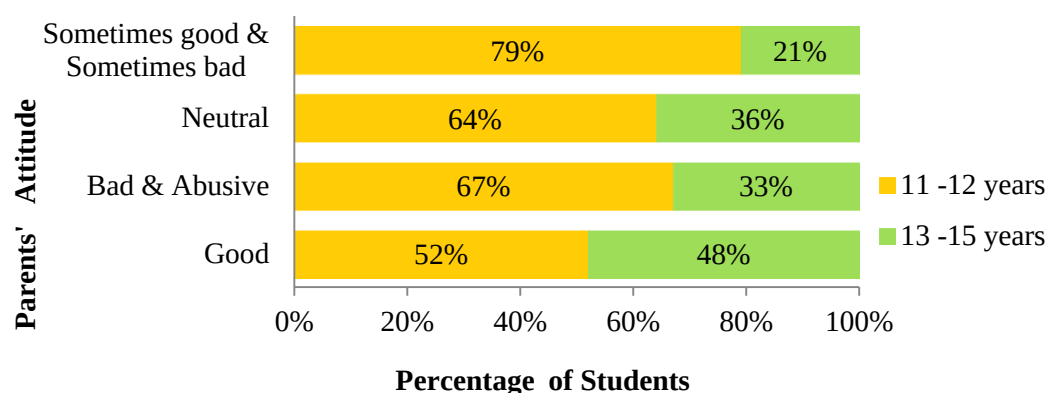
The data reveals a notable gender difference in students' perceptions of their parents' attitudes. While boys predominantly report positive or neutral parental support, girls uniquely report experiencing all of the negative and abusive attitudes within the sample. This disparity may be rooted in prevailing cultural and societal norms that often subject girls to stricter discipline, higher expectations, or gender-based biases within the family environment. Such factors can contribute to harsher parental behaviors toward girls. Additionally, a considerable portion of both boys and girls experience fluctuating parental attitudes, suggesting inconsistent emotional support that may differentially impact their academic engagement and psychological well-being.

Figure 4.65 presents within the age group of 11-12 years, 52% of students perceived their parents' attitude as positive, while 48% of students aged 13-15 years reported the same. Conversely, 67% of students aged 11-12 years and 33% aged 13-15 years experienced a negative and abusive attitude from their parents. Moreover, 64% of students aged 11-12 years and 36% aged 13-15 years expressed a neutral stance.

Interestingly, 79% of students aged 11-12 years and 21% aged 13-15 years described their parents' attitude as occasionally supportive and occasionally indifferent.

Figure 4.65

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Parents' Attitude towards Students



The younger students (aged 11-12 years) are more likely to perceive both positive and negative attitudes from their parents compared to older students (aged 13-15 years). Specifically, a higher proportion of the younger group reports experiencing negative and abusive behaviors, which could be linked to stricter parental monitoring or disciplinary practices during early adolescence. This age group also reports greater variability in parental attitudes, reflecting inconsistent emotional support that might affect their coping mechanisms and academic motivation. The lower incidence of negative parental attitudes among older students might suggest improved parent-child communication or increasing independence as children grow older.

Figure 4.66

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to Parents' Attitude towards Students

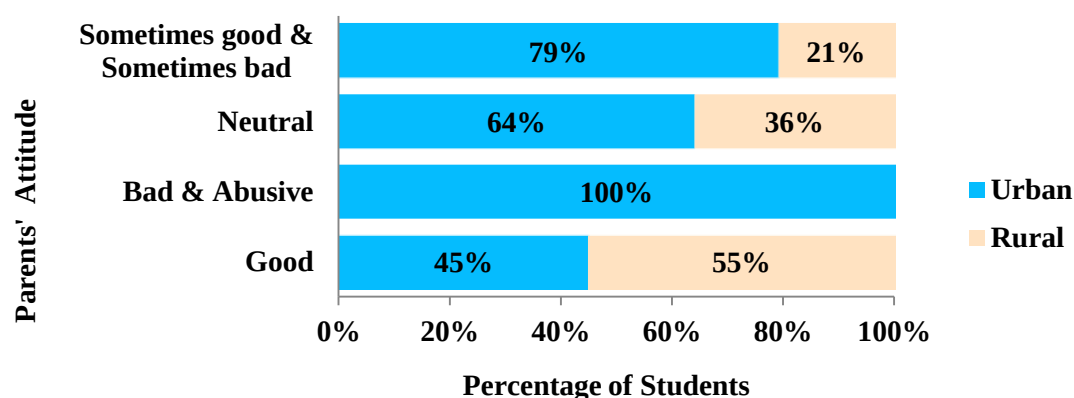


Figure 4.66 illustrates that in urban areas, 45% of students perceived their parents' attitude as positive, whereas 55% in rural areas reported the same. Conversely, all students in urban areas encountered a negative and abusive attitude from their parents. Regarding a neutral standpoint of parents, 64% of urban students and 36% of rural students expressed this perspective. Additionally, 79% of students in rural areas described their parents' attitude as occasionally supportive and occasionally indifferent, compared to 21% in urban areas.

The data reveals a contrasting pattern in parental attitudes between urban and rural students. While a higher percentage of rural students perceive their parents' attitude as positive, urban students report experiencing more negative and abusive behavior from their parents. This discrepancy may be influenced by differing socio-economic pressures, lifestyle dynamics, or cultural expectations in urban settings that contribute to stricter or more critical parental behavior. Additionally, the greater neutral and fluctuating attitudes reported by rural students suggest variability in emotional support, potentially reflecting traditional family structures where parental involvement may alternate between supportive and indifferent. These differences underscore the need for tailored interventions that consider the unique familial contexts of urban and rural students.

Table 4.13

Number of Middle School Students with Co-morbid Conditions Corresponding to School Authorities' Support with respect to Gender, Age, and Locale

Q. No. 9	School Authorities' Support	Category					
		Gender		Age (In years)		Locale	
		Boys	Girls	11-12	13-15	Urban	Rural
How does your school authorities/administration help you in solving these problems?	Special	0	0	0	0	0	0
	Nothing Special	121	103	123	101	110	114

Table 4.13 shows all students with co-morbid conditions, with respect to gender, age, and locale, admitted that no significant or special assistance was extended to them from the side of their school authorities or administration to them for solving their academic problems.

The data indicates a unanimous perception among students with co-morbid conditions that their school authorities and administration do not provide meaningful support in addressing their academic problems. This lack of assistance transcends gender, age, and locale, highlighting a systemic gap in the educational environment. This aligns with recent recommendations from the Ministry of Education, Government of India (2024), which advised Jammu and Kashmir to conduct a mapping exercise to assess the number of Children with Special Needs (CwSN). Based on the findings, the Ministry stressed the importance of training general education teachers in special education through RCI approved bridge courses. Such initiatives are vital to equip educators with inclusive teaching tools and foster equitable learning environments. The underlying reasons likely include inadequate infrastructure, absence of specialized teachers or counselors, and insufficient training for general educators to effectively recognize and address the unique needs of students with co-morbid conditions. This gap emphasizes the urgent need for policy interventions and capacity building within schools to create a more inclusive and supportive academic atmosphere.

Table 4.14

Number of Middle School Students with Co-morbid Conditions Corresponding to Teachers' Support to Solve Academic Problems with respect to Gender, Age, and Locale

Q. No. 10	Teachers' Support to Solve Academic Problems	Category					
		Gender		Age (In years)		Locale	
		Boys	Girls	11-12	13-15	Urban	Rural
How do your teachers help you in solving these problems?	Repeat and Explain	121	102	123	100	109	114
	Tailored Teaching	0	01	0	01	01	0

Table 4.14 reveals that teachers predominantly support students with co-morbid conditions through repetitive explanation techniques, a method experienced by 99.55% of the students regardless of gender, age, or locale. This uniform approach suggests a reliance on repetition as the main strategy to aid comprehension underscores a lack of training in inclusive and adaptive pedagogy (Yunitasari et al., 2025). However, the data also highlights a significant lack of individualized or

differentiated instructional methods, as only one student - a girl aged 13-15 years from an urban area - reported receiving a tailored teaching approach. This indicates a critical need for more personalized and adaptive teaching strategies to effectively address the diverse learning requirements of students with co-morbid conditions. These findings align with Kamran et al. (2023), who argue that positive teacher attitudes are not sufficient on their own; enhancing teachers' confidence and capabilities is critical to effectively supporting students with diverse academic needs. The near-absence of individualized instruction in this study underscores the importance of investing in inclusive pedagogy training. In line with this, Quinn and Wagner (2013) highlight that intervention for struggling readers must consider gender-based differences in learning and identification, encouraging educators to refine their strategies for improved support outcomes.

Table 4.15

Number of Middle School Students with Co-morbid Conditions Corresponding to Peers' Support to Solve Academic Problems with respect to Gender, Age, and Locale

Q. No. 11	Peers' Support to Solve Academic Problems	Total Number of Students	Category					
			Gender		Age (In years)		Locale	
			Boys	Girls	11-12	13-15	Urban	Rural
How do your peers help you in solving these problems?	Never Asked for Help	149	79	70	79	70	68	81
	Explain Things to me	61	33	28	38	23	36	25
	Neither asked nor helped	13	08	05	05	08	06	07
	Sign language	1	0	01	0	01	01	0

Table 4.15 shows 67% of students never sought help from their peers whereas 27% acknowledged receiving explanations from peers. Additionally, 6% neither asked for nor provided help, while 0.44% offered support through sign language.

The data reveals that the majority of students refrain from seeking help from their peers, which may hinder their ability to overcome academic difficulties. Among the minority, who did receive peer support, assistance was mostly informal, consisting of explanations rather than structured help. Notably, only one student - who was both

mute and deaf - benefited from the use of sign language as a mode of communication. This underscores the lack of adequate peer support systems and highlights the unique challenges faced by students with special communication needs, emphasizing the need for more inclusive and accessible peer assistance frameworks. The lack of peer engagement in helping students with academic challenges reflects a broader systemic issue noted by Mehra et al. (2022), who reported that many school-based mental health initiatives fail to incorporate culturally adapted, peer-focused strategies - particularly in underserved areas

The comparison of the opinion of middle school students with co-morbid conditions corresponding to their peers' support in solving their academic problems for a breakdown by categories with respect to gender, age, and locale is shown in figure 4.67, 4.68, and 4.69.

Figure 4.67

Percentage of Middle School Boys and Girls with Co-morbid Conditions Corresponding to Peers' Support to Solve Academic Problems

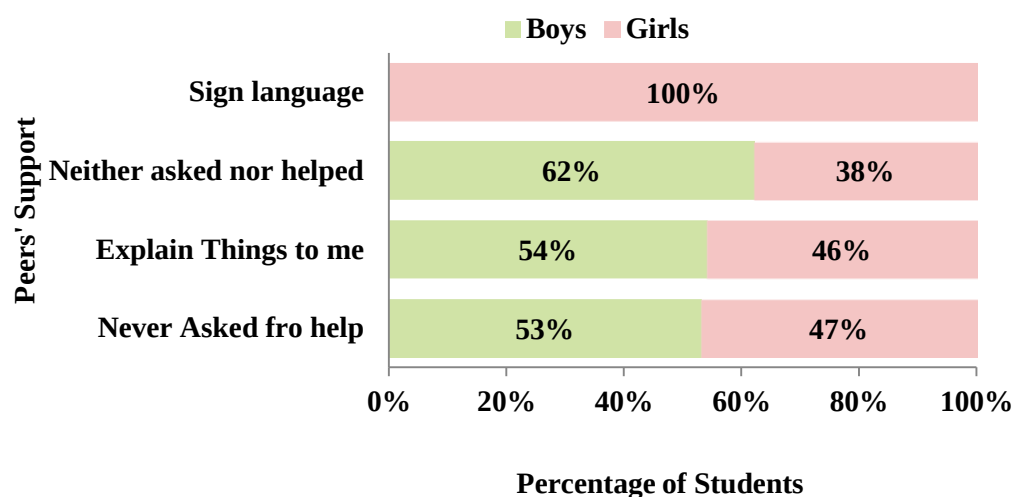


Figure 4.67 presents the percentage-wise distribution of middle school boys and girls with co-morbid conditions with respect to type of assistance provided to them by their peers. It indicates that 53% of boys and 47% of girls reported never receiving help from their peers. Conversely, 54% of boys and 46% of girls mentioned that their peers assist them by explaining things or lessons. Moreover, 62% of boys and 38% of girls stated that they neither ask for nor provide help. Interestingly, 100% of girls receive assistance through sign language.

The data reveals that over half of both boys and girls with co-morbid conditions do not receive help from their peers. Among those who do, explanations from peers are the most common form of assistance. It is important to note that only one girl, who was deaf and mute, received help through sign language from a single female friend. This unique case highlights the limited availability of specialized peer support for students with specific communication needs. Additionally, a considerable portion of boys and girls neither seek nor provide help, indicating gaps in peer support networks across genders.

Figure 4.68

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Peers' Support to Solve Academic Problems

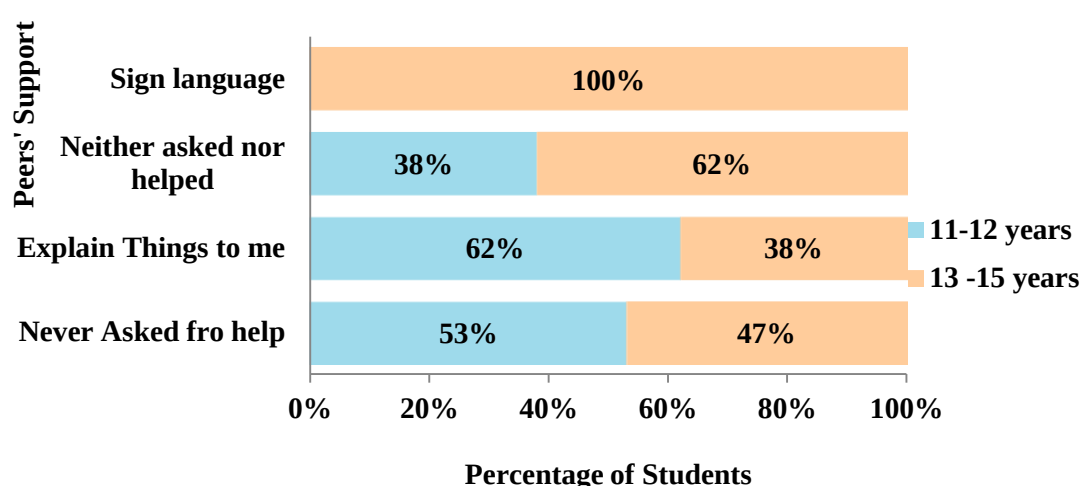


Figure 4.68 illustrates percentage-wise distribution of middle school students aged 11-12 years and aged 13-15 years with co-morbid conditions with respect to type of assistance provided to them by their peers'. It reveals that 53% of students aged 11-12 years and 47% of students aged 13-15 years reported never receiving help from their peers. Conversely, 62% of students aged 11-12 years and 38% of students aged 13-15 years stated that their peers assist them by explaining things or lessons. Additionally, 38% of students aged 11-12 years and 62% of students aged 13-15 years mentioned that they neither ask for nor provide help. Notably, 100% of students within the age group of 13-15 years receive assistance through sign language.

Older students (13-15 years) tend to be less likely to seek or provide help among peers, possibly due to increased independence or reluctance to share their difficulties. Younger students (11-12 years) rely more on peer support, indicating they may feel more comfortable asking for help.

The use of sign language support is very limited and specific to one student, showing that tailored peer assistance for students with special needs is rare. Overall, peer support is insufficient and does not adequately address the diverse needs of students with co-morbid conditions.

Figure 4.69

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to Peers' Support to Solve Academic Problems

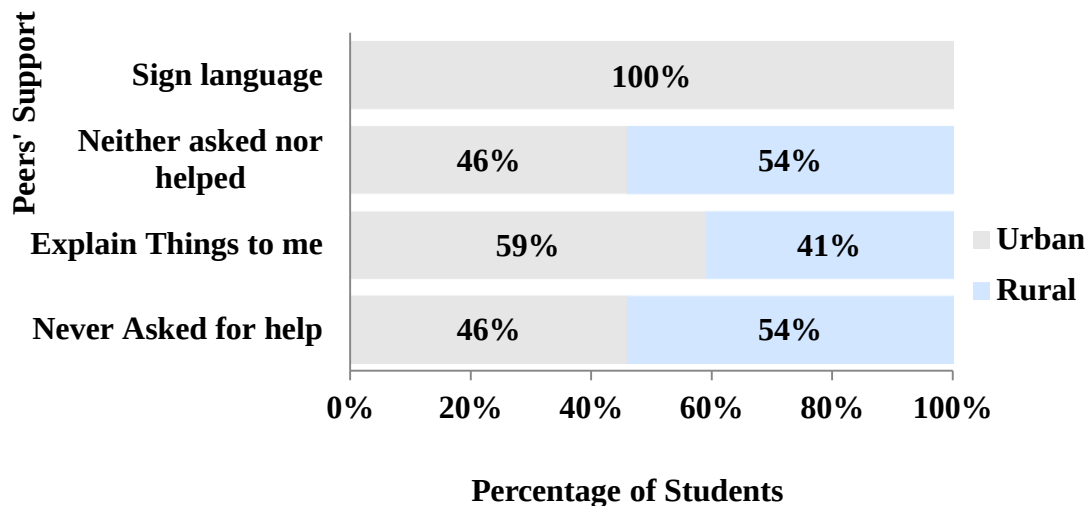


Figure 4.69 illustrates the percentage-wise distribution of urban and rural middle school students with co-morbid conditions with respect to type of assistance provided to them by their peers'. It indicates that 46% of students in urban areas and 54% of students in rural areas reported never receiving help from their peers. Conversely, 59% of urban students and 41% of rural students mentioned that their peers assist them by explaining things or lessons. Additionally, 46% of urban students and 54% of rural students stated that they neither ask for nor provide help. Notably, 100% of students in urban areas receive assistance through sign language.

The data reveals that students in rural areas are somewhat less likely to receive peer assistance compared to their urban counterparts, as a higher percentage of rural students reported not receiving help from peers. Conversely, urban students seem to benefit more from peer explanations and support. However, a significant portion of students in both locales neither seek nor offer help, indicating a general lack of active peer engagement in addressing academic problems. The exclusive occurrence of sign language assistance among urban students highlights the limited availability of specialized peer support, primarily concentrated in urban settings. Overall, peer

support mechanisms appear insufficient and unevenly distributed across locales for students with co-morbid conditions.

Table 4.16

Number of Middle School Students with Co-morbid Conditions Corresponding to Parents' Support to Solve Academic Problems with respect to Gender, Age, and Locale

Q. No. 12	Parents' Support to Solve Academic Problems	Total Number of Students	Category					
			Gender		Age (In years)		Locale	
			Boys	Girls	11-12	13-15	Urban	Rural
How do your parents help you in solving these problems?	No one Teaches me at home	122	64	58	60	62	61	61
	Teaches me at home	86	50	36	53	34	38	48
	Send tuition	13	06	07	07	06	09	03
	Hostler	03	01	02	02	01	03	0

Table 4.16 presents that among the students surveyed, 54% reported that no one teaches them at home, while 38% indicated that their parents provide instruction at home. Additionally, 6% of students mentioned that their parents send them to tuition, and 1% of students are hostellers. The data indicates that more than half of the students do not receive any academic support at home, highlighting a significant gap in parental involvement in their education. While a notable portion of parents actively help their children with studies at home, only a small percentage arrange for additional tuition. The presence of hosteller students is minimal. This suggests that parental support in academic matters is limited for many students, which may affect their ability to overcome learning difficulties, especially those with co-morbid conditions. The finding that a majority of parents were unaware or passive about their children's academic difficulties points to a deeper issue of limited parental understanding of child mental health. Cholakottil et al. (2017), in a school-based study involving both student and parent psychiatric evaluations, found significant under recognition of behavioral and emotional problems by caregivers. Their findings underscore the importance of involving parents in screening and awareness efforts - a gap that is clearly evident in the present study as well.

The table 4.16 also provides a breakdown of middle school students, based on their experiences, about their parents' support in solving their academic problems concerning gender, age, and locale.

The comparison of the opinion of middle school students with co-morbid conditions corresponding to their parents' support in solving their academic problems for a breakdown by categories with respect to gender, age, and locale is shown in figure 4.70, 4.71, and 4.72.

Figure 4.70

Percentage of Middle School Boys and Girls with Co-morbid Conditions Corresponding to Parents' Support to Solve Academic Problems

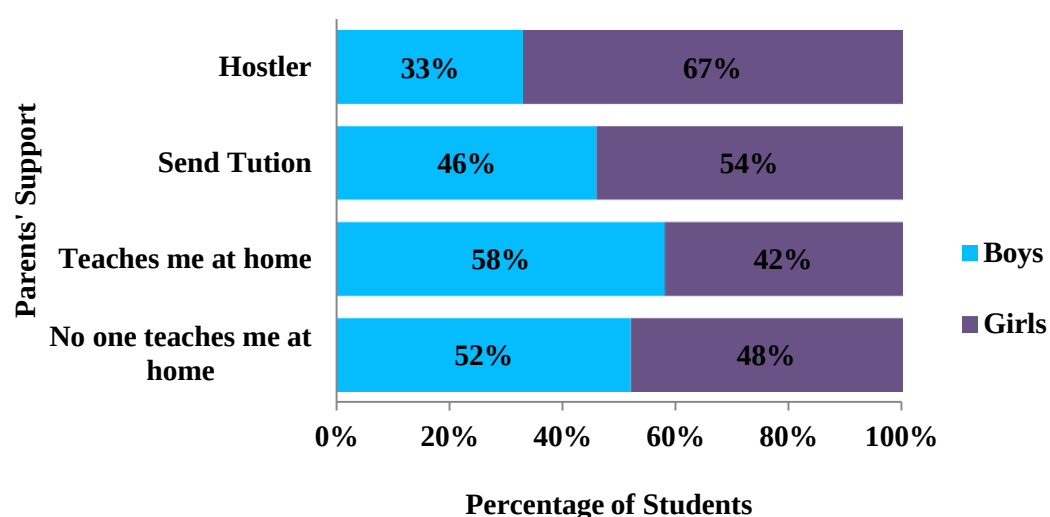


Figure 4.70 illustrates the support provided by parents to students with co-morbid conditions. Among boys surveyed, 52% reported that no one teaches them at home, whereas 48% of girls mentioned the same. Furthermore, 58% of boys and 42% of girls stated that their parents teach them at home. Additionally, 46% of boys and 54% of girls mentioned that their parents send them to tuition, while 33% of boys and 67% of girls identified themselves as hostellers.

The gender-wise analysis reveals that a slightly higher proportion of boys do not receive home teaching compared to girls. While more boys report being taught at home, girls are more likely to attend tuition classes. Additionally, two girls are hosteller under a government scheme providing free facilities, highlighting efforts to support girls' education through targeted programs.

Figure 4.71

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups Corresponding to Parents' Support to Solve Academic Problems

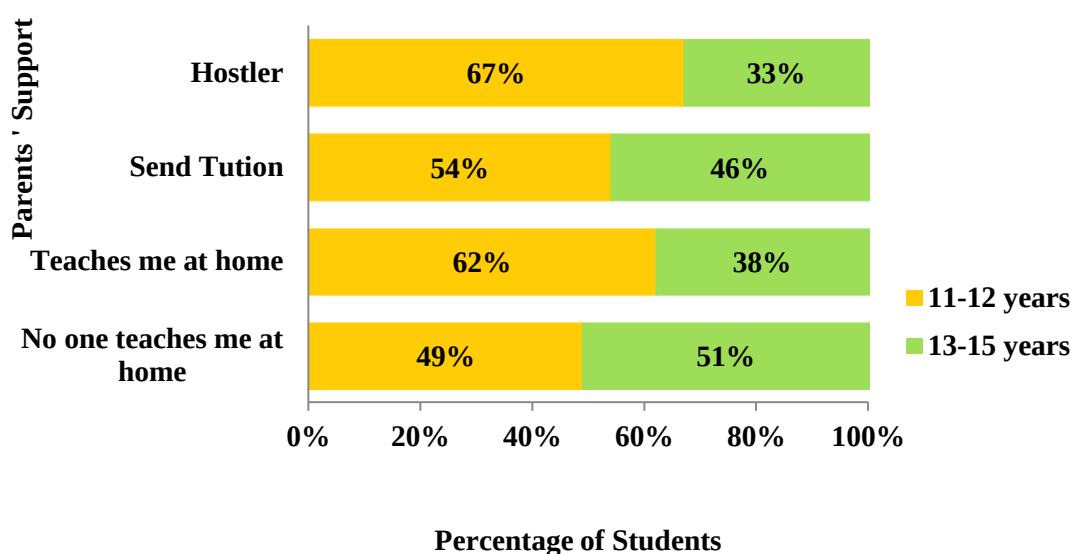


Figure 4.71 presents percentage-wise distribution of middle school students aged 11-12 years and aged 13-15 years with co-morbid conditions with respect to type of assistance provided to them by their parents'. Among students aged 11-12 years, 49% reported that no one teaches them at home, whereas 51% of students aged 13-15 years mentioned the same. Moreover, 62% of students aged 11-12 years and 38% of students aged 13-15 years stated that their parents teach them at home. Additionally, 54% of students aged 11-12 years and 46% of students aged 13-15 years reported that their parents send them to tuition. Lastly, 67% of students aged 11-12 years and 33% of students aged 13-15 years identified themselves as hostellers.

The age-wise analysis shows that younger students (11-12 years) receive more parental teaching at home and attend tuition more frequently than older students (13-15 years). Additionally, only a small number of girls stay in hostels, primarily under a special scheme that provides free facilities. This limited hostel residency among younger girls may be due to parental reluctance or societal restrictions on allowing younger girls to live away from home, reflecting protective attitudes and cultural norms.

Figure 4.72

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions Corresponding to Parents' Support to Solve Academic Problems

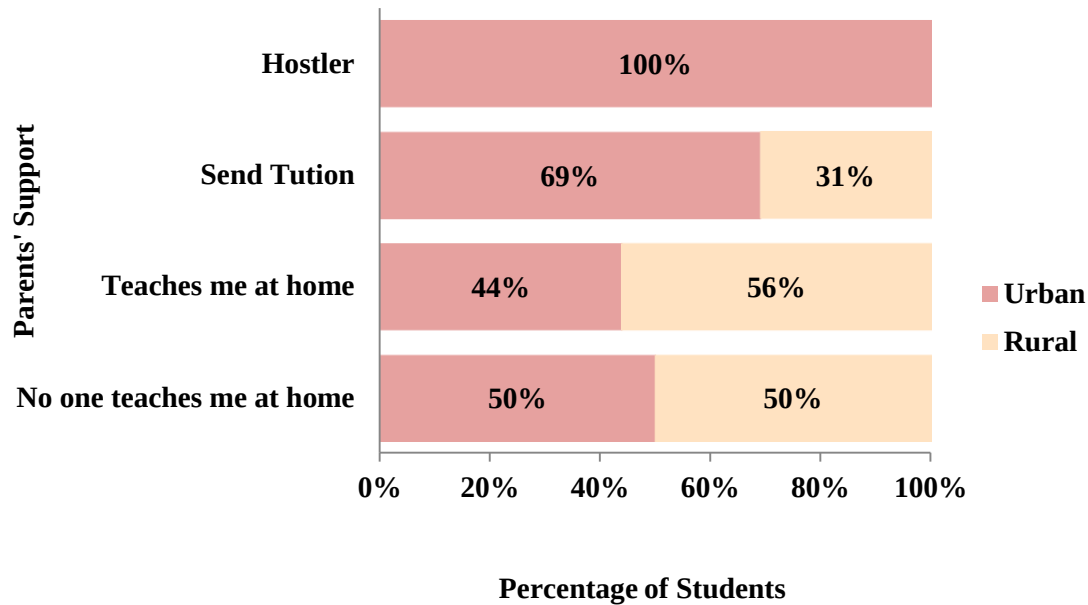


Figure 4.72 illustrates the percentage-wise distribution of urban and rural middle school students with co-morbid conditions with respect to type of assistance provided to them by their parents'. It indicates that 50% of students residing in both urban and rural areas reported that no one teaches them at home. Conversely, 44% of students residing in urban and 56% of students residing in rural areas stated that their parents teach them at home. Moreover, 69% of students residing in urban and 31% of students residing in rural areas mentioned that their parents send them to tuition. Interestingly, all students in urban areas identified themselves as hostellers.

The data reveals that parental teaching at home is more common among rural students compared to their urban counterparts, despite an equal proportion of students in both locales reporting no one teaches them at home. Notably, a higher percentage of urban students attend tuition classes than rural students. The fact that all hostel students come from urban areas may reflect better access to hostel facilities or educational schemes there, while rural students might face geographic or cultural barriers limiting such opportunities.

Table 4.17

Number of Middle School Students with Co-morbid Conditions Corresponding to their Satisfaction Level to Available Assistance with respect to Gender, Age, and Locale

Q. No. 13	Satisfaction Level to Available Assistance	Category					
		Gender		Age (In years)		Locale	
		Boys	Girls	11-12	13-15	Urban	Rural
Are you satisfied with the way people deals with your Problems inside school? If yes/no, give reasons?	Yes	0	0	0	0	0	0
	No	121	103	123	101	110	114
Q. No. 14							
Are you satisfied with the way people deals with your problems outside school? If yes/no, give reasons?	Yes	0	0	0	0	0	0
	No	121	103	123	101	110	114

Table 4.17 reveals that students with co-morbid conditions are largely dissatisfied with how their problems are addressed both inside and outside the school setting. The dissatisfaction points to a lack of adequate support, understanding, and appropriate interventions from teachers, school authorities, peers, and even family or community members. Such a gap in effective assistance can exacerbate the academic and emotional difficulties these students face, leaving them feeling neglected and unsupported. The results underscore the urgent need for schools and communities to develop better awareness, training, and resources tailored specifically to the needs of students with co-morbid conditions, ensuring they receive the comprehensive help required for their overall development and well-being.

The qualitative reflections, when interpreted alongside statistical trends, uncover the complex realities of students with co-morbid conditions - extending beyond surface-level difficulties to include emotional, behavioral, and social dimensions. By merging descriptive patterns with interpretative insights, this triangulated analysis highlights

the urgent need for inclusive classroom practices, context-sensitive interventions, and early identification systems that consider both visible and subtle academic struggles across diverse student populations. Moll et al. (2014) suggest accounting for gender-specific learning behaviors is essential in developing tailored interventions and fostering equitable academic support systems for students with co-morbid conditions. Karande (2022) underscores that the RPwD Act (2016) mandates early screening for specific learning disabilities (SpLD) starting from age eight, as well as the establishment of resource rooms and provision of exam accommodations. However, the findings of the present study reveal a stark contrast, where most students failed to identify their problems early, and no structured support was offered by schools. This reflects the systemic challenges including a shortage of trained personnel, lack of diagnostic infrastructure, and the absence of Indian tools - which continue to obstruct timely identification and intervention, especially in mainstream school settings. By implementing an RTI based approach along with multilingual assessment tools and improved teacher training could significantly enhance the early identification and support system for students with learning disabilities in India (Misquitta and Panshikar, 2023).

4.3.2 Analysis of Responses of Teachers to Various Questions of Interview Schedule for Academic Problems of Students with Co-morbid Conditions

To further strengthen the triangulation of findings, qualitative insights were also gathered from teachers, who play a crucial role in identifying and responding to academic problems among students with co-morbid conditions. Their responses help uncover classroom-level challenges, instructional limitations, and support mechanisms that are not always visible through student narratives alone. This section presents an analysis of teachers' perspectives to provide a balanced understanding of the systemic and pedagogical factors influencing academic outcomes for these students.

To get an insight into the responses of teachers towards the academic problems of middle school students with co-morbid conditions, qualitative analysis of answers given by teachers corresponding to various questions of interview schedule for academic problems of students with co-morbid conditions was done and results presented below:

Table 4.18

Number and Percentage of Teachers Corresponding to Knowledge regarding Middle School Students with Co-morbid Conditions at risk of Learning Problem

Q. No. 1	Students with Learning Problem	
	Few Students	No Student
Do you know some of the students in your class who are at risk or having learning problem?	138 (98.57%)	02(1.43%)

The data in Table 4.18 indicates a strong consensus among teachers, with 98.57% acknowledging the presence of students in their classrooms who are at risk or experiencing learning problems. This suggests a high level of awareness among educators regarding the academic struggles faced by certain students. Such recognition is a critical first step in identifying and addressing the needs of students with co-morbid conditions.

However, the fact that 1.43% of teachers disagreed or failed to identify such students might indicate gaps in observation, lack of training in recognizing early signs of learning difficulties, or possible oversight due to large class sizes or limited interaction. This finding underscores the importance of equipping all teachers with the necessary skills to detect and support students who may be silently struggling, ensuring no child is left behind due to unrecognized learning needs.

Table 4.19

Number and Percentage of Teachers Corresponding to Types of Problems Prevailing among Middle School Students with Co-morbid Conditions

Q. No. 2	Types of Problem	No. of Teachers	Percentage of Teachers
What types of problem these students are facing in the classroom or School?	Reading (R)	112	80
	Writing (W)	79	56
	Basic Calculation (C)	16	11
	Understanding (U)	44	31
	Focused Problem (FP)	30	21
	Pronunciation(P)	16	11
	Language Problem (LP)	13	09
	Illiteracy of parents (IP)	20	14
	Side conversation (SC)	01	01
	Exam Stress (ES)	06	04

Table 4.19 outlines the various types of problems encountered by students in a classroom setting, as reported by teachers. The majority of teachers, constituting 80%, highlighted reading problems faced by students, followed by writing issues reported

by 56% of teachers. Additionally, 31% of teachers noted difficulties in understanding or grasping concepts among students, while 21% identified problems related to maintaining focus. Other concerns mentioned illiteracy of parents (14%), basic calculation and pronunciation problems (11%), language difficulties (9%), exam stress (4%), and side conversations (1%) are the problems prevailing among middle school students with co-morbid conditions.

The responses from teachers reveal that students with co-morbid conditions face multifaceted academic and behavioral challenges that extend beyond basic literacy and numeracy skills. Difficulties in comprehension, attention, and communication are compounded by socio-environmental factors such as parental illiteracy and language barriers. These issues highlight a pressing need for comprehensive support systems within schools, including differentiated instructional strategies, increased teacher training, and parental engagement, to effectively meet the diverse needs of these students.

Figure 4.73 illustrates the percentage-wise distribution of teachers based on their experience towards the prevalence of different types of problems among middle school students with co-morbid conditions.

Figure 4.73

Percentage of Teachers Corresponding to Types of Problems Prevailed among Middle School Students with Co-morbid Conditions

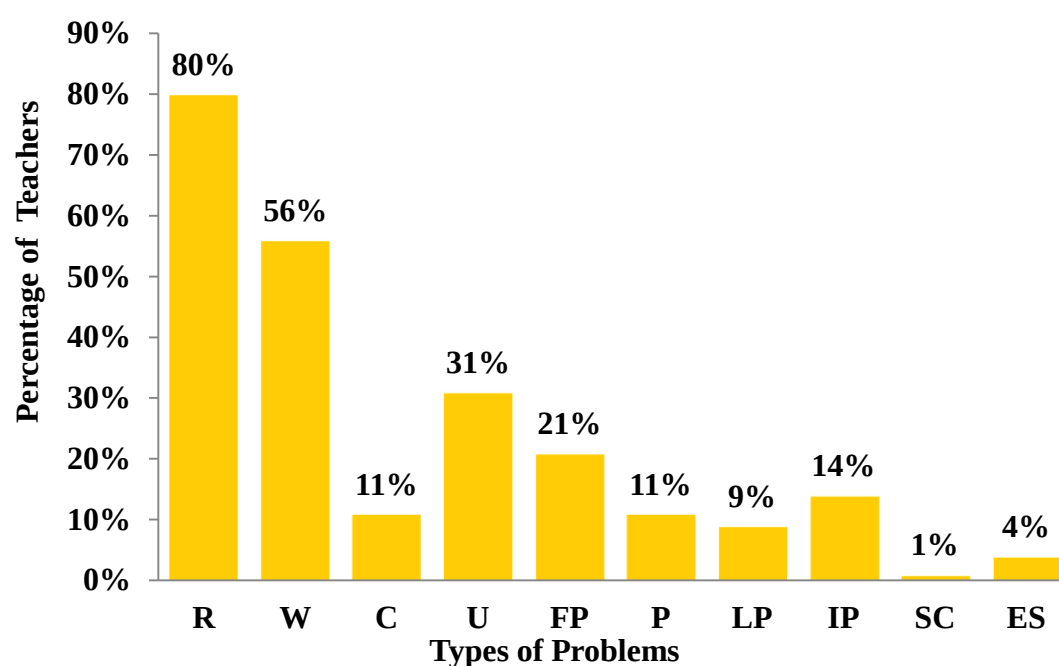


Table 4.20

Number and Percentage of Teachers Corresponding to Techniques used to Identify Learning Problems among Middle School Students with Co-morbid Conditions

Q. No. 3	Identification Techniques for Learning Problems	No. of Teachers	Percentage of Teachers
How do you identify these problems?	Through Book reading (T ₁)	02	2
	Dictation and Assessment (T ₂)	07	5
	Observation & Assessment (T ₃)	28	20
	Observation in general (T ₄)	68	49
	Through Assessment (T ₅)	29	21
	Through their lack of motivation, concentration and Interest (T ₆)	04	3

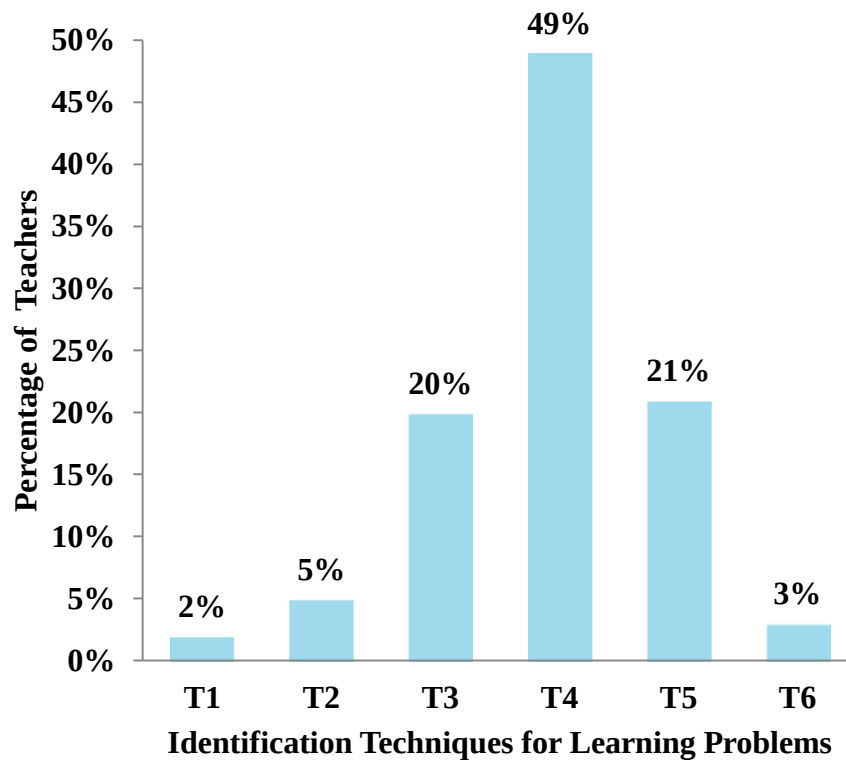
Table 4.20 illustrates the techniques teachers use to identify problems in their students. The most common approach, employed by 49% of teachers, is general observation. Another 21% of teachers identify issues through assessments, while 20% use a combination of both observation and assessment. Dictation and assessment methods are utilized by 5% of teachers. Additionally, 3% of teachers understand their students' problems through indicators like lack of motivation, concentration, and interest. Only 2% of teachers use book reading as a tool to identify student issues.

Teachers predominantly rely on informal methods such as observation and classroom assessments to recognize academic difficulties among students with co-morbid conditions. While these methods are essential, the relatively low use of structured diagnostic tools or deeper behavioral indicators suggests a need for more systematic training. These findings are in line with Mehta et al. (2015), who emphasized that mental health concerns among school-going children often remain underdiagnosed due to the absence of trained professionals and systemic frameworks, highlighting a critical need for capacity-building and school-based support systems. A limited number of teachers are attuned to subtle psychological signs like reduced motivation or interest, pointing to the importance of equipping educators with skills in early identification and intervention through professional development and psychological sensitization.

Figure 4.74 illustrates the percentage-wise distribution of teachers against the identification techniques teachers used to identify the learning problems of middle school students with co-morbid conditions.

Figure 4.74

Percentage of Teachers Corresponding to Techniques used to Identify Learning Problems among Middle School Students with Co-morbid Conditions

**Table 4.21**

Number and Percentage of Teachers using Psychological Tools for the Identification of Middle School Students with Co-morbid Conditions

Q. No. 4	Psychological Tools Used	No. of Teachers	Percentage of Teachers
Do you use some Psychological Tools to identify these problems? If yes, mention those tools.	Yes	0	0
	No	140	100

Table 4.21 shows none of the teachers used any psychological tool to identify the problem of middle school students with co-morbid conditions. Through further questioning, it was found that teachers were not even aware about any psychological tool.

The complete absence of psychological tool usage among teachers highlights a significant gap in professional preparedness for addressing the academic challenges of students with co-morbid conditions. The fact that most teachers are unaware of such

tools underscores the urgent need for capacity-building initiatives, including training in psychological screening methods and inclusive education practices. This lack of awareness can lead to under-identification or misinterpretation of students' needs, thereby limiting the effectiveness of classroom support and intervention strategies.

Table 4.22

Number and Percentage of Teachers Corresponding to Type of Assistance Consulting for Middle School Students with Co-morbid Conditions

Q. No. 5	Type of Assistance Consulting	No. of Teachers	Percentage of Teachers
Are you taking assistance of following?	No one's Assistance	122	87
	Counselor's Assistance	10	7
	Head Master's Assistance	03	2
	Special Educator's Assistance	04	3
	Parent's Assistance	01	1

Table 4.22 shows the 87% of teachers hadn't taken assistance of anyone either in identification process and remedial process whereas 7% of teachers consulted counselor of their school, 3% of teachers took the help of special educator, 2% of teachers took the help of headmaster and only 1% of teachers consulted parents of the concerned students regarding the problem of the students with co-morbid conditions.

The responses reflect a strong tendency among teachers to work in isolation when dealing with students facing academic difficulties due to co-morbid conditions. The limited engagement with counselors, special educators, or even school leadership suggests a lack of collaborative support structures within schools. This isolation may stem from either unavailability of these professionals or a lack of awareness regarding their roles. Moreover, minimal communication with parents points to a missed opportunity for holistic understanding and support of the child's learning needs. Overall, the findings highlight the need to promote interdisciplinary collaboration and establish a stronger support network within the school ecosystem.

Figure 4.75 illustrates the percentage-wise distribution of teachers against type of assistance consulted by them to resolve problems of middle school students with co-morbid conditions.

Figure 4.75

Percentage of Teachers Corresponding to Different Types of Assistance Consulted for Middle School Students with Co-morbid Conditions

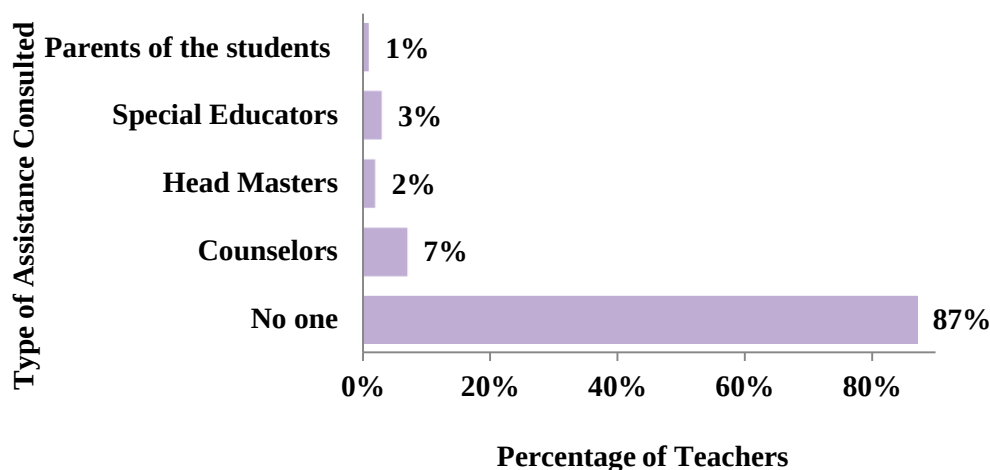


Table 4.23

Number and Percentage of Teachers Corresponding to Teacher-Identified Problems among Middle School Students with Co-morbid Conditions during Teaching

Q. No. 6	Teacher-Identified Problems	No. of Teachers	Percentage of Teachers
What are your general observations about these students while teaching?	Lack of interest and motivation	100	71
	Lack of Concentration	85	61
	Not able to understand	20	14
	Hyper Active	06	4
	Bunk Classes	51	36

Table 4.23 details teachers' general observations regarding students' problems during teaching. According to 71% of teachers, lack of interest and motivation is the primary cause. Additionally, 61% believe lack of concentration is the main issue. Meanwhile, 14% attribute students' difficulties to their inability to grasp lessons. Furthermore, 36% of teachers think frequent class bunking contributes to slow progress, and only 4% identify hyperactivity as a significant distraction from studies.

Teachers' general observations reveal that students with co-morbid conditions exhibit significant behavioral and cognitive challenges that impact their learning. The predominant issues - lack of interest, motivation, and concentration - suggest underlying psychological or emotional barriers that may be unaddressed. Difficulty in grasping lessons and frequent absenteeism further compound their academic

struggles, pointing to both internal and external factors affecting student performance. Notably, the mention of hyperactivity by a few teachers indicates that behavioral disorders may also be present but possibly under-recognized. These insights underline the importance of early identification, emotional support, and individualized instructional strategies within the classroom.

Figure 4.76

Percentage of Teachers Corresponding to Teacher-Identified Problem among Middle School Students with Co-morbid Conditions during Teaching

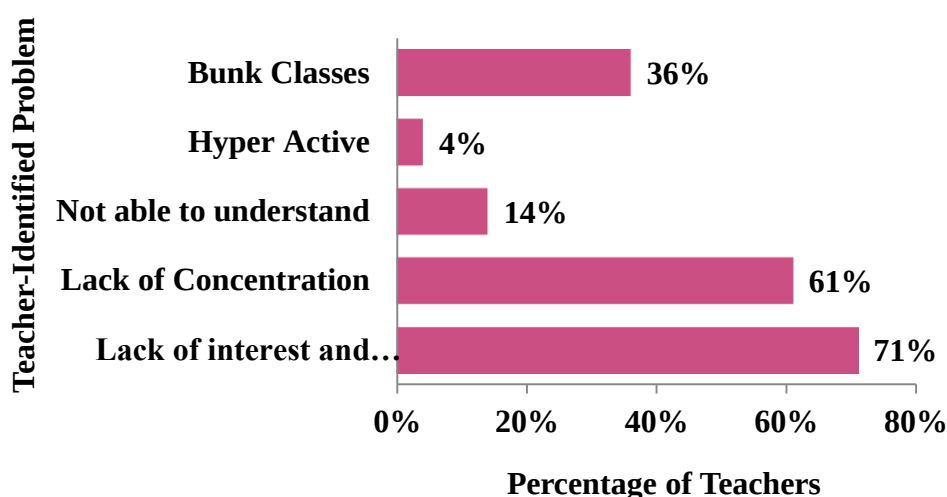


Figure 4.76 illustrates the percentage-wise distribution of teachers against different types of problems observed among middle school students with co-morbid conditions by teachers during teaching.

Table 4.24

Number and Percentage of Teachers Corresponding to Various Other Problems among Middle School Students with Co-morbid Conditions

Q. No. 7	Various Other Problems	No. of Teachers	Percentage of Teachers
Out of following problems, tick the problem(s) you are facing:	Problem in Reading (O1)	119	85
	Spellings errors (O2)	86	61
	Writing problems (O3)	102	73
	Doing Mathematical calculations (O4)	67	48
	Self-Organizational problems (O5)	12	9
	Problem in Understanding Social cues (O6)	19	14

Auditory Processing Problem (O7)	7	5
Visual Processing Problem (O8)	8	6
Mispronounce words while speaking (O9)	49	35
Difficulty in remaining focused (O10)	51	36
Hard to focus and follow verbal instructions (O11)	35	25
Difficulties doing things in sequential order (O12)	7	5
Difficulties understanding what has been taught (O13)	38	27
Difficulties taking notes during classes (O14)	41	29
Difficulty copying what is written on the board (O15)	35	25
Difficulties expressing his/her thoughts/ideas while writing (O16)	54	39

Table 4.24 outlines the problems faced by students with co-morbid conditions, as identified by teachers. The most common problem, noted by 85% of teachers, is reading difficulty. This is followed by writing problems, identified by 73% of teachers, and spelling errors, mentioned by 61%. Additionally, 48% of teachers observed issues with math, while 39% reported difficulties in expressing thoughts or ideas in writing. Other problems include difficulty remaining focused (36%), mispronunciation (35%), and challenges in taking notes during class (29%). Furthermore, 27% of teachers identified difficulties in understanding lessons, while 25% noted problems in focusing, following verbal instructions, and copying from the board. Issues with understanding social cues (14%), self-organization (9%), and visual processing (6%) were also reported.

Teachers' responses highlight a wide spectrum of academic and behavioral difficulties faced by students with co-morbid conditions. The predominance of reading, writing, and spelling challenges points to core literacy-related learning issues that are central to classroom functioning. Additionally, substantial concerns around mathematical ability and written expression reflect broader cognitive processing difficulties. The presence of issues like poor concentration, mispronunciation, and difficulty following instructions indicates that many of these students struggle with attention and language processing. Less frequently noted but still significant are challenges with social cues,

self-organization, and visual processing - areas often linked to neurodevelopmental or behavioral disorders. This variety in challenges underscores the complex and multifaceted needs of these students, demanding targeted interventions and differentiated support strategies within mainstream classrooms.

Figure 4.77

Percentage of Teachers Corresponding to Various Other Problems among Middle School Students with Co-morbid Conditions

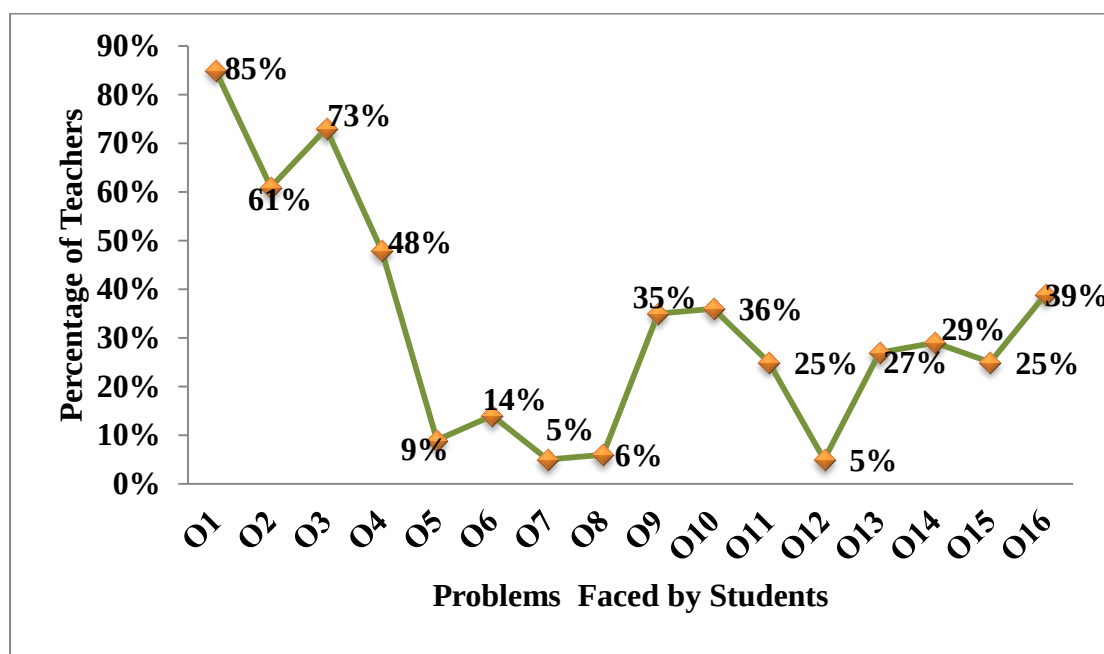


Figure 4.77 illustrates the percentage-wise distribution of teachers against various other problems observed among middle school students with co-morbid conditions by teachers during teaching.

Table 4.25

Number and Percentage of Teachers Corresponding Prevalence of Co-morbidity among Middle School Students

Q. No. 8	Prevalence of Co-morbidity	No. of Teachers	Percentage of Teachers
Do you find more than one problem in your students? If yes, mention	Reading & writing (P1)	103	74
	Reading and calculations (P2)	44	31
	Reading & lack of concentration (P3)	16	11
	Reading & Lack of interest and motivation (P4)	03	2
	Reading & Lack of proper guidance from parents (P5)	05	4

Reading & Time Management (P6)	02	1
Writing & Calculation (P7)	46	33
Writing & lack of concentration (P8)	16	11
Writing & Lack of interest and motivation (P9)	04	3
writing & Lack of proper guidance from parents (P10)	06	4
Writing & Time Management (P11)	04	3
Calculation & lack of concentration (P12)	06	4
Calculation & Lack of proper guidance from parents (P13)	03	2
Calculation & Time Management (P14)	01	1
lack of concentration & Lack of interest and motivation (P15)	02	1
lack of concentration& Lack of proper guidance from parents (P16)	02	1
lack of concentration & Time Management (P17)	01	1
Lack of interest and motivation & Lack of proper guidance from parents (P18)	01	1
Lack of interest and motivation & Time Management (P19)	01	1
Reading, writing and calculation (P20)	39	28

Note: P - Combination of Problems

Table 4.25 presents the presence of co-morbidities among students as observed by teachers. The most common combination, noted by 74% of teachers, is reading and writing difficulties. This is followed by writing and calculation issues, reported by 33% of teachers, and reading and calculation problems, seen by 31% of teachers. Additionally, 28% of teachers observed a combination of reading, writing, and calculation difficulties. Other combinations include reading & lack of concentration; and writing & lack of concentration; each identified by 11% of teachers. Smaller percentages of teachers reported issues such as reading & lack of parental guidance; writing & lack of parental guidance, and calculation & lack of concentration (4%). Further observed combinations include writing, lack of interest & motivation, and

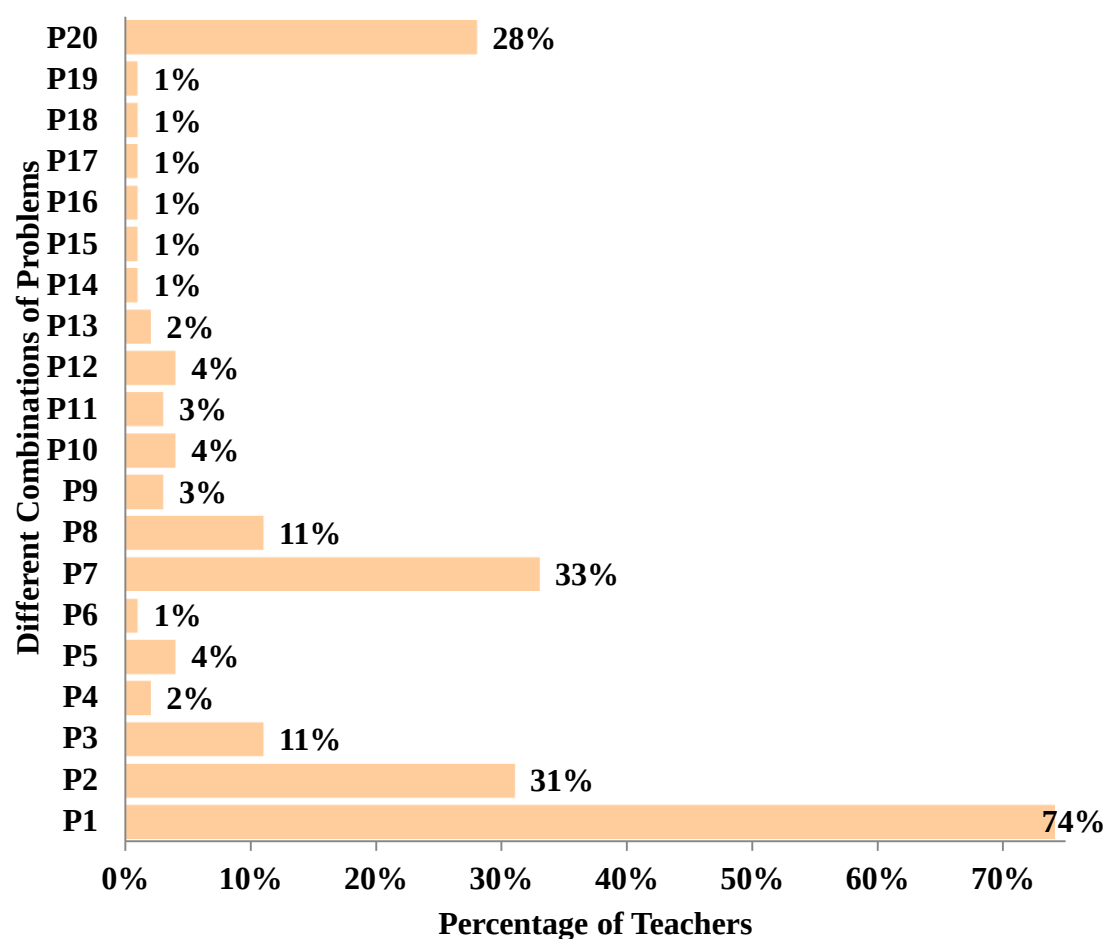
writing & time management (3%), as well as reading & Lack of interest and motivation; and calculation & lack of parental guidance (2%). The least observed combinations, each noted by 1% of teachers, include reading & time management; calculation & time management; lack of concentration & lack of interest and motivation; lack of concentration & lack of proper guidance from parents; lack of concentration & time management; lack of interest and motivation & lack of proper guidance from parents; and lack of interest and motivation & time management issues.

Teachers' observations clearly indicate that students with co-morbid conditions often experience overlapping academic and behavioral challenges rather than isolated difficulties. The most frequently reported combinations involve foundational academic skills - reading, writing, and calculation - highlighting the interdependence of these core areas. Such overlap suggests that deficits in one domain often influence performance in others. In addition to academic skill deficits, combinations involving lack of concentration, interest, motivation, and parental support reflect the interplay between cognitive, emotional, and environmental factors. Though less frequently mentioned, these behavioral and contextual issues contribute significantly to the complexity of students' learning profiles. The diversity of co-occurring problems underscores the necessity for a holistic assessment and an integrated support approach, tailored not only to specific academic needs but also to the emotional and social context of each student.

Figure 4.78 illustrates the percentage-wise distribution of teachers against different combinations of problems observed among middle school students with co-morbid conditions by their teachers.

Figure 4.78

Percentage of Teachers Corresponding to Different Combinations of Problems among Middle School Students with Co-morbid Conditions

**Table 4.26**

Number and Percentage of Teachers Corresponding to Different Solutions of Problems of Middle School Students with Co-morbid Conditions

Q. No. 9	Solution of Problems	No. of Teachers	Percentage of Teachers
How do you solve these problems?	Counseling (H1)	06	4
	Guiding and imparting moral lessons (H2)	11	8
	Giving friendly environment to students (H3)	02	1
	Paying Special and extra Time/Attention (H4)	13	9

Different teaching techniques (H5)	30	21
Practice and remedial classes (H6)	60	43
Activities and assessment (H7)	05	4
Tailored teaching (H8)	05	4
Through Motivation (H10)	08	6

Table 4.26 shows the possible solutions provided by the teachers for the identified problems of middle school students with co-morbid conditions. 43% of teachers used practice & remedial classes as tool to help students to get over their problems where 21% used different teaching techniques. 4% of teachers used tailored teaching and through motivation 6% teachers helped the students. 4% of teachers through counseling and 4% of teachers through activities & assessment helped the students. 8% of teachers used guidance & imparting moral lessons; 9% paying special & extra time; and 01% just provided a friendly environment to help their students in order to solve their academic problems.

The strategies employed by teachers to address the academic problems of students with co-morbid conditions reveal a mix of conventional and supportive approaches. A large number rely on remedial practices and varied teaching techniques, reflecting an attempt to reinforce foundational skills. However, more specialized and individualized methods, such as tailored teaching and counseling, are less frequently used - likely due to constraints such as lack of training or resources. The use of motivation, moral guidance, and a supportive classroom environment indicates that some teachers recognize the emotional and behavioral dimensions of academic challenges. Nevertheless, the overall reliance on basic methods suggests a need for professional development in differentiated instruction, inclusive pedagogy, and psychological support mechanisms to better meet the diverse needs of these students.

Figure 4.79

Percentage of Teachers Corresponding to Different Solutions of Problems of Middle School Students with Co-morbid Condition

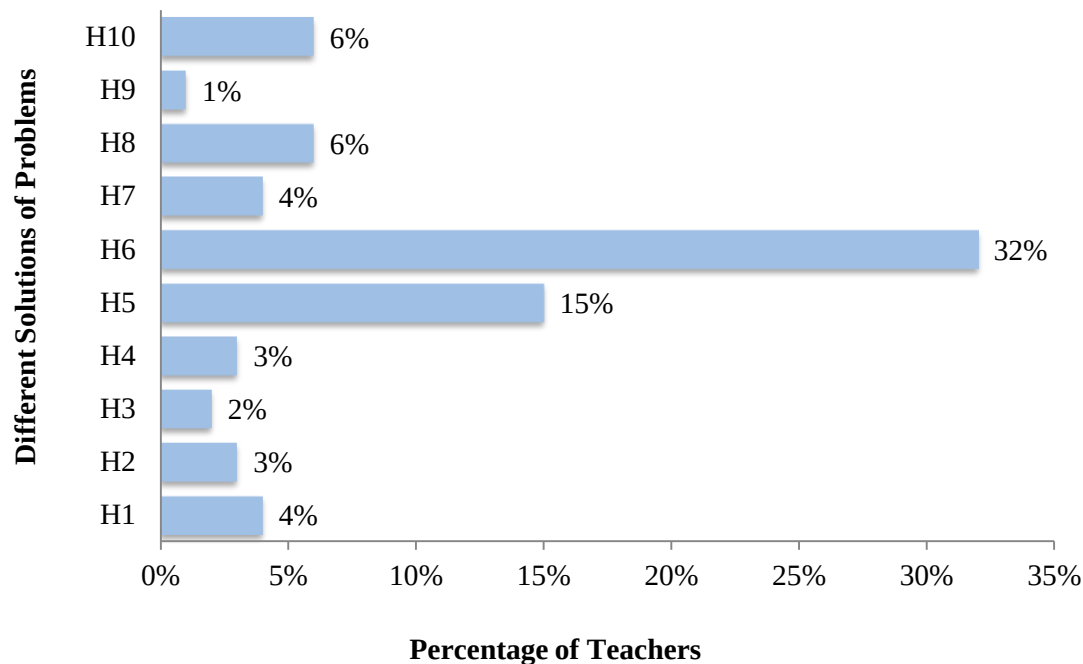


Figure 4.79 illustrates the percentage-wise distribution of teachers against different solutions provided to middle school students with co-morbid conditions by their teachers.

Table 4.27

Number and Percentage of Teachers Corresponding to Approaches of Discussion regarding Academic Problems of Middle School Students with Co-morbid Conditions

Q. No. 10	Approach of Discussion regarding Academic Problems	No. of Teachers	Percentage of Teachers
Do you discuss these problems with your students? How?	No (A1)	37	26
	Only Yes (A2)	20	14
	Yes, in Groups (A3)	26	19
	Yes, at Individual Level (A4)	32	23
	Yes, by telling them to focus more on problematic areas (A5)	25	18

Note - A1 = Approach 1, A2 = Approach 2 and so on ...

Table 4.27 depicts the discussion of problems with the students by their respective teachers. 19% of teachers said they discussed the problems with the students in groups; 26% said they don't discuss with students; 23% of them discussed it

individually; 18% of them just realize the students to focus on problematic areas; and 14% of them simply said yes they discuss but doesn't elaborate how.

The responses indicate a varied approach among teachers regarding communication with students about their academic challenges. While some teachers engage in direct dialogue, either individually or in groups, a notable proportion refrain from discussing the problems explicitly. Others adopt a more indirect strategy by simply urging students to concentrate on their difficulties without in-depth conversations. This mixed pattern highlights a potential gap in fostering open communication and student involvement in problem-solving. Enhancing teachers' skills in effective, empathetic dialogue could promote better understanding and collaboration, thereby empowering students to actively participate in addressing their academic needs.

Figure 4.80

Percentage of Teachers Corresponding to Approaches of Discussion regarding Academic Problems of Middle School Students with Co-morbid Conditions

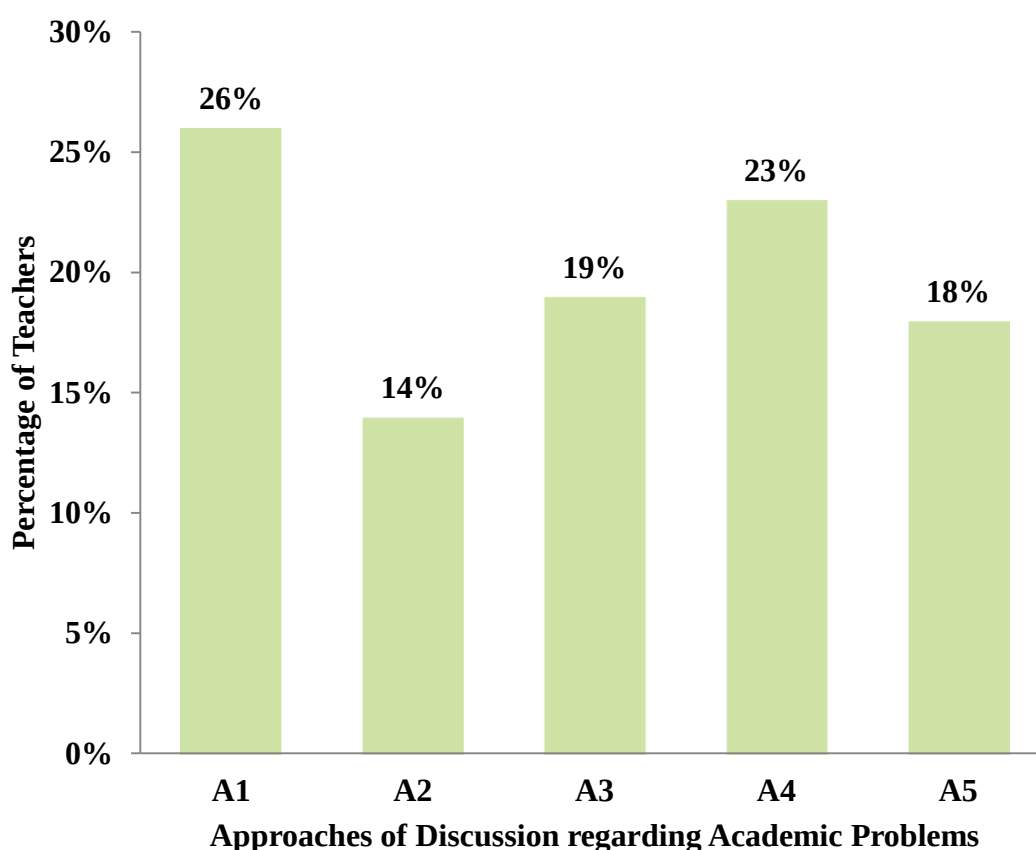


Figure 4.80 illustrates the percentage-wise distribution of teachers against different approaches of discussion to solve academic problems of middle school students with co-morbid conditions adopted by their teachers.

Table 4.28

Number and Percentage of Teachers Corresponding to Discussion regarding Academic Problems of Middle School Students with Co-morbid Conditions with Colleagues

Q. No. 11	Discussion regarding Academic Problems with Colleagues	No. of Teachers	Percentage of Teachers
Do you discuss these problems with your colleagues/concerned person? How?	No	14	10
	No, Being a counselor have to maintained secrecy	01	0.71
	Yes, in staff room to make a mutual way out	125	89.29

Table 4.28 depicts the discussion carried out by teachers with their colleagues regarding academic problems of middle school students with co-morbid conditions. 89% of teachers said they discuss the academic problems in the staff room so that they make a mutual way out; 10% of teachers simply said no, that they don't discuss student's academic problems with anyone; and only 0.71% of teachers being a counselor said as she has to maintain the student secrecy so she can't discuss their academic problems with anyone.

The findings reveal that the vast majority of teachers actively engage in discussions about students' academic challenges with their colleagues, typically within the staff room environment. This collaborative approach suggests a shared commitment to finding collective solutions for supporting students with co-morbid conditions but these discussions appeared to be limited to sharing information rather than actively collaborating to develop effective solutions. The data suggests that mere discussion does not necessarily translate into collective problem-solving or coordinated intervention strategies. This indicates a gap between communication and action, highlighting the need for more structured and solution-focused teamwork among teachers to better address the challenges faced by students with co-morbid conditions. However, a small minority of teachers do not participate in such exchanges, either due to personal choice or professional confidentiality, particularly in the case of counselors bound by ethical considerations to protect student privacy.

Figure 4.81

Percentage of Teachers Corresponding to Discussion regarding Academic Problems of Middle School Students with Co-morbid Conditions with Colleagues

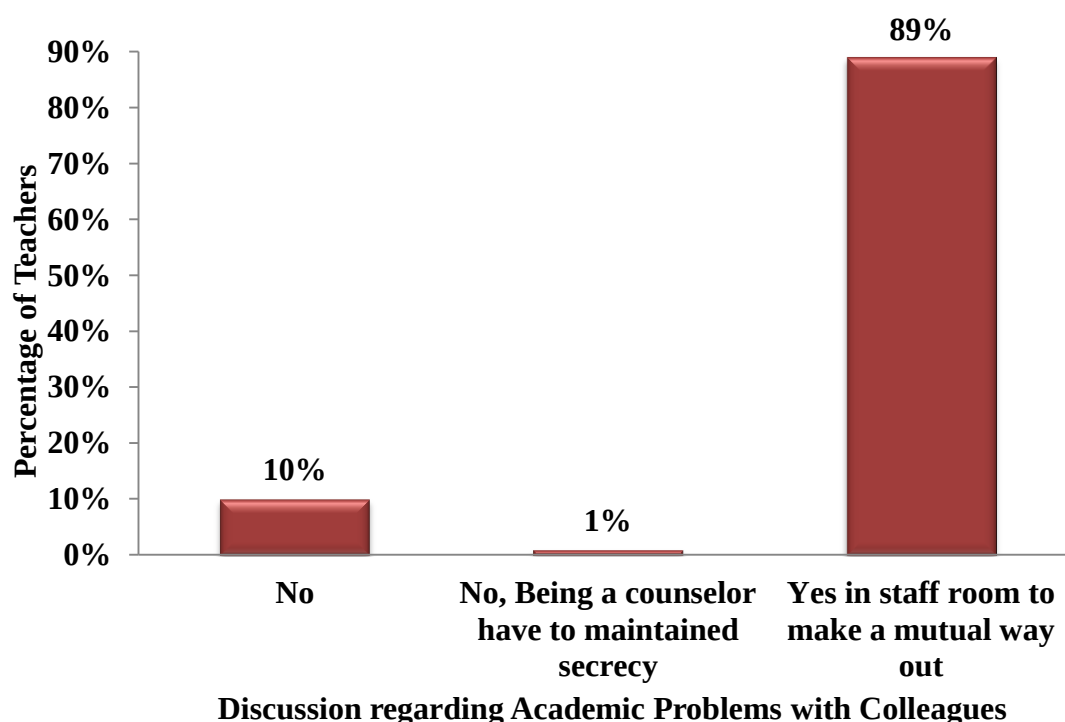


Figure 4.81 illustrates the percentage-wise distribution of teachers corresponding to their discussion regarding academic problems of middle school students with co-morbid conditions with colleagues.

Table 4.29

Number and Percentage of Teachers Corresponding to Discussion regarding Academic Problems of Middle School Students with Co-morbid Conditions with Parents

Q. No. 12	Discussion regarding Academic Problems with Parents	No. of Teachers	Percentage of Teachers
Do you discuss these problems with parents of these students? How?	No	05	3.57
	Yes, through PTM	132	94.29
	Yes, through PTM and individually when needed	03	2.14

Table 4.29 depicts the discussion of teachers with the concerned parents regarding academic problems of the middle school students with co-morbid conditions. 94.29% of teachers discussed the academic problems with the parents in PTM on every 26th day of the month; 3.57% didn't discuss academic problems with the parents; and

2.14% of teachers discussed academic problems in PTM and individually too whenever needed.

While a large majority of teachers reported discussing students' academic problems with parents during monthly Parent-Teacher Meetings (PTMs), the effectiveness of these interactions may be limited by their routine and generalized nature. The discussions appear more procedural than personalized, with only a very small percentage of teachers engaging in both PTMs and individual follow-ups. This reflects a need for more consistent and meaningful parent-teacher engagement tailored to each student's specific challenges, especially in the context of co-morbid conditions where ongoing support and collaboration are critical.

Figure 4.82

Percentage of Teachers Corresponding to Discussion regarding Academic Problems of Middle School Students with Co-morbid Conditions with Parents

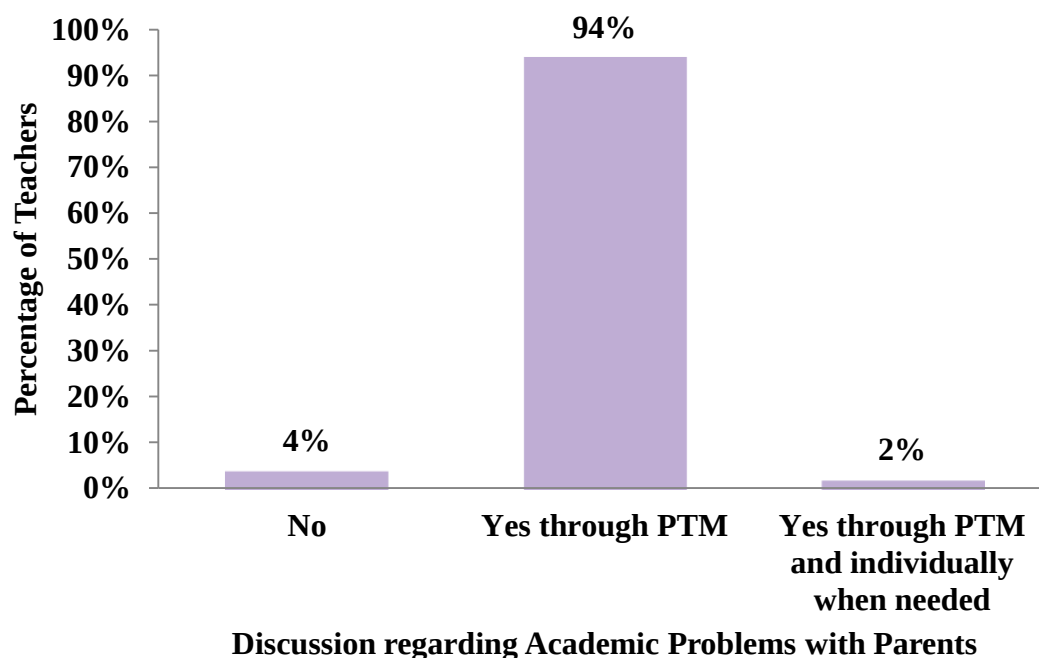


Figure 4.82 illustrates the percentage-wise distribution of teachers corresponding to their discussion regarding academic problems of middle school students with co-morbid conditions with parents.

The analysis of teachers' responses reveals a complex mix of awareness, concern, and constraints. While many educators recognize the signs and struggles of co-morbid conditions, their reliance on informal identification methods and lack of professional support highlight significant systemic gaps. Limited use of psychological tools, minimal collaboration with specialists and scarce individualized interventions point to

a need for structured training and institutional reform. When interpreted alongside students' own experiences, these teacher insights enhance the credibility of the findings and reinforce the need for multi-layered, inclusive approaches in education. These observations collectively mirror the concerns raised by Mehta et al. (2015), who stressed the urgent need for developing school-based mental health systems and fostering inter-sectoral coordination to ensure early diagnosis, effective intervention, and holistic developmental outcomes.

4.4 Levels of Academic Self-Efficacy among Middle School Students with Co-morbidity with respect to Gender, Age, and Locale

The fourth objective aimed to explore the levels of academic self-efficacy among middle school students having co-morbidity with respect to gender, age and locale. The data was collected from the 70 government middle schools of 10 districts of Jammu Province viz. Rajouri, Poonch, Reasi, Jammu, Kathua, Udhampur, Jammu, Doda, Ramban and Khistawar through survey method. Researchers used an academic self-efficacy scale to collect the data from identified students with co-morbid conditions. The data was analyzed to identify students having co-morbidity into three levels of academic self-efficacy (i.e., below average, average, and high) with respect to gender, age, and locale, by computing percentage and results discussed under the following headings:

4.4.1 Levels of Academic Self-Efficacy among Middle School Students with Co-morbid Conditions

The data was analysed by considering the classification of government middle school students with co-morbid conditions in different levels of academic self-efficacy. The number and percentage of students with co-morbid conditions was computed against different levels of academic self-efficacy and presented in table 4.30.

Table 4.30

Distribution of Students with Co-morbid Conditions in Different Levels of Academic Self-Efficacy

Total	Levels of Academic Self-Efficacy		
	Below Average	Average	High
224	220	04	0
Percentage	98.21%	1.78%	0%

The table 4.20 depicts out of the total 224 students included in the analysis, a significant majority (220) of students perceived their academic self-efficacy to be below average, constituting approximately 98.21% of the total cohort supported by the findings of Kausik & Hussain (2020) and Grotan et al.(2019) i.e., Kausik & Hussain (2020) found that school students with learning disabilities demonstrated reduced academic self-efficacy and Grotan et al. (2019) found that college students with severe co-morbidity showed a decrease in their academic self-confidence. This suggests a prevalent sense of insecurity or uncertainty regarding their academic abilities within this demographic. In contrast, only a small fraction of students with co-morbid conditions, specifically four students, perceive their academic self-efficacy to be average, accounting for about 1.78% of the total identified students. None of the students in this sample perceive their academic self-efficacy to be high, indicating a notable absence of confidence or optimism about academic performance among students with co-morbid conditions. These findings emphasize the significance of focused interventions and support techniques to tackle the distinct difficulties encountered by this group in educational environments.

4.4.2 Levels of Academic Self-Efficacy among Middle School Students with Co-morbid Conditions with respect to Gender

To get an insight into the difference in the academic self-efficacy of middle school boys and girls with co-morbid conditions, the number and percentage of boys and girls with co-morbid conditions in different categories of academic self-efficacy was computed and results presented in table 4.31 and figure 4.83.

Table 4.31

Number of Middle School Boys and Girls with Co-morbid Conditions in Different Levels of Academic Self-Efficacy

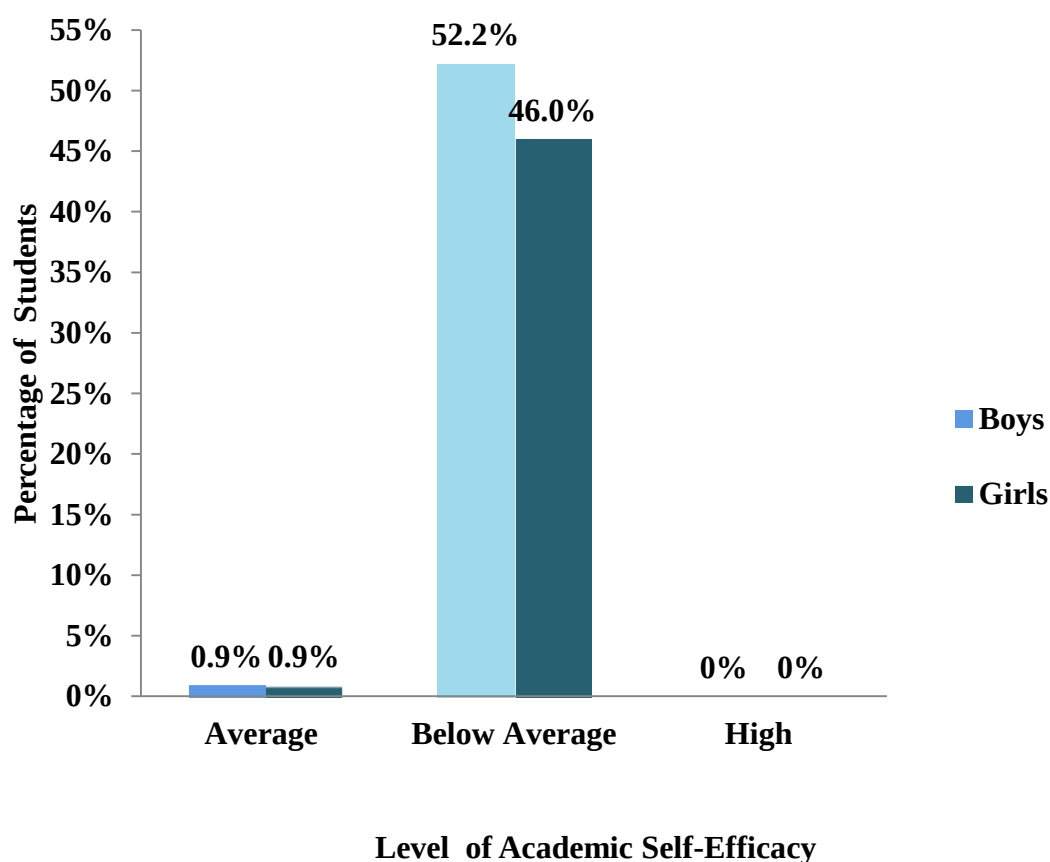
Gender	Academic Self-Efficacy		
	Below Average	Average	High
Boys	117	02	0
Girls	103	02	0

Table 4.31 and Figure 4.83 show the distribution of middle school boys and girls with Co-morbid Conditions in different levels of academic self-efficacy. The data indicates that 52.2% (117 out of 224) of boys and 46.0% (103 out of 224) of girls exhibit below-average academic self-efficacy, while only 0.9% (2 each out of 224) of both boys and girls fall into the average category, and none show high self-efficacy. Thus,

boys are more likely than girls to have below-average academic self-efficacy. Overall, the majority of these students have a below-average level of academic self-efficacy.

Figure 4.83

Percentage of Middle School Boys and Girls with Co-morbid Conditions with respect to Different Levels of Academic Self-Efficacy



It can be concluded that majority of government middle school students with co-morbid conditions possess below average level of academic self-efficacy with respect to gender.

4.4.3 Levels of Academic Self-Efficacy among Middle School Students with Co-morbid Conditions with respect to Age

To get an insight into the difference in the academic self-efficacy of middle school students with co-morbid conditions in the two specific age groups, the number and percentage of students aged 11-12 years and 13-15 years in different categories of academic self-efficacy was computed and results presented in table 4.32 and figure 4.84.

Table 4.32

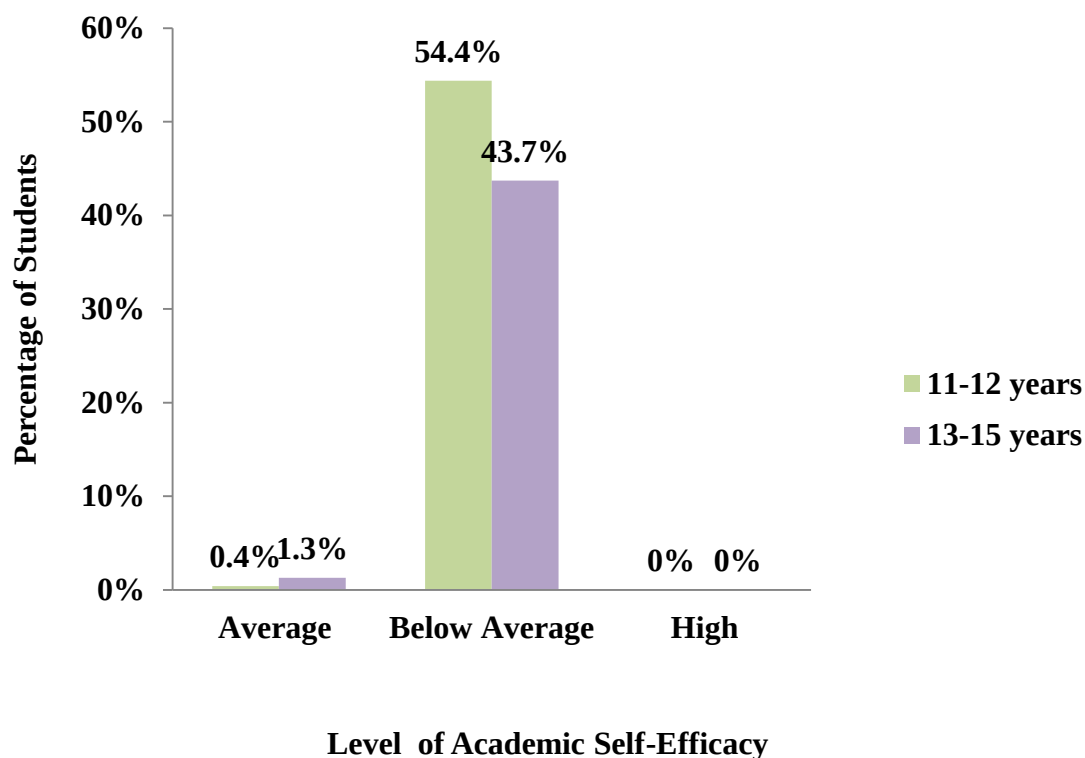
Number of Middle School Students with Co-morbid Conditions in Two Specific Age Groups with respect to Different Levels of Academic Self-Efficacy

Age	Academic Self-Efficacy		
	Below Average	Average	High
11-12 years	122	01	0
13-15 years	98	03	0

Table 4.32 and Figure 4.84 present the middle school students with co-morbid conditions within the age groups 11-12 years and 13-15 years in different levels of academic self-efficacy. The data reveals that 54.4% (122 out of 224) of students aged 11-12 years and 43.7% (98 out of 224) of those aged 13-15 years exhibit below-average self-efficacy. For the students aged 11-12 years, the average self-efficacy was 0.4% (1 out of 224), and for the students aged 13-15 years, it was 1.3% (3 out of 224). None of the participants in either of the two age groups demonstrated high self-efficacy.

Figure 4.84

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups with respect to Different Levels of Academic Self-Efficacy



4.4.4 Levels of Academic Self-Efficacy among Middle School Students with Co-morbid Conditions with respect to Locale

To get an insight into the difference in the academic self-efficacy of urban and rural middle school students with co-morbid conditions, the number and percentage of urban and rural students in different categories of academic self-efficacy was computed and results presented in table 4.33 and figure 4.85.

Table 4.33

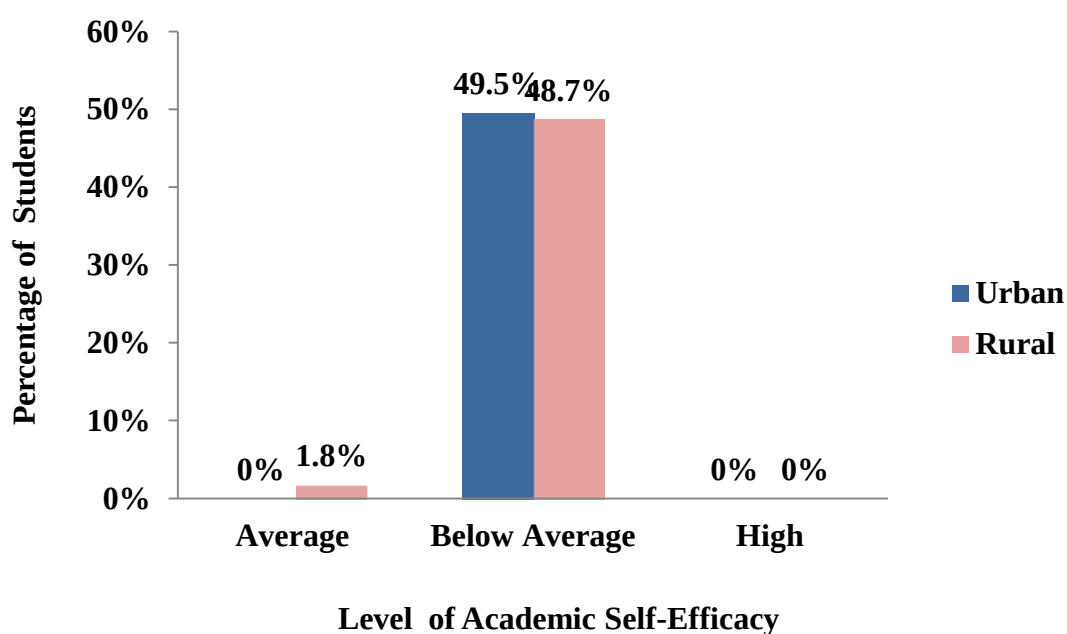
Number of Urban and Rural Middle School Students with Co-morbid Conditions with respect to Different Levels of Academic Self-Efficacy

Locale	Academic Self-Efficacy		
	Below Average	Average	High
Urban	111	0	0
Rural	109	04	0

Table 4.33 and Figure 4.85 illustrate the levels of academic self-efficacy among urban and rural middle school students with co-morbid conditions. The findings indicate that 49.5% (111 out of 224) of urban students and 48.7% (109 out of 224) of rural students have below-average academic self-efficacy. Only 1.8% (4 out of 224) of rural students demonstrate average academic self-efficacy, while none of the students in either group show high academic self-efficacy.

Figure 4.85

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions with respect to Different Levels of Academic Self-Efficacy



Conclusion

This study on academic self-efficacy among middle school students with co-morbid conditions indicates a widespread issue of low academic self-efficacy across various demographics. The majority of middle school students with co-morbid conditions, regardless of their gender, age, and locale exhibit below-average academic self-efficacy. Boys generally show slightly lower academic self-efficacy than girls. Younger students (aged 11-12 years) have a higher incidence of low academic self-efficacy compared to older students (aged 13-15 years). Both urban and rural students predominantly fall into the below-average academic self-efficacy category, with urban students showing a slightly better outcome. The complete absence of high academic self-efficacy highlights the urgent need for targeted interventions to enhance the confidence and academic self-perception of middle school students with co-morbid conditions, addressing their unique educational challenges.

4.5 Academic Achievement of Middle School Students with Co-morbidity with respect to Gender, Age, and Locale

The fifth objective was to study the academic achievement of middle school students having co-morbidity. The data was collected from the 70 government middle schools of 10 districts of Jammu Province viz. Rajouri, Poonch, Reasi, Jammu, Kathua, Udhampur, Jammu, Doda, Ramban and Khistawar through survey method. Researcher collected data pertaining to academic achievement scores of middle school students aged 11-12 years and 13-15 years with co-morbidity from their respective school records. The data was analyzed to identify students having co-morbidity into three levels of academic achievement (i.e. low, average and high) with respect to gender, age, and locale, by computing percentage and results discussed under the following headings:

4.5.1 Academic Achievement of Middle School Students with Co-morbid Conditions

The data was analysed by considering the distribution of government middle school students with co-morbid conditions in different levels of academic achievement. The number and percentage of students with co-morbid conditions was computed against different levels of academic achievement and presented in table 4.34.

Table 4.34

Distribution of Students with Co-morbid Conditions in Different Levels of Academic Achievement

Total	Academic Achievement		
	Low	Average	High
224	194	28	02
Percentage	86.6%	12.5%	0.89%

The table 4.34 illustrates the distribution of middle school students with co-morbid conditions with respect to different levels of academic achievement. A substantial majority (86.6%) of these students fall into the low academic achievement category, indicating a widespread struggle with academic performance which is also supported by Dupaul et al. (2021); Pagerols et al. (2022); and Español-Martín et al. (2023) i.e., Dupaul et al. (2021) found that students having ADHD have low academic performance; and Pagerols et al. (2022) as well as Español-Martín et al. (2023) found that students having co-morbid conditions have low academic performance. A smaller proportion of students (12.5%) achieves at an average level, while only a minimal number of students (0.89%) excel academically. This data underscores the necessity for specific measures to assist students encountering these difficulties.

4.5.2 Academic Achievement of Middle School Students with Co-morbid Conditions with respect to Gender

To get an insight into the difference in the academic achievement of middle school boys and girls with co-morbid conditions, the number and percentage of boys and girls with co-morbid conditions in different categories of academic achievement was computed and results presented in table 4.35 and figure 4.86.

Table 4.35

Number of Middle School Boys and Girls with Co-morbid Conditions in Different Levels of Academic Achievement

Gender	Academic Achievement		
	Low	Average	High
Boys	101	17	01
Girls	93	11	01

Figure 4.86

Percentage of Middle School Boys and Girls with Co-morbid Conditions with respect to Different Levels of Academic Achievement

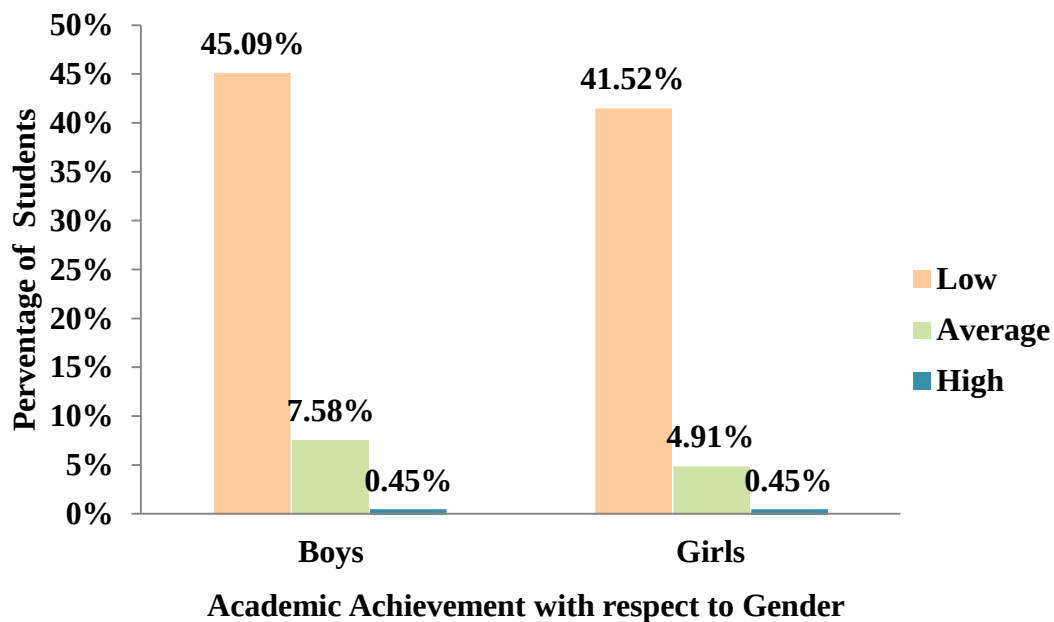


Table 4.35 and Figure 4.86 illustrate the academic achievement of middle school students with co-morbid conditions, categorized by gender. The data indicate that a higher proportion of boys (45.09% i.e., 101 out of 224) exhibit low academic achievement compared to girls (41.52% i.e., 93 out of 224). Boys also surpass girls in average academic achievement, with 7.58% (17 out of 224) of boys and 4.91% (11 out of 224) of girls achieving at this level. Both genders show an equal minimal percentage of high academic achievement (0.45% i.e., 1 out of 224).

These findings suggest that middle school boys with co-morbid conditions had a somewhat higher likelihood of experiencing low academic attainment in comparison to their girls' peers. This highlights the necessity for focused academic treatments and support techniques that address the specific needs of boys and girls with co-morbid conditions in middle school settings.

4.5.3 Academic Achievement of Middle School Students with Co-morbid Conditions with respect to Age

To get an insight into the difference in the academic achievement of middle school students with co-morbid conditions in the two specific age groups, the number and percentage of students aged 11-12 years and 13-15 years in different categories of

academic self-efficacy was computed and results presented in table 4.36 and figure 4.87.

Table 4.36

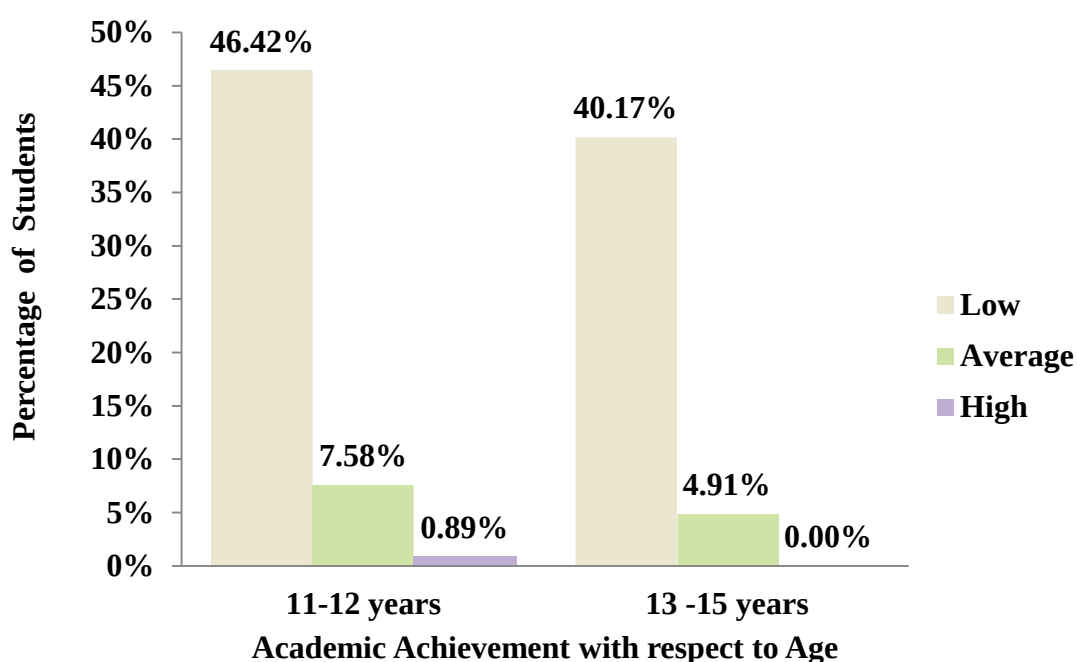
Number of Middle School Students with Co-morbid Conditions in Two Specific Age Groups with respect to Different Levels of Academic Achievement

Age	Academic Achievement		
	Low	Average	High
11-12 years	104	17	02
13-15 years	90	11	0

Table 4.36 and Figure 4.87 illustrate the academic achievement of middle school students with co-morbid conditions, categorized by age groups i.e., 11-12 years and 13-15 years. The data reveal that a higher percentage of students aged 11-12 years (46.42% i.e. 104 out of 224) demonstrate low academic achievement compared to those aged 13-15 years (40.17% i.e. 90 out of 224). In terms of average academic achievement, 7.58% (17 out of 224) of students in the 11-12 years of age group achieve at this level, compared to 4.91% (11 out of 224) of students in the 13-15 years of age group. High academic achievement is observed only in the 11-12 years of age group (0.89% i.e., 2 out of 224).

Figure 4.87

Percentage of Middle School Students with Co-morbid Conditions in Two Specific Age Groups with respect to Different Levels of Academic Achievement



These findings suggest that younger middle school students (11-12 years) with co-morbid conditions are more prone to have lower academic achievement compared to the students aged 13-15 years. This highlights the necessity for age-specific academic interventions tailored to the specific age groups of middle school students with co-morbid conditions.

4.5.4 Academic Achievement of Middle School Students with Co-morbid Conditions with respect to Locale

To get an insight into the difference in the academic achievement of urban and rural middle school students with co-morbid conditions, the number and percentage of urban and rural students in different categories of academic achievement was computed and results presented in table 4.37 and figure 4.88.

Table 4.37

Number of Urban and Rural Middle School Students with Co-morbid Conditions with respect to Different Levels of Academic Achievement

Locale	Academic Achievement		
	Low	Average	High
Urban	94	17	0
Rural	100	11	02

Figure 4.88

Percentage of Urban and Rural Middle School Students with Co-morbid Conditions with respect to Different Levels of Academic Achievement

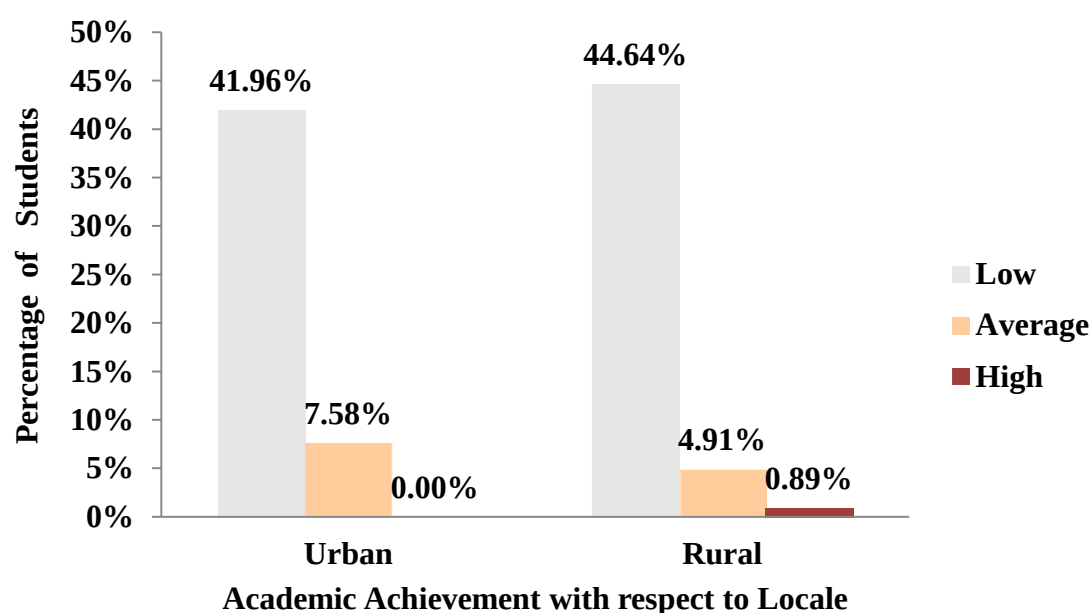


Table 4.37 and Figure 4.88 illustrate the academic achievement of middle school students with co-morbid conditions, categorized by locale (i.e., urban and rural). The data reveal that a higher percentage of rural students (44.64% i.e., 100 out of 224) demonstrate low academic achievement compared to urban students (41.96% i.e., 94 out of 224). For average academic achievement, 7.58% (17 out of 224) of urban students achieve at this level, compared to 4.91% (11 out of 224) of rural students. High academic achievement is observed only among rural students (0.89% i.e., 2 out of 224).

These results indicate that rural middle school students with co-morbid conditions tend to have lower academic performance compared to those in urban areas. This underscores the necessity for targeted academic interventions and support strategies that address the unique challenges faced by both rural and urban middle school students with co-morbid conditions.

Conclusion

The study of academic achievement among middle school students with co-morbid conditions in ten districts of Jammu Province reveals significant challenges for students having co-morbidity. The findings indicate that most of these students have low academic achievement. Gender analysis shows that boys generally perform worse than girls. Age analysis suggests that younger students (11-12 years) tend to underperform compared to older students (13-15 years). Analysis conducted according to geographical location indicates that students residing in rural areas are more prone to experiencing lower academic achievement compared to their counterparts in urban areas. These results underscore the urgent necessity for focused interventions that target the specific requirements of students with co-morbid conditions. To effectively support students with co-morbid conditions, it is crucial to develop comprehensive strategies that take into account gender, age, and locale to enhance their educational outcomes.

4.6 Relationship between Academic Self-Efficacy and Academic Achievement of Middle School Students with Co-morbidity

The sixth objective was to explore the relationship between academic self-efficacy and academic achievement of middle school students having co-morbidity. The data was collected from the 70 government middle school situated in 10 districts viz.

Rajouri, Poonch, Reasi, Jammu, Kathua, Udhampur, Jammu, Doda, Ramban and Khistawar of Jammu Province, J & K (UT), India.

Data pertaining to academic self-efficacy of middle school students with co-morbid conditions were collected by administering the self constructed scale on academic self-efficacy. Additionally, their academic achievement scores were obtained from records of their respective schools. Karl Pearson's coefficient of correlation was applied on the data to analyse the relationship between academic self-efficacy and academic achievement among students with co-morbid conditions and the results are presented in Table 4.38.

Ha: There is significant positive correlation between academic self-efficacy and academic achievement of students with co-morbid conditions.

Ha: Academic self-efficacy significantly predicts academic achievement of students with co-morbid conditions.

Table 4.38

Coefficient of Correlation between Academic Self-Efficacy and Academic Achievement of Middle School Students with Co-morbid Conditions

Variables	N	df	R	p-value
Academic Self-Efficacy				
&	224	222	.277**	.000
Academic Achievement				

**** Correlation is significant at the .01 level of significance**

Table 4.38 demonstrates that the analysis is based on a substantial dataset, revealing a coefficient of correlation value of 0.277 between academic self-efficacy and academic achievement. This value indicates a positive and statistically significant relationship at (0.01) level of significance. Therefore, the stated hypothesis, “There is significant positive correlation between academic self-efficacy and academic achievement of students with co-morbid conditions” is accepted. Thus, there is a positive and statistically significant but weak correlation between academic self-efficacy and academic achievement of middle school students with co-morbid conditions, as evidenced by Luo et al. (2023) i.e., Luo et al. (2023) found a favourable relationship between academic self-efficacy and academic achievement in case of college students. This implies that students with higher academic self-efficacy levels generally attain greater academic success which is supported by Mostafa (2018) and Weckström et al.

(2023) i.e., Butler (2011); Mostafa (2018); and Adams (2021) found that students with learning disability who had greater self-efficacy demonstrate superior academic performance and Weckström et al. (2023) found that adolescents aged 15-16 years with co-morbid conditions shows low academic achievement.

4.6.1 Influence of Academic Self-Efficacy on Academic Achievement of Middle School Students with Co-morbidity

Simple linear regression analysis was conducted on the collected data to determine the predictive role of academic self-efficacy in the academic achievement of middle school students with co-morbid conditions. The details are presented in Tables 4.39 and 4.40.

Table 4.39

Model and ANOVA Summary for Academic Self-Efficacy as Predictor of Academic Achievement of Middle School Students with Co-morbid Conditions

Model	R	R square	Adjusted R square	Std. Error of Estimate	F-value	Sign.
Academic Self-Efficacy&Academic Achievement	.227 ^a	.077	.073	8.47	18.512	.000 ^a

**a. Predictors: (Constant), Academic Self-Efficacy, Depended Variable: Academic Achievement*

From table 4.39, it is clear that the independent variables i.e., Academic Self-Efficacy is significantly predicting the academic achievement (the dependent variable) in case of middle school students with co-morbid conditions which is supported by Sharma & Nasa (2014) and Tamayo et al. (2001) i.e., Sharma & Nass (2014) found that person with high level of academic self-efficacy perform better in academics and Tamayo et al. (2001) found that students with co-morbid conditions have a strong correlation with poorer academic achievement. The R-squared value is 0.077, indicating that the predictor variable, Academic Self-Efficacy, accounts for approximately 7.7% of the variability in the outcome variable. The adjusted R-squared value (.073) is marginally lower than the R-squared value (.077), suggesting that the addition of the predictor variable may not substantially enhance the model's performance. The standard error of the estimate is 8.47 which represents the average amount of error expected when using the regression model to predict the outcome variable.

In short, the regression model suggests that academic self-efficacy accounts for a small proportion (7.7%) of the variability in the academic achievement.

The table 4.39 indicates that the regression model, which includes the predictor variable academic self-efficacy, significantly explains the variability in the dependent variable, academic achievement. The regression model is statistically significant, as indicated by the F-value (18.512) and the associated p-value (.000).

Therefore, the stated hypothesis, “Academic self-efficacy significantly predicts academic achievement of students with co-morbid conditions” is accepted.

Table 4.40

Coefficients^a and t-values for Academic Self-Efficacy & Academic Achievement

Model		Unstandardized		Standardized	t-value	Sign.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
Academic Self-Efficacy & Academic Achievement	Constant	31.663	2.466	-	12.842	.000
	Academic Self-Efficacy	.351	.082	.15	4.303	.000

Note - Depended variable-Academic Achievement and Independent Variable Academic Self-Efficacy

The unstandardized coefficient 'β' (determination coefficient) value for academic self-efficacy, as shown in table 4.40, is 0.351. It indicates that most substantial positive relationship (B=.351, $p < .0001$) suggesting that a higher academic self-efficacy is associated with higher level of academic achievement. This result shows that a one standard deviation rise in the predictor variable is related with a standard deviation change of 0.351 in the dependent variable. The t-value for academic self-efficacy is 12.842 which indicate that the coefficient is significantly different from zero. The associated p-value (Sig.) is .000, which is less than the conventional significance level of 0.05, indicating a highly significant relationship between academic self-efficacy and academic achievement.

Concisely, the regression model indicates that academic self-efficacy has a favorable and noteworthy influence on academic achievement.

Therefore, the regression equation is

$$\text{Academic Achievement} = 31.663 + .351 (\text{Academic Self-Efficacy})$$

Based on the regression equation provided, it can be inferred that for every one-unit rise in academic self-efficacy, there is a corresponding gain of .351 units in academic achievement in case of middle school students with co-morbid conditions.

Conclusion

The study's results indicate a weak but statistically significant positive correlation between academic self-efficacy and academic achievement in middle school students who have co-morbid conditions. The correlation coefficient of 0.277 indicates that there is a positive relationship between students' academic self-efficacy and their academic achievement which is also supported by Tamayo et al. (2001); Butler (2011); Sharma & Nass (2014); Mostafa (2018); Adams (2021); Weckström et al. (2023); and Luo et al. (2023). This connection is further validated by regression analysis. The data suggests that academic self-efficacy accounts for around 7.7% of the variation in academic achievement. The statistical significance of the regression model underscores that an increase in students' belief in their academic capabilities is linked to improved academic achievement. Therefore, enhancing students' academic self-efficacy can contribute to their better academic results.

CHAPTER - V

SUMMARY AND CONCLUSIONS

The present chapter offers a concise overview of the research outcomes, derived conclusions, acknowledged limitations, offered recommendations, and suggestions for future work.

5.1 SUMMARY

The Indian Constitution ensures that all individuals, including those with disabilities, are granted equality, freedom, justice, and dignity. It also promotes the creation of a society that is inclusive and accommodating (National Policy for Persons with Disabilities, 2006). Consequently, government policies have persistently focused on addressing the requirements of underprivileged individuals, Ensuring equitable access to opportunities across all development sectors, especially in education. Disability, as a particular concern, necessitates focused attention in policy formulation, implementation, and monitoring. Disability is a significant and intricate matter that is given careful attention in the 2030 Agenda for Sustainable Development, posing numerous challenges in its identification and measurement.

According to the Oxford Dictionary, disability is a condition that can affect a person's intellectual, mental, physical, and sensory abilities, or a combination of these, and it can have an impact on their activities. It may be prevalent from birth or develop later in life. The Preamble of the 2006 United Nations Convention on the Rights of Persons with Disabilities (CRPD) defines disability as the result of the interplay between people with disabilities, societal attitudes, and environmental impediments that prevent them from fully participating in society. The Convention emphasizes that individuals with disabilities include those who have enduring physical, mental, intellectual, or sensory limitations. These impairments, when interacting with various obstacles, can impede their full and equal participation in society. This viewpoint represents a shift from a medical approach to disability to a social one. The medical model perceives individuals with cognitive, physical, psychological, and mental conditions as intrinsically disabled, ascribing disability to the person and linking it to limitations in activities, requiring interventions such as cures, treatments, and rehabilitation. Conversely, the social model attributes disability to societal factors that

place unnecessary restrictions on individuals with impairments. According to this framework, disability results from the interplay between individuals and societal obstacles. It promotes the idea that people with disabilities possess rights and should strive to dismantle institutional, physical, informational, and attitudinal barriers within society.

India wants all of its children to go to school in a setting that welcomes everyone i.e. Inclusive (RTE, 2009; RPWD, 2016; NPE, 2020). Because of this, children in today's classes learn together even though they have different levels of skill. There are students in every class who have special or unique learning needs, but some students have a trend of big strengths and big problems. Being able to meet the academic needs of students who don't fit neatly into one group can become harder as public schools become more uniform. One big problem that can make going to school hard is having a disability. Getting good grades, on the other hand, is very important for making handicapped people's lives better. The 2011 Census found that 55% (1.46 crore) of disabled people can read and write. Sixty-two percent of disabled men can read and write, but only forty-five percent of disabled women can. In cities, 67% of disabled people can read and write, but only 49% of disabled people in rural places can. The census also shows that 45% of disabled people can't read or write, 13% have finished secondary school but aren't grads, and 5% have a graduate degree or higher. About 8.5% of handicapped people who can read and write have college degrees.

When disabilities affect educational performance in the classroom, they are often referred to as learning disabilities. These neurological conditions impair the brain's cognitive functions, including information processing, transmission, and comprehension. Children who have learning disabilities may encounter difficulties in areas such as reading, writing, speaking, listening, comprehending the concepts of mathematics, and overall understanding. Learning disabilities include various disorders such as, Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, Dyspraxia and these disorders can often occur together. Such issues need to be tackled as soon as possible at each level of education. There is always a reason behind each problem faced by our students in their education, needs immediate investigation. This immediate need attract the attention of the researcher to conduct the present study on the learning difficulties of the students and during the literature review researcher comes to know that because of no early intervention to the students regarding their learning difficulties leads to the multiple issues i.e. co-morbidity among students which further

complicates the educational process and effects their educational outcomes. It has also been noticed that teachers are not even aware of the prevalence of co-morbidity among their students which affects their teaching ability. The students with co-morbidity are forced to behave normal (which actually they are not) and make pace with other normal students which further hinders their academic achievement and enhances their academic problems. Identifying and understanding academic problems is the first step towards providing effective and customized interventions (wright 2015). The students with co-morbidity always show a lower level of self-efficacy which is the base of anyone's achievement. The low self-efficacy among these students makes them helpless to move forward in their life. Teachers are trained according to the normal students but usually come across co-morbidity among their students but because of their ignorance they started doubting their ability.

The aim of this research is to identify students with co-morbid conditions such as Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, Dyspraxia, Anxiety, Attention Deficit Hyperactivity Disorder (ADHD), Obsessive Compulsive Disorder (OCD), Autism, and Tic Disorder. After identifying the participants, the study will analyze their demographic information, academic problems, academic self-efficacy, and academic achievement. The aim is to explore the connection between academic self-efficacy and academic achievement. Although numerous studies have explored co-morbidity, there remains a scarcity of research specifically focused on this topic. Existing studies on co-morbidity are predominantly within clinical populations, neglecting the student demographic. Students are susceptible to these disorders, and if learning disorders are not identified and treated early, the likelihood of co-morbidity increases significantly. Early intervention is crucial, but understanding the prevalence and patterns of co-morbidity is necessary first. This understanding will enable teachers to provide tailored interventions that address the specific needs and academic challenges of these students.

The researcher aimed to develop a comprehensive assessment battery for identifying various learning disabilities and disorders - including Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, Dyspraxia, Anxiety, Attention Deficit Hyperactivity Disorder (ADHD), Obsessive-Compulsive Disorder (OCD), Autism, and Tic Disorder - among middle school students aged 11-15 years who exhibit co-morbidity. After identifying the students, the researcher documented their demographic characteristics. This enabled the researcher to compile a detailed list of identification markers for different

co-morbid conditions, enhancing the understanding of co-morbidity types. Additionally, the researcher assessed the academic performance of the identified students and correlated it with their academic self-efficacy, measured using standardized tools. Focus group semi-structured interview schedules were developed for both students and teachers to gain a comprehensive understanding of the academic problems faced by these students.

Statement of Problem

Despite inclusive education policies, middle school students with co-morbid conditions often face unrecognized academic and emotional needs, especially in rural and government schools. Co-morbidity - where multiple neuro-developmental or behavioral disorders overlap - makes identification and intervention challenging. Due to lack of screening, teacher training, and mental health support, these students frequently experience academic failure and low self-efficacy. Indian research on this issue, particularly at the middle school level, remains limited. This study explores co-morbidity, academic problems, academic self-efficacy, and achievement among students in Jammu Province, with attention to gender, age, and locale differences.

Hence, this research aimed to identify the co-morbidity among middle school students and their academic self-efficacy, academic problems and academic achievement.

Therefore, the statement of the problem is as follows:

CO-MORBIDITY AMONG MIDDLE SCHOOL STUDENTS: A CROSS SECTIONAL EXPLORATION ON ACADEMIC PROBLEMS, ACADEMIC SELF- EFFICACY AND ACADEMIC ACHIEVEMENT

Objectives

The objectives of the proposed study were:

1. To identify the middle school students having co-morbidity.
2. To study the demographic characteristics of middle school students having co-morbidity.
3. To Identify the Academic Problems of middle School Students having co-morbidity with respect to gender, age and locale.
4. To explore the levels of Academic Self-Efficacy among middle school students having co-morbidity with respect to gender, age and locale.

5. To study the Academic Achievement of middle school students having co-morbidity with respect to gender, age and locale.
6. To explore the relationship between Academic Self- Efficacy and Academic Achievement of middle school students having co-morbidity.

Research Questions

1. What are the identification features of middle school students having co-morbidity?
2. What are the demographic characteristics of middle school students having co-morbidity?
3. What are the academic problems of middle school students having co-morbidity with respect to gender, age and locale?
4. What are the levels of academic self-efficacy among middle school students having co-morbidity with respect to gender, age and locale?
5. What are the levels of academic achievement of middle school students having co-morbidity with respect to gender, age and locale?

Hypotheses

1. There is significant positive correlation between academic self-efficacy and academic achievement of students with co-morbid conditions.
2. Academic self-efficacy significantly predicts academic achievement of students with co-morbid conditions.

Delimitations

The present study was delimited to

1. Jammu provinces of the UT of Jammu and Kashmir only.
2. Ten disorders i.e. Learning disabilities (i.e., Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, and Dyspraxia), Anxiety, Attention Deficit Hyperactivity Disorder (ADHD), Obsessive Compulsive Disorder (OCD), Autism and Tic Disorder for the identification of co-morbid conditions.
3. Approximately 50% blocks (70) of Jammu province.
4. Government middle schools of the Jammu province.
5. Government middle schools teachers having more than 5 years of experiences.

Research Method

The present study was a field study and conducted by using the descriptive survey method and triangulation approach. This involved gathering and analysing, both quantitative and qualitative data. Through the use of scales, quantitative data were

obtained, while qualitative data were gathered via semi-structured interviews, focusing on the academic challenges faced by students with co-morbid conditions. Thus, this research employed a mixed-methods approach, utilizing both identified scales and interviews for data collection and analysis, ultimately leading to comprehensive interpretations of the findings (Creswell et al., 2003).

Population

The study focused on students aged 11-15 years attending government middle schools in the Jammu Province of Jammu and Kashmir (J&K).

Sample

The population of study comprised of students aged 11 to 15 years enrolled in government middle schools located in the Jammu Province of Jammu & Kashmir, India. A multistage sampling technique was employed to ensure comprehensive and balanced representation.

In the first stage, Jammu Province was selected out of the two provinces of the Union Territory of Jammu & Kashmir. In the second stage, all ten districts within Jammu Province - namely Jammu, Samba, Kathua, Udhampur, Reasi, Doda, Ramban, Rajouri, Poonch, and Kishtwar - were included in the sampling frame. Each district consists of multiple administrative blocks.

In the third stage, to ensure equal representation from both urban and rural settings, 35 blocks were randomly selected from urban areas and 35 from rural areas, totaling 70 blocks. This number was derived based on the availability of approximately 50% urban blocks (70 out of 145 total blocks) across the 10 districts of Jammu Province.

Finally, in the fourth stage, to ensure unbiased selection and maintain the representativeness of the government middle schools, simple random sampling was employed. The researcher initially prepared a comprehensive list of government middle schools within the selected region. As part of the inclusion criteria, only those schools with a minimum enrollment of 30 students were considered eligible for selection. From this filtered list, one school was randomly selected from each block by using simple random sampling technique.

To determine the appropriate sample size for the study, Daniel's (1999) formula for calculating sample size in prevalence studies was employed. Based on report by office of the Registrar General & Census Commissioner, India, 2021, the prevalence of disability among children aged 11–15 years in Jammu & Kashmir was found to be approximately 35.91%. This figure was considered an appropriate estimate for co-

morbidity prevalence in the absence of prior regional research on multiple disabilities. Using this value, the required sample size was calculated. Hence, the minimum required sample size was approximately 354 students.

However, to ensure robustness and broader representation, a total of 1084 students were screened during the study. Out of them, 224 students were identified with co-morbid conditions which correspond to an observed prevalence of 20.66% in the actual sample. Therefore, the final sample size of 1084 students is significantly higher than the calculated minimum, ensuring greater reliability, validity, and generalizability of findings, as per the Daniel (1999) sample size formula for prevalence studies.

Additionally, two government teachers from each school, who taught these students, were selected through simple random sampling technique to help the researcher in identifying the academic problems faced by students with co-morbid conditions.

For in-depth analysis, identified 224 middle school students with co-morbid conditions and 140 teachers from 70 government middle schools across 70 blocks in Jammu Province, India were considered.

Tools

The Literature review suggested that there are some most common and repeatedly prevalent disorders among children that are: Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), Dysphasia (Dys-P), Dyspraxia (Dys-Pr), Anxiety (Anx), Attention Hyperactive Disorder (ADHD), Obsessive Compulsive Disorder (OCD), Autism Disorder (AD) and Tic Disorder (TD). There are available independent scales on these disorders but not a single identification battery is available on these disorders even a battery named PRASHAST by NCERT focused on two disorders that is SLD and ASD. Moreover most of the tools are either teacher's centered or parent's centered none of self-report identification battery and tools haven been found by the research therefore, the researcher found it worthy to construct an identification battery on these disorders by keeping in the view the age group i.e. 11-15 years and the cultural context of the students Therefore, the researcher developed the following four scales:

- Identification Battery on Co-morbid Conditions (IBCC)
- Academic Self-Efficacy Scale (ASES)
- Semi-structured Interview Schedule for Students with co-morbid conditions

➤ Semi-structured Interview Schedule for Teachers

Procedure

In this study, both quantitative and qualitative data were gathered from government middle school students aged 11-15 years through personal visits to the schools. The primary objective was to identify co-morbid conditions among these students, assess their academic self-efficacy, and explore their academic problems. The entirety of the study process is elucidated in the following text:

- Development and standardization of Identification Battery on co-morbid conditions (IBCC), Academic Self-Efficacy Scale (ASES) and semi-structured interview schedule for students and teachers.
- The orientation of the study and administration of IBCC & ASES to the respondents and collection of data.
- Conduction of Informal semi-structured Interviews of Students and Teachers.

Statistical Techniques

Considering the objectives and the nature of the collected data, both quantitative and qualitative analyses were conducted using appropriate statistical techniques. The specifics of the employed statistical methods are provided below:

- ❖ To achieve the first objective i.e. to identify the middle school students having co-morbidity: Descriptive Survey Method, Descriptive Statistics i.e. Frequency, Percentage and Graphical Representation were applied.
- ❖ To achieve the second objective i.e. to study the demographic characteristics of middle school students having co-morbidity: Descriptive Survey Method, Descriptive Statistics (Frequency, Percentage and Graphical Representation were applied.
- ❖ To achieve the third objective i.e. to identify the Academic Problems of middle School Students having co-morbidity with respect to gender, age and locale: Descriptive Survey Method, Semi-structured interview schedule for Teachers and Students for identification of Academic problems, Descriptive Statistics (Frequency, Percentage and Graphical Representation), Qualitative Analysis were used.
- ❖ To achieve the fourth objective i.e. to explore the levels of Academic Self-Efficacy among middle school students having co-morbidity with respect to

gender, age and locale: Descriptive Survey Method, Descriptive Statistics i.e. mean, SD and Percentage were used.

- ❖ To achieve the fifth objective i.e. to study the Academic Achievement of middle school students having co-morbidity with respect to gender, age and locale: End-Term exam scores of students, as received from schools, used for Academic Achievement. Descriptive Statistics (Percentage) were used.
- ❖ To achieve the sixth objective i.e. to explore the relationship between Academic Self-Efficacy and Academic Achievement of middle school students having co-morbidity: Self - constructed Academic Self-Efficacy Scale and End-Term exam scores of students (received from schools) as a measure of Academic Achievement used. For exploring the relation between above said variable, Karl Pearson's coefficient of Correlation has been computed. For predicting the Academic Achievement with respect to Academic Self efficacy of the students, simple liner regression has been computed.

5.2 CONCLUSIONS

Drawing from the interpretations and discussions presented in the previous chapter, "**Chapter IV – Results and Discussion**", the following conclusions are derived concerning the study's objectives, research questions and hypotheses.

➤ **To identify the middle school students having co-morbidity.**

- ✓ Out of the sampled students in Jammu Province, 224 (20.66%) were identified with co-morbid conditions.
- ✓ The prevalence varied across districts, with Jammu showing the highest rate (23.21%) and Khistawar the lowest (2.23%).
- ✓ Dyscalculia was the most prevalent learning disorder among students aged 13-15, followed by dyslexia, dysgraphia, anxiety, and other neurodevelopmental and neurobehavioral disorders.
- ✓ Multiple co-morbidities were common: 78 students exhibited two disorders, while one student showed traits of six disorders simultaneously.
- ✓ The most frequent co-morbid pairs involved dyslexia and dyscalculia.
- ✓ These findings reveal diverse and complex patterns of co-morbidity, emphasizing the need for tailored interventions to address the unique

educational needs of affected students. Neuro-developmental disorders were more common than neuro-behavioral disorders in this population

➤ **To study the demographic characteristics of middle school students having co-morbidity.**

- ✓ The study revealed that in government middle schools of Jammu province, co-morbid conditions were more prevalent among male students (54.01%) compared to females (46.87%). District-wise analysis showed variation, with districts like Doda, Ramban, and Samba reporting higher female prevalence, while others including Reasi, Rajouri, and Jammu showed higher male prevalence.
- ✓ Gender-wise prevalence of specific disorders indicated boys had higher rates of neuro-developmental disorders such as Dyslexia (54%), Dysgraphia (59%), Dyscalculia (56%), Dysphasia (52%), and Dyspraxia (50%). Conversely, girls exhibited greater prevalence of neuro-behavioral disorders like Anxiety (76%), OCD (85%), and Autism (67%). ADHD was more common among girls (58%) than boys (42%), and Tic Disorder was exclusive to boys.
- ✓ Co-morbidity involving multiple disorders was common, with boys more frequently showing traits of two to four disorders, while girls exhibited a higher prevalence of traits involving five disorders. No student showed more than six co-morbid disorders.
- ✓ Urban-rural differences were evident: rural students had a higher prevalence of neuro-developmental disorders, while urban students showed more neuro-behavioral disorders. Urban students predominantly exhibited Anxiety, ADHD, OCD, and Autism, whereas rural students mostly showed Dyslexia, Dysgraphia, Dyscalculia, Dysphasia, and Dyspraxia.
- ✓ Age-wise distribution showed students aged 11-12 years had higher co-morbidity (55%) compared to 13-15 years (45%). Younger students were more affected by neuro-developmental disorders, while older students showed greater neuro-behavioral disorder prevalence. The pattern of co-morbidity combinations varied between these age groups but consistently highlighted the complexity of overlapping disorders.

- ✓ Socio-economic status was predominantly low across all students with co-morbid conditions (99%), with only minimal representation from middle SES and none from high SES.
- ✓ These findings underline distinct demographic patterns of co-morbidity among middle school students in Jammu province, emphasizing the need for gender, age, and region-specific interventions and support systems.
- **To identify the academic problems of middle school students having co-morbidity with respect to gender, age and locale.**

❖ **Students' Perceptive**

- ✓ The qualitative analysis of interview responses from middle school students with co-morbid conditions reveals a complex interplay of academic, emotional, and systemic challenges. Students consistently reported foundational difficulties in reading, writing, and arithmetic, often stemming from a lack of instructional support and individualized attention in the classroom. These academic struggles were frequently exacerbated by inattentive or punitive teaching practices, where underlying learning needs were overlooked in favor of disciplinary responses.
- ✓ Significantly, students conveyed a strong sense of emotional distress associated with their academic performance. Feelings of inadequacy, fear of teachers, and diminished self-confidence were recurring themes, highlighting the absence of a psychologically safe learning environment. Gender- and age-based differences emerged, with boys tending to display more overt academic deficits and behavioral symptoms, while girls and older students often faced internalized struggles, such as attention issues and emotional regulation challenges.
- ✓ A majority of students did not disclose their academic difficulties to anyone, reflecting deep-seated stigma, lack of trust, and limited awareness of support systems. Even among those who shared their challenges, mothers were the primary confidants, while engagement with teachers or peers remained minimal. This indicates weak communication channels within school ecosystems, particularly for students requiring additional emotional or instructional support.

- ✓ Institutionally, the study found no evidence of structured academic interventions or differentiated teaching strategies. Support from school authorities and teachers were largely limited to repetition, with almost no reports of personalized or needs-based approaches. This underscores a systemic gap in inclusive pedagogy and early identification mechanisms within the educational infrastructure.
- ✓ Socially, while peer attitudes were mostly perceived as positive, instances of teasing and exclusion signaled the vulnerability of this population to subtle forms of marginalization. Parental support, though generally encouraging, was occasionally inconsistent, especially for female and younger students who reported more variable experiences.
- ✓ Collectively, the findings point toward a systemic failure to recognize and respond to the multidimensional needs of students with co-morbid conditions. The data reinforces the need for early identification, teacher training in inclusive education, school-based psychosocial interventions, and the creation of emotionally safe learning environments. Without such reforms, students with co-morbidities remain at high risk of academic disengagement, emotional deterioration, and long-term educational exclusion.

❖ **Teachers' Perceptive**

- ✓ The interview responses of teachers working with middle school students with co-morbid conditions reveal significant gaps in awareness, preparedness, and institutional support. While some teachers acknowledged the presence of academic challenges among these students, their interpretations were largely surface-level, with limited understanding of the underlying cognitive, emotional, or behavioral dimensions.
- ✓ A recurring theme in the responses was the reliance on repetitive teaching as the primary instructional strategy. Despite its widespread use, this approach lacked differentiation and failed to account for individual learning needs. Only an isolated instance of tailored instruction was reported, reflecting a broader deficiency in inclusive pedagogy. Teachers appeared constrained by systemic limitations-such as lack of training, absence of specialized resources, and pressure to complete curricula-which hindered their ability to offer adaptive support.

- ✓ Furthermore, many teachers did not demonstrate familiarity with co-morbid conditions as distinct from general learning difficulties. There was little evidence of collaborative planning with school counselors or special educators, and most support strategies described were reactive rather than preventive. While some educators expressed empathy, this was not consistently translated into practice, suggesting disconnect between intention and implementation.
 - ✓ Teachers also highlighted challenges related to classroom management and behavior, particularly in dealing with inattentive or disruptive students. These issues were often framed in disciplinary terms rather than as indicators of deeper neurodevelopmental or psychosocial needs. As such, the pedagogical responses remained limited to behavioral correction, rather than integrative or therapeutic intervention.
 - ✓ Overall, the data points to a critical need for systematic capacity-building among teachers. Without targeted professional development in identifying and addressing co-morbid learning and behavioral conditions, educators remain ill-equipped to support these students meaningfully. The findings underscore the urgency of embedding inclusive education frameworks within teacher training programs, enhancing diagnostic collaboration within schools, and fostering environments where diversity in learning is not only acknowledged but accommodated with care and competence.
- **To explore the levels of academic self-efficacy among middle school students having co-morbidity with respect to gender, age and locale.**
- ✓ In the selected group of middle school boys and girls with co-morbid conditions, 52.2% of boys and 46.0% of girls exhibited below-average academic self-efficacy. Additionally, 0.9% of both boys and girls showed average academic self-efficacy, while none demonstrated high self-efficacy in Jammu province only.
 - ✓ In the group of middle school students with co-morbid conditions, 54.4% of those aged 11-12 years and 43.7% of those aged 13-15 years showed below-average academic self-efficacy. Both age groups had an equal representation of 0.4% for average academic self-efficacy. High academic self-efficacy was not observed in either group in Jammu province only.

- ✓ In the final sample of middle school students with co-morbid conditions, 49.5% of urban students and 48.7% of rural students exhibited below-average academic self-efficacy. Additionally, 1.8% of rural students displayed average self-efficacy. High self-efficacy was not observed among students in both rural and urban areas in Jammu province only.
- **To study the academic achievement of middle school students having co-morbidity with respect to gender, age and locale.**
 - ✓ Among middle school students with co-morbid conditions in Jammu province, 45.09% of boys and 41.52% of girls exhibited low academic achievement, while 7.58% of boys and 4.91% of girls demonstrated average achievement; only 0.45% of both genders attained high academic results. Thus, a greater proportion of boys showed low academic achievement compared to girls.
 - ✓ By age, 46.42% of students aged 11-12 years and 40.17% of those aged 13-15 years displayed low academic achievement. Average achievement was observed in 7.58% and 4.91% of these age groups, respectively, with 0.89% of 11-12 year olds attaining high academic results. This indicates a higher prevalence of low academic achievement among younger students.
 - ✓ Regarding locality, 44.65% of rural students and 41.96% of urban students exhibited low academic achievement. Average achievement was reported for 4.91% of rural and 7.58% of urban students, while 0.89% of rural students achieved high academic results. Consequently, rural students showed a slightly higher incidence of low academic performance than their urban counterparts.
- **To explore the relationship between academic self-efficacy and academic achievement of middle school students having co-morbidity.**
 - ✓ Karl Pearson's coefficient of correlation was used to analyze the relationship between academic self-efficacy and academic achievement among middle school students with co-morbid conditions. The correlation coefficient was found to be 0.277, indicating a statistically significant positive relationship at the 0.01 confidence level. This result demonstrates a statistically significant connection between academic self-efficacy and achievement, suggesting that students with higher confidence in their academic abilities generally perform better in school.

- ✓ The obtained data was subjected to multiple linear regression analysis to examine the predictive influence of academic self-efficacy on the academic achievement of middle school students with co-morbid conditions.
- ✓ The regression model indicates that academic self-efficacy explains a modest portion (7.7%) of academic achievement variance. The adjusted R-squared (0.073) indicates that including the predictor may not greatly improve model performance.
- ✓ The regression model shows a beneficial and statistically important effect of academic self-efficacy on academic achievement. The regression equation is:

$$\text{Academic Achievement} = 31.663 + .351 (\text{Academic Self-Efficacy})$$

From this equation, it's apparent that a one-unit increase in academic self-efficacy corresponds to a .351 increase in academic achievement. These results are statistically significant, confirmed by the t-value and p-value.

5.3 LIMITATIONS

While addressing the current research problem, the researcher faced the following limitations:

1. Ensuring the standardization of tools presented a significant hurdle, with the researcher submitting the battery and scale for review to over 40 experts across various fields. However, the final reviews were received from 19 experts only, marking a partial response rate.
2. In the process, a few schools declined data collection. Moreover, some schools did not accept the provided Department's Authority letter. Geographical limitations posed challenges in reaching certain zones. The distribution of urban and rural zones displayed an imbalance, with some urban zones being fewer in number compared to rural zones, and vice versa.
3. The ongoing impact of the COVID-19 pandemic introduces a potential challenge in validating the data.
4. Despite a significant enrollment, certain schools were excluded due to low student attendance.
5. The absence of transportation facilities and the lack of proper roads to certain schools present logistical challenges for researchers attempting to reach those specific educational institutions.

6. Data collection in accident-prone areas and regions undergoing road construction has resulted in a slightly slower progression of the data gathering process in those specific locations.
7. Collecting data from ten distinct geofigureical regions has proven to be a significant challenge for the researcher due to the varying seasonal conditions, encompassing both winter and summer zones.

5.4 RECOMMENDATIONS

The study aimed to explore various aspects related to middle school students with co-morbid conditions. The results of the study revealed that a considerable percentage (20.66%) of students in Jammu Province exhibit co-morbid conditions. The findings emphasize the need for a comprehensive approach that considers both academic assistance and mental health of students with co-morbid conditions. So, this research put forth the following recommendations:

1. In Jammu province, the study found that 20.66 % of students sampled from middle schools across various districts experience co-morbid conditions. This suggests that these disorders often remain unnoticed among middle school students, potentially leading to a higher likelihood of additional co-morbid conditions. “The Ministry of Education, Government of India (2024), urged the Government of Jammu and Kashmir to prioritize timely identification of CwSN. It also emphasized the importance of conducting block-level identification camps as per schedule.” Hence, it is vital to establish an identification process in all middle schools to ensure early recognition of these conditions and the provision of suitable interventions. This proactive strategy can have a substantial influence on the welfare and scholastic achievement of students.
2. Teachers were not aware of these disorders, highlighting the need for awareness campaigns. The focus of these endeavors should be to provide education not just to Teachers, but also to children and their parents regarding learning problems, the challenges students face, and the importance of getting help.
3. The higher prevalence of co-morbid conditions in boys compared to girls highlights the need to consider gender differences in addressing these issues.

Establishing an atmosphere that fosters students' willingness to openly share their experiences and actively seek assistance from both their peers and mentors is of utmost importance. There is a need for an awareness of learned gender differences, because that can be used to develop more targeted assessment and intervention strategies that may better meet the needs of children who differ in their specific learning requirements. This is an important concept for educators and clinicians who need to cater the learning process for how boys and girls differ (Moll et al., 2014).

4. Teaching methods should be adapted to meet the distinct needs of both boy and girl students with co-morbid conditions. These gender differences in relation to the identification of readers and interventions for readers in need be taken into account (Quinn and Wagner, 2013), by recognizing the differing prevalence of specific disorders, stakeholders can provide more targeted and effective support. By recognizing the differing prevalence of specific disorders, stakeholders can provide more targeted and effective support.
5. The reliance on general observation over psychological tools by teachers for identifying students with co-morbid conditions is concerning, as it points to a gap in the assessment process. Furthermore, the reluctance of many teachers to seek assistance can limit the support provided to students. To address this, teachers should work collaboratively with special educators, counselors, and other professionals. This collaboration and sharing of insights can lead to more effective interventions and better support for students.
6. The study found that many middle school students with co-morbid conditions have below-average levels of academic self-efficacy. To address this, schools can share stories of individuals who have overcome similar challenges through determination and perseverance, which can inspire students and boost their self-belief. Additionally, incorporating mindfulness techniques and stress management strategies can help to reduce anxiety and improve self-efficacy. Providing constructive and positive feedback that highlights students' strengths and areas for improvement can further enhance their academic self-confidence.
7. The results show a significant prevalence of academic problems among students, particularly in areas such as reading, writing, comprehension, and concentration. To better support these students, teachers are encouraged to

implement differentiated teaching strategies, such as Explicit Instruction (Gersten & Baker, 2001), Multi-sensory Instruction, Scaffold instruction (Wood et al., 1976), Peer-Assisted learning (Fuchs et al., 1997), Technology-Assisted Instruction (Hasselbring & Glaser, 2000) which are designed to meet diverse learning needs. Additionally, fostering strong partnerships with parents is crucial. Keeping parents well-informed about their children's learning challenges, specific requirements, and progress can be achieved through regular workshops and meetings, enhancing collaborative support.

8. The study revealed a deficiency in the training of teachers, which hindered their ability to recognize pupils who have learning disabilities, whether single or multiple. This gap in knowledge led to misperceptions about students' abilities, resulting in harmful labels like "failure," "dumb," or "lazy." Such labels are not only inaccurate but also overlook the potential underlying issues needing attention if a child does not progress as expected for their age. This deficiency in teacher training for inclusive teaching-learning can hinder students' academic progress and diminish their self-efficacy. There is a critical need to provide comprehensive training for teachers and staff on recognizing and addressing co-morbid conditions. “The Ministry of Education, Government of India (2024), suggested that Jammu and Kashmir undertake a mapping exercise to identify the number of CwSN across various categories. Based on the findings, it recommended formulating a plan to train existing general teachers in special education through Rehabilitation Council of India (RCI) approved bridge courses.” Equipping educators with the tools to foster an inclusive learning environment will support all students' educational and personal growth.
9. The scarcity of counselors and special educators in schools complicates the teaching and learning process for both teachers and students. To address this issue, it is essential to allocate resources towards hiring specialized staff, including special educators and counselors, who can provide effective support for students with co-morbid conditions. Additionally, establishing a student support team comprised of teachers, counselors, and special educators will facilitate the development of personalized intervention plans tailored to the needs of these students.

10. The study revealed that students facing co-morbid conditions exhibited low level of academic achievement. To address this challenge, it's imperative to focus on adapting the curriculum to meet the diverse learning needs of these students, ensuring fair access to education. A flexible classroom environment plays a pivotal role in supporting students with co-morbid conditions. By implementing strategies such as adjusting seating arrangements, offering extended time for assignments, and minimizing distractions, we can enhance their chances of success in the academic realm.
11. Teachers are crucial in creating an atmosphere of comprehension and inclusivity in the classroom, along with making adjustments to the curriculum and creating a flexible learning environment. By promoting peer support and discouraging stigmatization, teachers can create a safe and supportive space for all students, including those with co-morbid conditions. This inclusive methodology not only amplifies academic achievement but also adds to the holistic welfare and development of students.
12. The study's observation of various patterns of co-morbid conditions underscores the urgency of addressing and comprehending this issue. It is imperative to invest in continuous research and identification processes by allocating funds to gain deeper insights into the prevalence and patterns of co-morbid conditions among students across all schools. This data will be instrumental in informing targeted interventions and policies aimed at effectively supporting students facing co-morbid conditions.

5.5 SUGGESTIONS

Following are the suggestions for future research:

1. The current study, limited to only seventy schools situated in the 10 districts of Jammu Province, highlights the need for a broader study expanding the research to a state and eventually national level offer a more thorough comprehension of the matter.
2. The research focuses solely on middle schools, highlighting a crucial need to extend studies to the primary level. Early identification measure at this stage is essential for implementing effective interventions.

3. Knowledge and understanding about the existence of differences among children in learning disorders and co-morbid conditions with respect to gender, ultimately, paves the way for more effective treatments tailored to both boys and girls (Williamson & Johnston, 2015). This is an important concept for educators and clinicians who need to cater the learning process for how boys and girls differ (Moll et al., 2014).
4. As a result of inadequate identification procedures in the past, individuals frequently continue to experience their diseases during their higher education. Therefore, it is essential to do identification at the higher education level to address and support these ongoing issues.
5. The researcher has only examined ten specific disorders, leaving many other potential conditions unexplored. Future research should focus on the development of identification measures to investigate a broader range of disorders across primary, middle, and higher education levels.
5. Since the study focused exclusively on government schools, it is recommended to conduct similar research on private schools in the Jammu division to gain a comprehensive understanding.
6. Conduct thorough studies to examine how cultural and socio-environmental factors affect academic problems. This research should include an evaluation of the roles played by parents, peers, and teachers in shaping students' academic experiences and outcomes. Additionally, investigate the influence of cultural factors on the prevalence of co-morbid conditions, and assess how cultural norms, beliefs, and practices contribute to these patterns.
7. Undertake a longitudinal study to monitor the progression of co-morbid conditions in primary school students over several years. This research would provide valuable insights into how these conditions evolve, fluctuate, or remain stable over time.
8. Conduct follow-up research to understand the long-term outcomes of students with co-morbid conditions. Track these students into high school and beyond to assess how their conditions affect their academic performance, social interactions, and professional development over time.
9. Investigate the factors contributing to low academic self-efficacy among middle school students with co-morbid conditions, such as peer relationships, teacher attitudes, and parental attitudes. This research should explore whether

specific learning challenges, external perceptions, or other variables are associated with their self-efficacy levels.

10. Conduct experimental studies on the use of assistive technology to support students with co-morbid conditions. Evaluate how such technology can enhance their engagement and performance, while also alleviating academic problems.
11. Conduct comparative studies between students with co-morbid conditions and those without, focusing on their self-efficacy and academic achievement. This research will help identify differences and provide insights into how co-morbid conditions impact these aspects.

Educational Implications

- The identification process for co-morbid conditions in middle schools is crucial. Implementing early recognition and intervention strategies can significantly impact students' academic performance and overall well-being. This approach can help in addressing co-morbid conditions before they escalate, thereby reducing their impact on students' educational outcomes.
- Recognizing the higher prevalence of co-morbid conditions in boys suggests that interventions need to be gender-sensitive. Creating an environment where students feel comfortable discussing their issues and seeking help can improve mental health and academic outcomes for all students. Tailored teaching methods that consider gender differences can provide more effective support.
- Understanding the co-morbidity patterns among middle school students is vital for designing customized interventions and support systems that cater to their diverse needs. Educators and healthcare experts should work together to develop tailored approaches to meet the unique issues that students with co-occurring conditions confront.
- Educating teachers, students, and parents about learning difficulties and the importance of seeking help can lead to a more supportive and informed school community. This can foster a better understanding of students' challenges and promote a collaborative approach to addressing them.
- Use evidence-based ways to acquire a deeper understanding of the academic challenges that students with co-morbid disorders face. This will allow educators, politicians, and healthcare experts to make more informed

judgments about how to provide suitable instructional strategies and support services.

- Recognize common co-morbidity patterns to build a more inclusive learning environment. By understanding the interconnections of many variables, schools can create an environment in which all children can succeed intellectually and socially.
- Acknowledge the complexity of co-morbid conditions and the individualized nature of each student's challenges. Focus on promoting each student's holistic well-being, taking into account their unique combination of disabilities.
- Providing training on inclusive teaching-learning practices can prevent harmful labeling and support students' academic progress and self-efficacy. Equipping educators by encouraging collaboration and information sharing among educators, healthcare professionals, and policymakers to exchange ideas and best practices in managing co-morbidity with the necessary skills to foster an inclusive learning environment that benefits all students.
- Using sensitization programs and conducting psychological evaluations can be effective strategies to foster awareness of positive mental health (Dike et al., 2021). Understanding and addressing the diverse needs of students with co-morbid disorders will contribute to a more inclusive and supportive educational system.

BIBLIOGRAPHY

- Aalto-Setälä, T. (2002). Psychiatric treatment seeking and psychosocial impairment among young adults with depression. *Journal of Affective Disorders*, 70(1), 35–47. [https://doi.org/10.1016/s0165-0327\(01\)00316-0](https://doi.org/10.1016/s0165-0327(01)00316-0)
- Abdalah, M. Q. (2018). Gender difference in learning disabled children neuropsychological review. *Research and Reviews on Healthcare Open Access Journal*, 1(3). <https://doi.org/10.32474/rrhoaj.2018.01.000111>
- Adler, L., Kessler, R. C., Spencer, T., World Health Organization, & Workgroup on Adult ADHD. (n.d.). Adult ADHD Self-Report Scale (ASRS-V1.1) Symptom Checklist. <https://add.org/wp-content/uploads/2015/03/adhd-questionnaire-ASRS111.pdf>
- Ahmed, F. I. A. (2021). Teachers perspectives on barriers of inclusion of autistic students in Saudi Arabia schools. *International Journal of Education and Practice*, 9(1), 63–79. <https://doi.org/10.18488/journal.61.2021.91.63.79>
- Al-Asadi, A. M., Klein, B., & Meyer, D. (2014). Pretreatment attrition and formal withdrawal during treatment and their predictors: An exploratory study of the Anxiety Online data. *Journal of Medical Internet Research*, 16(6), e152. <https://doi.org/10.2196/jmir.2989>
- Al-Beltagi, M. (2021). Autism medical comorbidities. *World Journal of Clinical Pediatrics*, 10(3), 15–28. <https://doi.org/10.5409/wjcp.v10.i3.15>
- Albert, U., Manchia, M., Tortorella, A., Volpe, U., Rosso, G., Carpiniello, B., & Maina, G. (2015). Admixture analysis of age at symptom onset and age at disorder onset in a large sample of patients with obsessive-compulsive disorder. *Journal of Affective Disorders*, 187, 188–196. <https://doi.org/10.1016/j.jad.2015.07.045>
- Almai, A. M., & Salpekar, J. A. (2023). Healthcare utilisation in the United Arab Emirates for children with attention-deficit hyperactivity disorder and comorbidities. *BJ Psych International*, 20(3), 61–63. <https://doi.org/10.1192/bji.2023.14>
- Alqahtani, M. M. (2009). The comorbidity of ADHD in the general population of Saudi Arabian School-Age children. *Journal of Attention Disorders*, 14(1), 25–30. <https://doi.org/10.1177/1087054709347195>
- Alyahri, A., & Goodman, R. (2007). The prevalence of DSM-IV psychiatric disorders among 7–10 year old Yemeni schoolchildren. *Social Psychiatry and Psychiatric Epidemiology*, 43(3), 224–230. <https://doi.org/10.1007/s00127-007-0293-x>
- Alyami, M., Melyani, Z., Johani, A. A., Ullah, E., Alyami, H., Sundram, F., Hill, A., & Henning, M. (2017). The impact of self-esteem, academic self-efficacy and

perceived stress on academic performance: A cross-sectional study of Saudi Psychology students. *European Journal of Educational Sciences*, 04(04), 51-68. <https://doi.org/10.19044/ejes.v4no3a5>

AlZaben, F. N., Sehlo, M. G., Alghamdi, W. A., Tayeb, H. O., Khalifa, D. A., Mira, A. T., Alshuaibi, A. M., Alguthmi, M. A., Derham, A. A., & Koenig, H. G. (2018). Prevalence of attention deficit hyperactivity disorder and comorbid psychiatric and behavioral problems among primary school students in western Saudi Arabia. *Saudi Medical Journal*, 39(1), 52–58. <https://doi.org/10.15537/smj.2018.1.21288>

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596>

Amiri, S., Fakhari, A., Golmirzaei, J., Mohammadpoorasl, A., & Abdi, S. (2012). Tourette's syndrome, chronic tics, and comorbid attention deficit/hyperactivity disorder in elementary students. *Archives of Iranian medicine*, 15(2), 76–78. <https://pubmed.ncbi.nlm.nih.gov/22292574/>

Anand, A., & Khan, M. F. (2020). A phenomenological study of academic challenges faced by Children with Specific Learning Disability (SLD). An international bilingual peer reviewed refereed research Journal, 7(27), 172-181. <https://doi.org/10.5281/zenodo.6963642>

Anastopoulos, A. D., DuPaul, G. J., Weyandt, L. L., Morrissey-Kane, E., Sommer, J. L., Rhoads, L. H., Murphy, K. R., Gormley, M. J., & Gudmundsdottir, B. G. (2016). Rates and patterns of comorbidity among First-Year College students with ADHD. *Journal of Clinical Child and Adolescent Psychology*, 47(2), 236–247. <https://doi.org/10.1080/15374416.2015.1105137>

Anderson, M. R., Scalora, S. C., Crete, A., Mistur, E. J., & Miller, L. (2023). Psychiatric comorbidities among undergraduate and graduate students attending spiritual-mind-body interventions. *Journal of American College Health*, 1–4. <https://doi.org/10.1080/07448481.2022.2161821>

Antony, S., Ramnath, R., Kalaiyarasan, G., Selvan, A., Govindarajan, K., Catherin Jayanthi, A., & Mahendraprabhu, M. (2021). Teachers understanding in identifying Twice-Exceptionality-An Issue Analysis. *Ilkogretim Online*, 20(5). <https://doi.org/10.17051/ilkonline.2021.05.275>

Arnett, A. B., Pennington, B. F., Peterson, R. L., Willcutt, E. G., DeFries, J. C., & Olson, R. K. (2017). Explaining the sex difference in dyslexia. *Journal of Child Psychology and Psychiatry*, 58(6), 719–727. <https://doi.org/10.1111/jcpp.12691>

Arun, P., Jhambh, I., & Garg, J. (2014). Cross-sectional study of self-reported ADHD symptoms and psychological comorbidity among college students in Chandigarh, India. *Industrial Psychiatry Journal*, 23(2), 111. <https://doi.org/10.4103/0972-6748.151679>

- Ashburner, J., Saggars, B., Campbell, M. A., Dillon-Wallace, J. A., Hwang, Y., Carrington, S., & Bobir, N. (2018). How are students on the autism spectrum affected by bullying? Perspectives of students and parents. *Journal of Research in Special Educational Needs*, 19(1), 27–44. <https://doi.org/10.1111/1471-3802.12421>
- Ashraf, F., & Najam, N. (2017). Co-morbidity of specific learning disabilities and depressive symptoms in non-clinical sample of adolescents. *Journal of Postgraduate Medical Institute*, 31(2). <https://jpmi.org.pk/index.php/jpmi/article/download/2018/1849>
- Balamurugan, G., Sevak, S., Gurung, K., & Vijayarani, M. (2024). Mental health issues among school children and adolescents in India: A systematic review. *Cureus*. <https://doi.org/10.7759/cureus.61035>
- Bandla, S., Mandadi, G. D., & Bhogaraju, A. (2017). Specific learning disabilities and psychiatric comorbidities in school children in South India. *Indian Journal of Psychological Medicine*, 39(1), 76–82. <https://doi.org/10.4103/0253-7176.198950>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295x.84.2.191>
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds.). *Self-Efficacy Beliefs of Adolescents*. Greenwich, CT: Information Age Publishing, pp. 307-337. <https://www.sci epub.com/reference/181510>
- Barkley, R. A. (2014). Attention-Deficit Hyperactivity Disorder: A handbook for diagnosis and treatment. Fourth edition. *Guilford Publications*. <https://eric.ed.gov/?id=ED553177>
- Barkley, R. A., Fischer, M., Smallish, L., & Fletcher, K. (2002). The persistence of attention-deficit/hyperactivity disorder into young adulthood as a function of reporting source and definition of disorder. *Journal of Abnormal Psychology*, 111(2), 279–289. <https://doi.org/10.1037/0021-843x.111.2.279>
- Bartlett, M. S. (1954). A note on the multiplying factors for various χ^2 approximations. *Journal of the Royal Statistical Society Series B (Methodological)*, 16(2), 296–298. <https://doi.org/10.1111/j.2517-6161.1954.tb00174.x>
- Bavojdan, M. R., Towhidi, A., & Rahmati, A. (2011). The relationship between mental health and general self-efficacy beliefs, coping strategies and locus of control in male drug abusers. *Addiction & health*, 3(3-4), 111. <https://pubmed.ncbi.nlm.nih.gov/24494125/>

- Baxter, J., & Rattan, G. (2004). Attention deficit disorder and the internalizing dimension in males, ages 9-0 through 11-11. *International Journal of Neuroscience*, 114(7), 817–832. <https://doi.org/10.1080/00207450490450064>
- BBC Health. (2006). Dyspraxia. <http://www.bbc.co.uk/health/conditions/dyspraxia2>
- Beesdo, K., Knappe, S., & Pine, D. S. (2009). Anxiety and anxiety disorders in children and adolescents: Developmental issues and implications for DSM-V. *Psychiatric Clinics of North America*, 32(3), 483–524. <https://doi.org/10.1016/j.psc.2009.06.002>
- Behera, P., Parida, J., Kakade, N., Pati, S., & Acharya, S. K. (2023). Addressing barriers to mental healthcare access for adolescents living in slums: A qualitative multi-stakeholder study in Odisha, India. *Children and Youth Services Review*, 145, 106810. <https://doi.org/10.1016/j.childyouth.2023.106810>
- Benner, N. G. J., Mattison, N. R. E., Nelson, N. J. R., & Ralston, N. N. C. (2009). Types of language disorders in students classified as ED: Prevalence and association with learning disabilities and psychopathology. *Education and Treatment of Children*, 32(4), 631–653. <https://doi.org/10.1353/etc.0.0077>
- Bennett, A. E. (2017). Autism's clinical companions: Frequent co-morbidities with ASD. *Children's Doctor*. Children's Hospital of Philadelphia. <https://www.chop.edu/news/autism-s-clinical-companions-frequent-co-morbidities-asd>
- Bitsko, R. H., Holbrook, J. R., Ghandour, R. M., Blumberg, S. J., Visser, S. N., Perou, R., & Walkup, J. T. (2018). Epidemiology and impact of health care provider–diagnosed anxiety and depression among US children. *Journal of Developmental & Behavioral Pediatrics*, 39(5), 395–403. <https://doi.org/10.1097/dbp.0000000000000571>
- Blanco-Vieira, T., Santos, M., Ferrão, Y. A., Torres, A. R., Miguel, E. C., Bloch, M. H., Leckman, J. F., & Rosario, M. C. D. (2019). The impact of attention deficit hyperactivity disorder in obsessive-compulsive disorder subjects. *Depression and Anxiety*, 36(6), 533–542. <https://doi.org/10.1002/da.22898>
- Bloch, M. H., & Leckman, J. F. (2009). Clinical course of Tourette syndrome. *Journal of Psychosomatic Research*, 67(6), 497–501. <https://doi.org/10.1016/j.jpsychores.2009.09.002>
- Bosch, R., Pagerols, M., Rivas, C., Sixto, L., Bricollé, L., Español-Martín, G., Prat, R., Ramos-Quiroga, J. A., & Casas, M. (2021). Neurodevelopmental disorders among Spanish school-age children: Prevalence and sociodemographic correlates. *Psychological Medicine*, 52(14), 3062–3072. <https://doi.org/10.1017/s0033291720005115>
- Bougeard, C., Picarel-Blanchot, F., Schmid, R., Campbell, R., & Buitelaar, J. (2021). Prevalence of Autism Spectrum Disorder and co-morbidities in children and

- adolescents: A systematic literature review. *Frontiers in Psychiatry*, 12. <https://doi.org/10.3389/fpsyt.2021.744709>
- Bougie, R., & Sekaran, U. (2019). *Research methods for business: A skill building approach*. John Wiley & Sons.
- British Dyslexia Association (n.d.). *How is dyscalculia different from other maths learning difficulties?* - British Dyslexia Association. <https://www.bdadyslexia.org.uk/dyscalculia/how-can-i-identify-dyscalculia/how-is-dyscalculia-different-from-other-maths-learning-difficulties>
- Brookman-Frazee, L., Stadnick, N., Chlebowski, C., Baker-Ericzén, M., & Ganger, W. (2017). Characterizing psychiatric comorbidity in children with autism spectrum disorder receiving publicly funded mental health services. *Autism*, 22(8), 938–952. <https://doi.org/10.1177/1362361317712650>
- Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. New York, NY: Guilford Press.
- Budd, J., Fichten, C. S., Jorgensen, M., Havel, A., & Flanagan, T. (2016). Postsecondary students with specific learning disabilities and with Attention Deficit Hyperactivity Disorder should not be considered as a unified group for research or practice. *Journal of Education and Training Studies*, 4(4). <https://doi.org/10.11114/jets.v4i4.1255>
- Butler, A. L. (2011). *Secondary transition experiences: Analyzing perceptions, academic self-efficacy, academic adjustment, and overall impact on college students' with LD success in postsecondary education*. (Ph.D. Thesis, University of Maryland). https://drum.lib.umd.edu/bitstream/1903/11637/1/Butler_umd_0117E_12011.pdf
- Cabiya-Morales, J. J., Padilla, L., Sayers-Montalvo, S., Pedrosa, O., Pefez-Pedrogo, C., & Manzano-Mojica, J. (2007). Relationship between aggressive behavior, depressed mood, and other disruptive behavior in Puerto Rican children diagnosed with attention deficit and disruptive behaviors disorders. *Puerto Rico Health Sciences Journal*, 26(1), 43–49. <https://pubmed.ncbi.nlm.nih.gov/17674873/>
- Cabrero, F. R., & De Jesus, O. (2022). *Dysgraphia*. StatPearls - NCBI Bookshelf. <https://www.ncbi.nlm.nih.gov/books/NBK559301/>
- Caldani, S., Acquaviva, E., Moscoso, A., Peyre, H., Delorme, R., & Bucci, M. P. (2022). Reading performance in children with ADHD: An eye-tracking study. *Annals of Dyslexia*, 72(3), 552–565. <https://doi.org/10.1007/s11881-022-00269-x>
- Campbell, H. L., Barry, C. L., Joe, J. N., & Finney, S. J. (2008). Configural, metric, and scalar invariance of the modified achievement goal questionnaire across

- African American and White university students. *Educational and Psychological Measurement*, 68(6), 988-1007. <https://doi.org/10.1177/0013164408318766>
- Canitano, R. (2006). Epilepsy in autism spectrum disorders. *European Child & Adolescent Psychiatry*, 16(1), 61–66. <https://doi.org/10.1007/s00787-006-0563-2>
- Casali, N., Meneghetti, C., Tinti, C., Re, A. M., Sini, B., Passolunghi, M. C., Valenti, A., Montesano, L., Pellegrino, G., & Carretti, B. (2023). Academic achievement and satisfaction among university students with specific learning disabilities: The roles of soft skills and study-related factors. *Journal of Learning Disabilities*, 57(1), 16–29. <https://doi.org/10.1177/00222194221150786>
- Castellucci, G., & Singla, R. (2024). *Developmental Coordination Disorder (Dyspraxia)*. StatPearls - NCBI Bookshelf. <https://www.ncbi.nlm.nih.gov/books/NBK603724/>
- Catts, H. W., Adlof, S. M., Hogan, T., & Weismer, S. E. (2005b). Are specific language impairment and dyslexia distinct disorders? *Journal of speech, language, and hearing research: JSLHR*, 48(6), 1378–1396. [https://doi.org/10.1044/1092-4388\(2005/096](https://doi.org/10.1044/1092-4388(2005/096)
- Census of India (2011). *Office of the Registrar General & Census Commissioner, India*. <https://censusindia.gov.in/census.website/>
- Chacko, D., & Vidhukumar, K. (2020). The prevalence of specific learning disorder among school-going children in Ernakulam district, Kerala, India: Ernakulam Learning Disorder (ELD) study. *Indian Journal of Psychological Medicine*, 42(3), 250–255. https://doi.org/10.4103/ijpsym.ijpsym_199_19
- Chawla, G. K., Juyal, R., Shikha, D., Semwal, J., Tripathi, S., & Bhattacharya, S. (2022). Attention deficit hyperactivity disorder and associated learning difficulties among primary school children in district Dehradun, Uttarakhand, India. *Journal of Education and Health Promotion*, 11(1), 98.
- Chen, Z., Bai, J., Hu, Y., & Wang, Y. (2025). Social Anxiety and its Comorbidity with Depression in medical students: a network analysis. *Stress and Health*, 41(3). <https://doi.org/10.1002/smi.70045>
- Cheng, D., Miao, X., Wu, H., Chen, C., Chen, Q., & Zhou, X. (2022). Dyscalculia and dyslexia in Chinese children with idiopathic epilepsy: Different patterns of prevalence, comorbidity, and gender differences. *Epilepsia Open*, 7(1), 160-169. <https://doi.org/10.1002/epi4.12577>
- Chieffo, D. P. R., Arcangeli, V., Moriconi, F., Marfoli, A., Lino, F., Vannuccini, S., Marconi, E., Turrini, I., Brogna, C., Veredice, C., Antonietti, A., Sani, G., & Mercuri, E. M. (2023). Specific Learning Disorders (SLD) and behavior

- impairment: Comorbidity or specific profile? *Children*, 10(8), 1356. <https://doi.org/10.3390/children10081356>
- Chin, W. W. (1998). Issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1), 7–16. <https://doi.org/10.5555/290231.290235>
- Cho, S., Kim, B., Kim, J., Rohde, L. A., Hwang, J., Chungh, D., Shin, M., Lyoo, I. K., Go, B., Lee, S., & Kim, H. (2009). Full syndrome and subthreshold attention-deficit/hyperactivity disorder in a Korean community sample: Comorbidity and temperament findings. *European Child & Adolescent Psychiatry*, 18(7), 447–457. <https://doi.org/10.1007/s00787-009-0755-7>
- Cholakottil, N. A., Kazhungil, N. F., & Koyamu, N. a. M. K. (2017). Prevalence and pattern of psychiatric disorders in school going adolescents. *International Journal of Indian Psychology*, 4(3). <https://doi.org/10.25215/0403.074>
- Choudhary, A., Gulati, S., Sagar, R., Sankhyan, N., & Sripada, K. (2018). Childhood epilepsy and ADHD comorbidity in an Indian tertiary medical center outpatient population. *Scientific Reports*, 8(1). <https://doi.org/10.1038/s41598-018-20676-8>
- Choudhary, M. G., Jain, A., Chahar, C. K., & Singhal, A. K. (2012). A case control study on specific learning disorders in school going children in Bikaner City. *The Indian Journal of Pediatrics*, 79(11), 1477–1481. <https://doi.org/10.1007/s12098-012-0699-7>
- Chung, P. J., Patel, D. R., & Nizami, I. (2020). Disorder of written expression and dysgraphia: Definition, diagnosis, and management. *Translational Pediatrics*, 9(S1), S46–S54. <https://doi.org/10.21037/tp.2019.11.01>
- Cohen, L., Manion, L., & Morrison, K. (2017). *Research methods in education*. Routledge.
- Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry*, 60(8), 837. <https://doi.org/10.1001/archpsyc.60.8.837>
- Creswell, J. W. (2011). Controversies in mixed methods research. *The SAGE*.
- Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches. *Sage publications*.
- Croen, L. A., Najjar, D. V., Ray, G. T., Lotspeich, L., & Bernal, P. (2006). A comparison of health care utilization and costs of children with and without autism spectrum disorders in a large Group-Model health plan. *Pediatrics*, 118(4), e1203–e1211. <https://doi.org/10.1542/peds.2006-0127>

- Cumyn, L., French, L., & Hechtman, L. (2009). Comorbidity in adults with Attention-Deficit Hyperactivity Disorder. *The Canadian Journal of Psychiatry*, 54(10), 673–683. <https://doi.org/10.1177/070674370905401004>
- Cusack, J., Smeaton, M., Devlin, M., Autistica, Epilepsy Research UK, Young Epilepsy, Reilly, C., Zarakoviti, E., Bennett, S., McTague, A., Skuse, D., Dalrymple, E., Batura, N., Palmer, T., & Shafran, R. (2021). Autism and Epilepsy: Laying out the evidence. In *Full Report*. https://www.youngepilepsy.org.uk/sites/default/files/2023-01/FBH_Project_Report-Autism-and-epilepsy.pdf
- Counselling Centre, University of Maryland (n.d.). Academic concerns/Learning difficulties. <https://www.counseling.umd.edu/cs/commonconcerns/academic/>
- D'Agati, E., Curatolo, P., & Mazzone, L. (2019). Comorbidity between ADHD and anxiety disorders across the lifespan. *International Journal of Psychiatry in Clinical Practice*, 23(4), 238–244. <https://doi.org/10.1080/13651501.2019.1628277>
- Da Mata, L. R. F., De Carvalho, E. C., Gomes, C. R. G., Da Silva, A. C., & Da Graça Pereira, M. (2015b). Postoperative self-efficacy and psychological morbidity in radical prostatectomy. *Revista Latino-Americana De Enfermagem*, 23(5), 806–813. <https://doi.org/10.1590/0104-1169.0456.2618>
- Daniel, W. W. (1999). *Biostatistics: A foundation for analysis in the health sciences* (7th ed.). John Wiley & Sons.
- Daigre, C., Ramos-Quiroga, J. A., Valero, S., Bosch, R., Roncero, C., Gonzalvo, B., ...& Casas, M. (2009). Adult ADHD Self-Report Scale (ASRS-v1. 1) symptom checklist in patients with substance use disorders. *Actas españolas de psiquiatría*, 37(6), 299-305. <https://pubmed.ncbi.nlm.nih.gov/20066581/>
- Daniel, J., & Wang, H. (2023b). Gender differences in special educational needs identification. *Review of Education*, 11(3). <https://doi.org/10.1002/rev3.3437>
- Darweesh, A. M., Elserogy, Y. M., Khalifa, H., Gabra, R. H., & El-Ghafour, M. A. (2020). Psychiatric comorbidity among children and adolescents with dyslexia. *Middle East Current Psychiatry*, 27(1). <https://doi.org/10.1186/s43045-020-00035-y>
- Davis, B.(2021). Academic Problem. *MV Organising*, <https://www.mvorganizing.org/what-are-academic-problems/>
- De Filippis, R., Aguglia, A., Costanza, A., Benatti, B., Placenti, V., Vai, E., Bruno, E., De Berardis, D., Dell’Osso, B., Albert, U., De Fazio, P., Amore, M., Serafini, G., Ghaemi, N. S., & Amerio, A. (2024). Obsessive–Compulsive Disorder as an Epiphenomenon of Comorbid Bipolar Disorder? An Updated Systematic Review. *Journal of Clinical Medicine*, 13(5), 12-30. <https://doi.org/10.3390/jcm13051230>

- De Milander, M., Coetzee, D., & Venter, A. (2014). Developmental Coordination Disorder in grade 1 learners. *Research Gate*.
- De Milander, M., Coetzee, D., & Venter, A. (2014b). Developmental Coordination Disorder in grade 1 learners. *African Journal for Physical, Health Education, Recreation and Dance (AJPHERD)* 20(3:1), 1075-1085. https://www.researchgate.net/publication/299535812_Developmental_Coordination_Disorder_in_grade_1_learners
- Deb, S., Chatterjee, P., & Walsh, K. (2010). Anxiety among high school students in India: Comparisons across gender, school type, social strata and perceptions of quality time with parents. *Australian Journal of Educational & Developmental Psychology*, 10, 18–31. https://www.newcastle.edu.au/_data/assets/pdf_file/0012/100290/V10_deb_et_al.pdf
- Debes, N., Hjalgrim, H., & Skov, L. (2009). The presence of Attention-Deficit Hyperactivity Disorder (ADHD) and Obsessive-Compulsive Disorder worsen psychosocial and educational problems in Tourette syndrome. *Journal of Child Neurology*, 25(2), 171–181. <https://doi.org/10.1177/0883073809336215>
- DeFilippis, M. (2018). Depression in Children and Adolescents with Autism Spectrum Disorder. *Children*, 5(9), 112. <https://doi.org/10.3390/children5090112>
- Déry, M., Toupin, J., Pauzé, R., & Verlaan, P. (2004). Frequency of mental health disorders in a sample of elementary school students receiving special educational services for behavioural difficulties. *The Canadian Journal of Psychiatry/Canadian Journal of Psychiatry*, 49(11), 769–775. <https://doi.org/10.1177/070674370404901108>
- Desouky, D. E., Ibrahim, R. A., & Omar, M. S. (2015b). Prevalence and comorbidity of depression, anxiety and obsessive compulsive disorders among Saudi secondary school girls, Taif Area, KSA. *Archives of Iranian medicine*, 18(4), 234–238. <https://pubmed.ncbi.nlm.nih.gov/25841944>
- DeVellis, R. F., & Thorpe, C. T. (2021). *Scale development: Theory and Applications*. SAGE Publications.
- Devillaine, L., Lambert, R., Boutet, J., Aloui, S., Brault, V., Jolly, C., & Labyt, E. (2021). Analysis of Graphomotor Tests with Machine Learning Algorithms for an Early and Universal Pre-Diagnosis of Dysgraphia. *Sensors*, 21(21), 7026. <https://doi.org/10.3390/s21217026>
- Dike-Israel, N. A., & Akinboye, D. O. (2021). Prevalence and Comorbidity of Depression and Anxiety among Medical Students in Babcock University, Ogun State, Nigeria. *Asian Journal of Medicine and Health*, 46–55. <https://doi.org/10.9734/ajmah/2021/v19i430321>

- DiStefano, C., & Motl, R. W. (2009). Further investigating method effects associated with negatively worded items on Self-Report surveys. *Structural Equation Modeling a Multidisciplinary Journal*, 13(3), 440–464. https://doi.org/10.1207/s15328007sem1303_6
- Denis, F., Goff, F. L., Desbois, M., Gepner, A., Feliciano, G., Silber, D., Zeitoun, J., & Assuied, G. P. (2024). Early detection of 5 Neurodevelopmental disorders of children and Prevention of postnatal Depression by mobile Health App: an Observational Cross-Sectional Study (Preprint). *JMIR Public Health and Surveillance*, 10, e58565. <https://doi.org/10.2196/58565>
- Doménech-Betoret, F., Abellán-Roselló, L., & Gómez-Artiga, A. (2017). Self-Efficacy, Satisfaction, and Academic Achievement: The Mediator role of Students' Expectancy-Value Beliefs. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.01193>
- Doménech-Betoret, F., Abellán-Roselló, L., & Gómez-Artiga, A. (2017). Self-Efficacy, Satisfaction, and Academic Achievement: The Mediator role of Students' Expectancy-Value Beliefs. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.01193>
- Donovan, C. L., & Spence, S. H. (2000). Prevention of childhood anxiety disorders. *Clinical Psychology Review*, 20(4), 509–531. [https://doi.org/10.1016/s0272-7358\(99\)00040-9](https://doi.org/10.1016/s0272-7358(99)00040-9)
- Duke, R. E., Torty, C., Okorie, U., Kim, M. J., Eneli, N., Edadi, U., Burton, K., Tann, C., & Bowman, R. (2021). Pattern of comorbidities in school-aged children with cerebral palsy in Cross River State, Nigeria. *BMC Pediatrics*, 21(1). <https://doi.org/10.1186/s12887-021-02637-9>
- Dunn, M., Zajic, M. C., & Berninger, V. (2020). The self in self-regulated writing of fourth to ninth graders with dysgraphia. *International Journal of School & Educational Psychology*, 9(sup1), S34–S46. <https://doi.org/10.1080/21683603.2020.1721384>
- DuPaul, G. J., Gormley, M. J., & Laracy, S. D. (2012). Comorbidity of LD and ADHD. *Journal of Learning Disabilities*, 46(1), 43–51. <https://doi.org/10.1177/0022219412464351>
- DuPaul, G. J., Gormley, M. J., Anastopoulos, A. D., Weyandt, L. L., Labban, J., Sass, A. J., Busch, C. Z., Franklin, M. K., & Postler, K. B. (2021). Academic Trajectories of College Students with and without ADHD: Predictors of Four-Year Outcomes. *Journal of Clinical Child and Adolescent Psychology*, 50(6), 828–843. <https://doi.org/10.1080/15374416.2020.1867990>
- Durand, G., & Arbone, I. (2022). Exploring the relationship between ADHD, its common comorbidities, and their relationship to organizational skills. *PeerJ*, 10, e12836. <https://doi.org/10.7717/peerj.12836>

- Eddy, C. M., Rizzo, R., Gulisano, M., Agodi, A., Barchitta, M., Calì, P., Robertson, M. M., & Cavanna, A. E. (2010). Quality of life in young people with Tourette syndrome: A controlled study. *Journal of Neurology*, 258(2), 291–301. <https://doi.org/10.1007/s00415-010-5754-6>
- Edwards, A. L., & Kilpatrick, F. P. (1948). A technique for the construction of attitude scales. *Journal of Applied Psychology*, 32(4), 374–384. <https://doi.org/10.1037/h0057313>
- Eissa, M. (2010). Behavioral and Emotional Problems Associated with Dyslexia in Adolescence. *Current Psychiatry*, 17–25(1). <http://psychiatry-research-eg.com/texts/ins/HQ2010-10400.pdf>
- Ek, U., Westerlund, J., Holmberg, K., & Fernell, E. (2010). Academic performance of adolescents with ADHD and other behavioural and learning problems - A population-based longitudinal study. *Acta Paediatrica*, 100(3), 402–406. <https://doi.org/10.1111/j.1651-2227.2010.02048.x>
- Elgendi, M. M., Stewart, S. H., MacKay, E. J., & Deacon, S. H. (2021). Two aspects of psychological functioning in undergraduates with a history of reading difficulties: Anxiety and self-efficacy. *Annals of Dyslexia*, 71(1), 84–102. <https://doi.org/10.1007/s11881-021-00223-3>
- Elia, J., Ambrosini, P., & Berrettini, W. (2008). ADHD characteristics: I. Concurrent co-morbidity patterns in children & adolescents. *Child and Adolescent Psychiatry and Mental Health*, 2(1). <https://doi.org/10.1186/1753-2000-2-15>
- Ercan, E. S., Unsel-Bolat, G., Tufan, A. E., Demirkaya, S. K., Bilac, O., Celik, G., Kılıç, B. G., Ardic, U. A., Sapmaz, S. Y., Aksu, H., Tahiroglu, A. Y., Karacetin, G., Tural, U., Aktepe, E., Arman, A. R., Başgöl, S., Coşkun, M., Dursun, O. B., Durukan, İ., Ünal, F. (2021). Effect of impairment on the prevalence and comorbidities of attention deficit hyperactivity Disorder in a national Survey: Nation-Wide Prevalence and Comorbidities of ADHD. *Journal of Attention Disorders*, 26(5), 674–684. <https://doi.org/10.1177/10870547211017985>
- Erenberg, G. (2005). The relationship between Tourette syndrome, attention deficit hyperactivity disorder, and stimulant Medication: A Critical review. *Seminars in Pediatric Neurology*, 12(4), 217–221. <https://doi.org/10.1016/j.spen.2005.12.003>
- Erşan, E. E., Doğan, O., Doğan, S., & Sümer, H. (2004). The distribution of symptoms of attention-deficit/hyperactivity disorder and oppositional defiant disorder in school age children in Turkey. *European Child & Adolescent Psychiatry*, 13(6), 354–361. <https://doi.org/10.1007/s00787-004-0410-2>
- Español-Martín, G., Pagerols, M., Prat, R., Rivas, C., Ramos-Quiroga, J. A., Casas, M., & Bosch, R. (2023). The impact of attention-deficit/hyperactivity disorder and specific learning disorders on academic performance in Spanish children

- from a low-middle- and a high-income population. *Frontiers in Psychiatry*, 14. <https://doi.org/10.3389/fpsy.2023.1136994>
- Essau, C. A. (2003). Comorbidity of anxiety disorders in adolescents. *Depression and Anxiety*, 18(1), 1–6. <https://doi.org/10.1002/da.10107>
- Essau, C. A., Soc, N. R., Conradt, J., Petermann, F., & Phil, N. (2000). Frequency, comorbidity, and psychosocial impairment of anxiety disorders in German adolescents. *Journal of Anxiety Disorders*, 14(3), 263–279. [https://doi.org/10.1016/s0887-6185\(99\)00039-0](https://doi.org/10.1016/s0887-6185(99)00039-0)
- Fawzi, M. C. S., Betancourt, T. S., Marcelin, L., Klopner, M., Munir, K., Muriel, A. C., Oswald, C., & Mukherjee, J. S. (2009). Depression and post-traumatic stress disorder among Haitian immigrant students: Implications for access to mental health services and educational programming. *BMC Public Health*, 9(1). <https://doi.org/10.1186/1471-2458-9-482>
- Fong, C. J., Davis, C. W., Kim, Y., Kim, Y. W., Marriott, L., & Kim, S. (2016). Psychosocial factors and community college student success. *Review of Educational Research*, 87(2), 388–424. <https://doi.org/10.3102/0034654316653479>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39. <https://doi.org/10.2307/3151312>
- Fratlicelli, S., Caratelli, G., De Berardis, D., Ducci, G., Pettorruso, M., Martinotti, G., & Di Giannantonio, M. (2022). Gender differences in attention deficit hyperactivity disorder: An update of the current evidence. *Rivista di psichiatria*, 57(4), 159-164. <https://doi.org/10.1708/3855.38380>
- Freeman, R. D., Fast, D. K., Burd, L., Kerbeshian, J., Robertson, M. M., & Sandor, P. (2000). An international perspective on Tourette syndrome: selected findings from 3500 individuals in 22 countries. *Developmental Medicine & Child Neurology*, 42(7), 436–447. <https://doi.org/10.1017/s0012162200000839>
- Fu, C., Tseng, M., Cermak, S., Chung, T., Chen, Y., Lu, L., Shieh, J., & Rihtman, T. (2022). Psychometric Properties of the Little Developmental Coordination Disorder Questionnaire–Taiwan. *the American Journal of Occupational Therapy*, 76(2). <https://doi.org/10.5014/ajot.2022.047159>
- Fuchs, D., Fuchs, L. S., Mathes, P. G., & Simmons, D. C. (1997b). Peer-Assisted learning strategies: Making classrooms more responsive to diversity. *American Educational Research Journal*, 34(1), 174–206. <https://doi.org/10.3102/00028312034001174>
- Furr, R. M. (2011). *Scale construction and psychometrics for social and personality psychology*, 1-160. <https://doi.org/10.4135/9781446287866>

- Gaffney, G. R., Sieg, K., & Hellings, J. (1994). The MOVES: A Self-Rating Scale for Tourette's Syndrome. *Journal of Child and Adolescent Psychopharmacology*, 4(4), 269–280. <https://doi.org/10.1089/cap.1994.4.269>
- Ganos, C., Bongert, J., Asmuss, L., Martino, D., Haggard, P., & Münchau, A. (2015). The somatotopy of tic inhibition: Where and how much? *Movement Disorders*, 30(9), 1184–1189. <https://doi.org/10.1002/mds.26188>
- García, A. G., & Velazquez, M. L. (2020). Relationship between academic self-efficacy, performance and anxious and depressive symptoms in emerging adult college students. *Educación*, 29(57). <https://doi.org/10.18800/educacion.202002.005>
- Gau, S. S., Ni, H., Shang, C., Soong, W., Wu, Y., Lin, L., & Chiu, Y. (2010). Psychiatric comorbidity among children and adolescents with and without Persistent Attention-Deficit Hyperactivity Disorder. *Australian & New Zealand Journal of Psychiatry*, 44(2), 135–143. <https://doi.org/10.3109/00048670903282733>
- Gersten, R., & Baker, S. (2001b). Teaching Expressive Writing to Students with Learning Disabilities: A Meta-Analysis. *The Elementary School Journal*, 101(3), 251–272. <https://doi.org/10.1086/499668>
- Ghamdi, K. A., & AlMusailhi, J. (2024). Attention-deficit hyperactivity disorder and Autism Spectrum Disorder: Towards better diagnosis and management. *Medical Archives*, 78(2), 159. <https://doi.org/10.5455/medarh.2024.78.159-163>
- Ghandour, R. M., Sherman, L. J., Vladutiu, C. J., Ali, M. M., Lynch, S. E., Bitsko, R. H., & Blumberg, S. J. (2019c). Prevalence and treatment of depression, anxiety, and conduct problems in US children. *The Journal of Pediatrics*, 206, 256–267.e3. <https://doi.org/10.1016/j.jpeds.2018.09.021>
- Ghosh, D., Rajan, P. V., Das, D., Datta, P., Rothner, A. D., & Erenberg, G. (2014). Sleep disorders in children with Tourette Syndrome. *Pediatric Neurology*, 51(1), 31–35. <https://doi.org/10.1016/j.pediatrneurol.2014.03.017>
- Gibbs, J., Appleton, J., & Appleton, R. (2007). Dyspraxia or developmental coordination disorder? Unravelling the enigma. *Archives of Disease in Childhood*, 92(6), 534–539. <https://doi.org/10.1136/adc.2005.088054>
- Giggie, M., Culmer, N., & Stager, C. (2021). Psychiatric comorbidity and associated professional mental health utilization among students in recovery from addiction in Southern Collegiate Recovery Communities. *Southern Medical Journal*, 114(2), 81–85. <https://doi.org/10.14423/smj.0000000000001210>
- Gillberg, C. (2003). Deficits in attention, motor control, and perception: A brief review. *Archives of Disease in Childhood*, 88(10), 904–910. <https://doi.org/10.1136/adc.88.10.904>

- Gillberg, C., Gillberg, I. C., Rasmussen, P., Kadesjö, B., Söderström, H., Råstam, M., ...& Niklasson, L. (2004). Co-existing disorders in ADHD—implications for diagnosis and intervention. *European child & adolescent psychiatry*, 13, i80-i92. <https://doi.org/10.1007/s00787-004-1008-4>
- Gliem, J. A. & Gliem, R. R. (2003). Calculating, interpreting, and reporting cronbach's alpha reliability coefficient for likert-type scales. Midwest Research to Practice Conference in Adult, Continuing, and Community Education. <https://scholarworks.iupui.edu/handle/1805/344>
- Gnanavel, S., Sharma, P., Kaushal, P., & Hussain, S. (2019). Attention deficit hyperactivity disorder and comorbidity: A review of literature. *World Journal of Clinical Cases*, 7(17), 2420-2426. <https://doi.org/10.12998/wjcc.v7.i17.2420>
- Golan, O., Haruvi-Lamdan, N., Laor, N., & Horesh, D. (2021). The comorbidity between autism spectrum disorder and post-traumatic stress disorder is mediated by brooding rumination. *Autism*, 26(2), 538–544. <https://doi.org/10.1177/136236132111035240>
- Goldston, D. B., Walsh, A., Arnold, E. M., Reboussin, B., Daniel, S. S., Erkanli, A., Nutter, D., Hickman, E., Palmes, G., Snider, E., & Wood, F. B. (2007). Reading Problems, Psychiatric Disorders, and Functional Impairment from Mid- to Late Adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46(1), 25–32. <https://doi.org/10.1097/01.chi.0000242241.77302.f4>
- Good, C.V. (1973). Dictionary of Education, New York, McGraw-Hill Book Company, p.7. https://openlibrary.org/books/OL5413452M/Dictionary_of_education
- Goodman, W. K., Storch, E. A., Geffken, G. R., & Murphy, T. K. (2006). Obsessive-Compulsive Disorder in Tourette Syndrome. *Journal of Child Neurology*, 21(8), 704–714. <https://doi.org/10.1177/08830738060210081201>
- Goodman, W., Rasmussen, S., Price, L., Mazure, L., Heninger, G., & Charney, D. (1991b). Yale-Brown Obsessive Compulsive Scale (Y-BOCS). *Verhaltenstherapie*, 1(3), 226–233. <https://doi.org/10.1159/000257973>
- Goran, L. G., & Gage, N. A. (2011). A comparative analysis of language, suspension, and academic performance of students with emotional disturbance and students with learning disabilities. *Education and Treatment of Children*, 34(4), 469–488. <https://doi.org/10.1353/etc.2011.0035>
- Gordon, N., & McKinlay, I. (1981). Helping clumsy children. *Archives of Disease in Childhood*, 56(1), 80. <https://doi.org/10.1136/adc.56.1.80-b>
- Government of India (2009). *The Right of Children to Free and Compulsory Education Act, 2009*. New Delhi: Ministry of Human Resource Development. <https://righttoeducation.in/know-your->

[rte/about#:~:text=The%20Right%20of%20Children%20to,21a%20of%20the%20Indian%20Constitution](https://www.orfonline.org/expert-speak/assessing-the-level-of-inclusive-education-at-the-school-level-in-india/)

- Goyal D. (2020), Assessing the level of inclusive education at the school level in India, *Observer French Foundation, Young Voices*.
<https://www.orfonline.org/expert-speak/assessing-the-level-of-inclusive-education-at-the-school-level-in-india/>
- Greenway, C. W., & Edwards, A. R. (2021). Teaching assistants' facilitators and barriers to effective practice working with children with ADHD: A qualitative study. *British Journal of Special Education*, 48(3), 347–368.
<https://doi.org/10.1111/1467-8578.12377>
- Grigorenko, E. L., Compton, D. L., Fuchs, L. S., Wagner, R. K., Willcutt, E. G., & Fletcher, J. M. (2020). Understanding, educating, and supporting children with specific learning disabilities: 50 years of science and practice. *American Psychologist/the American Psychologist*, 75(1), 37–51.
<https://doi.org/10.1037/amp0000452>
- Grøtan, K., Sund, E. R., & Bjerkeset, O. (2019). Mental Health, Academic Self-Efficacy and Study Progress among College Students - The SHOT Study, Norway. *Frontiers in Psychology*, 10.
<https://doi.org/10.3389/fpsyg.2019.00045>
- Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate data analysis* (7th edition). Pearson
- Hammill, D. D., & Bryant, B. R. (1998). LDDI: The Learning Disabilities Diagnostic Inventory. Austin, Texas, USA: PRO-ED Inc, 10-11.
<https://eric.ed.gov/?id=ED433672>
- Hanna, A. C., Tv, A. K., & Mathew, A. (2024, February 23). Psychiatric comorbidity in adolescents with attempted suicide attending a tertiary care center in South India: A cross-sectional study. *Journal of Research in Medical and Dental Science*, 12(3), 05-09. <https://www.jrmds.in/articles/psychiatric-comorbidity-in-adolescents-with-attempted-suicide-attending-a-tertiary-care-center-in-south-india-a-crosssectional-stu-107883.html>
- Hasselbring, T. S., & Glaser, C. H. (2000a). Use of Computer Technology to Help Students with Special Needs. *The Future of Children*, 10(2), 102.
<https://doi.org/10.2307/1602691>
- Hayat, A. A., Shateri, K., Amini, M., & Shokrpour, N. (2020). Relationships between academic self-efficacy, learning-related emotions, and metacognitive learning strategies with academic performance in medical students: A structural equation model. *BMC Medical Education*, 20(1).
<https://doi.org/10.1186/s12909-020-01995-9>
- Hechtman, L., Abikoff, H., Klein, R. G., Weiss, G., Respitz, C., Kouri, J., Blum, C., Greenfield, B., Etcovitch, J., Fleiss, K., & Pollack, S. (2004). Academic

- achievement and emotional status of children with ADHD treated with Long-Term Methylphenidate and multimodal psychosocial treatment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43(7), 812–819. <https://doi.org/10.1097/01.chi.0000128796.84202.eb>
- Hen, M., & Goroshit, M. (2012). Academic procrastination, emotional intelligence, Academic Self-Efficacy, and GPA. *Journal of Learning Disabilities*, 47(2), 116–124. <https://doi.org/10.1177/0022219412439325>
- Henning, C., Summerfeldt, L. J., & Parker, J. D. A. (2021). The role of inattention symptoms in the relationship between ADHD symptomatology and academic success in post-secondary education settings. *BMC Psychiatry*, 21(1), 404. <https://doi.org/10.1186/s12888-020-02707-9>
- Hirschtritt, M. E., Lee, P. C., Pauls, D. L., Dion, Y., Grados, M. A., Illmann, C., King, R. A., Sandor, P., McMahon, W. M., Lyon, G. J., Cath, D. C., Kurlan, R., Robertson, M. M., Osiecki, L., Scharf, J. M., & Mathews, C. A. (2015). Lifetime prevalence, age of risk, and genetic relationships of comorbid psychiatric disorders in Tourette Syndrome. *JAMA Psychiatry*, 72(4), 325. <https://doi.org/10.1001/jamapsychiatry.2014.2650>
- Horowitz, S. H. & NCLD. (2015). *Learning Disabilities checklist*. <https://pedineurologists.com/learning-disabilities-checklist.pdf>
- Hossain, B., Bent, S., & Hendren, R. (2021). The association between anxiety and academic performance in children with reading disorder: A longitudinal cohort study. *Dyslexia*, 27(3), 342–354. <https://doi.org/10.1002/dys.1680>
- Hossain, M. M., Khan, N., Sultana, A., Ma, P., McKyer, E. L. J., Ahmed, H. U., & Purohit, N. (2020). Prevalence of comorbid psychiatric disorders among people with autism spectrum disorder: An umbrella review of systematic reviews and meta-analyses. *Psychiatry Research*, 287, 112922. <https://doi.org/10.1016/j.psychres.2020.112922>
- Housen, T., Lenglet, A., Ariti, C., Shah, S., Shah, H., Ara, S., Viney, K., Janes, S., & Pintaldi, G. (2017). Prevalence of anxiety, depression and post-traumatic stress disorder in the Kashmir Valley. *BMJ Global Health*, 2(4), e000419. <https://doi.org/10.1136/bmjgh-2017-000419>
- Howard-Gosse, A., Bergey, B. W., & Deacon, S. H. (2023). The reading Challenges, Strategies, and Habits of university students with a history of reading difficulties and their relations to academic achievement. *Journal of Learning Disabilities*, 57(2), 91–105. <https://doi.org/10.1177/00222194231190678>https://www.researchgate.net/publication/299535812_Developmental_Coordination_Disorder_in_grade_1_learners
- Huang, Y., Chiou, H., Chung, C., Chien, W., & Chang, H. (2019). Psychiatric Disorders after Attention-Deficit/Hyperactivity Disorder: A nationwide

- population-based study in Taiwan. *Journal of Nursing Scholarship*, 51(2), 138–146. <https://doi.org/10.1111/jnu.12457>
- Humphreys, K. L., Aguirre, V. P., & Lee, S. S. (2012). Association of anxiety and ODD/CD in children with and without ADHD. *Journal of Clinical Child and Adolescent Psychology*, 41(3), 370–377. <https://doi.org/10.1080/15374416.2012.656557>
- Huppert, J. D., Simpson, H. B., Nissenson, K. J., Liebowitz, M. R., & Foa, E. B. (2009). Quality of life and functional impairment in obsessive-compulsive disorder: A comparison of patients with and without comorbidity, patients in remission, and healthy controls. *Depression and Anxiety*, 26(1), 39–45. <https://doi.org/10.1002/da.20506>
- ICD-10 version: (2019). *World Health Organizations*. <https://icd.who.int/browse10/2019/en>
- Ihbour, S., Anarghou, H., Boulhana, A., Najimi, M., & Chigr, F. (2021). Mental health among students with neurodevelopment disorders: Case of dyslexic children and adolescents. *Dementia & Neuropsychologia*, 15(4), 533–540. <https://doi.org/10.1590/1980-57642021dn15-040014>
- Indumathi, T. (2023). Current status of inclusive education in India. *Shanlax International Journal of Arts Science and Humanities*, 11(1), 47–52. <https://doi.org/10.34293/sijash.v11is1i2-nov.7315>
- International Association of Counseling Services, Inc. <https://www.counseling.umd.edu/cs/commonconcerns/academic/>
- International Classification of Diseases* (2023). <https://www.who.int/standards/classifications/classification-of-diseases>
- International Dyslexia Association.(2020). Dyslexia Basics - *International Dyslexia Association*. <https://dyslexiaida.org/dyslexia-basics/>
- Irwing, P., Booth, T., & Hughes, D. J. (2018). *The Wiley Handbook of Psychometric Testing: A Multidisciplinary Reference on Survey, Scale and Test Development*. John Wiley & Sons.
- Islam, M. S., Rahman, M. E., Moonajilin, M. S., & Van Os, J. (2021). Prevalence of depression, anxiety and associated factors among school going adolescents in Bangladesh: Findings from a cross-sectional study. *PLoS ONE*, 16(4), e0247898. <https://doi.org/10.1371/journal.pone.0247898>
- Jackson, D. N. (1970). A sequential system for personality scale development. *In Current topics in clinical and community psychology* (pp. 61–96). <https://doi.org/10.1016/b978-0-12-153502-5.50008-4>
- Jacob, P., Srinath, S., Girimaji, S., Seshadri, S., & Sagar, J. V. (2016). Co-morbidity in attention-deficit hyperactivity disorder: A clinical study from India. *East*

- Jacoby, R. J., Leonard, R. C., Riemann, B. C., & Abramowitz, J. S. (2014). Predictors of quality of life and functional impairment in Obsessive–Compulsive Disorder. *Comprehensive Psychiatry*, 55(5), 1195–1202. <https://doi.org/10.1016/j.comppsy.2014.03.011>
- Jaisoorya, T., Reddy, Y. J., Thennarasu, K., Beena, K., Beena, M., & Jose, D. C. (2015). An epidemiological study of obsessive compulsive disorder in adolescents from India. *Comprehensive Psychiatry*, 61, 106–114. <https://doi.org/10.1016/j.comppsy.2015.05.003>
- Jang, E. E., & Roussos, L. A. (2007). An investigation into the dimensionality of TOEFL using conditional covariance-based nonparametric approach. *Journal of Educational Measurement*, 44(1), 1–21. <https://doi.org/10.1111/j.1745-3984.2007.00024.x>
- Jogia, J., Sharif, A. H., Nawaz, F. A., Khan, A. R., Alawami, R. H., Aljanahi, M. A., & Sultan, M. A. (2022b). Comorbidities associated with Attention-Deficit/Hyperactivity Disorder in children and adolescents at a tertiary care setting. *Global Pediatric Health*, 9, 2333794X2210766. <https://doi.org/10.1177/2333794x221076607>
- Johnson, B. (2005). Psychological Co morbidity in Children and Adolescents with Learning Disorders. *Journal of Indian Association for Child and Adolescent Mental Health*, 1(1), 50–54. <https://doi.org/10.1177/0973134220050107>
- Josephson, J., Wolfgang, C., & Mehrenberg, R. (2018). Strategies for Supporting Students Who Are Twice-Exceptional. *Journal of Special Education Apprenticeship*, 7(2), n2. <https://eric.ed.gov/?id=EJ1185416>.
- Kadesjo, B., & Gillberg, C. (1999). Developmental coordination disorder in Swedish 7-Year-Old children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 38(7), 820–828. <https://doi.org/10.1097/00004583-199907000-00011>
- Kaiser, H. F. (1958). The varimax criterion for analytic rotation in factor analysis. *Psychometrika*, 23(3), 187–200. <https://doi.org/10.1007/bf02289233>
- Kajastus, K., Haravuori, H., Kiviruusu, O., Marttunen, M., & Ranta, K. (2023). Associations of generalized anxiety and social anxiety with perceived difficulties in school in the adolescent general population. *Journal of Adolescence*. <https://doi.org/10.1002/jad.12275>
- Kamran, M., Siddiqui, S., & Adil, M. S. (2023). Breaking Barriers: The Influence of Teachers' Attitudes on Inclusive Education for Students with Mild Learning Disabilities (MLDs). *Education Sciences*, 13(6), 606. <https://doi.org/10.3390/educsci13060606>

- Kaplan, B. J., Wilson, B. N., Dewey, D., & Crawford, S. G. (1998). DCD may not be a discrete disorder. *Human Movement Science*, 17(4–5), 471–490. [https://doi.org/10.1016/s0167-9457\(98\)00010-4](https://doi.org/10.1016/s0167-9457(98)00010-4)
- Karande, S. (2022). Specific learning disabilities in India: Current situation and the path ahead. *Indian Pediatrics*, 59(5), 367–370. <https://pubmed.ncbi.nlm.nih.gov/35188107/>
- Karki, U., Sravanti, L., Jacob, P., Sharma, E., Kommu, J. V. S., & Seshadri, S. P. (2020). Clinical Profile of Tic Disorders in Children and Adolescents from a Tertiary Care Center in India. *Indian Journal of Psychological Medicine*, 42(3), 262–267. https://doi.org/10.4103/ijpsym.ijpsym_324_19
- Kathleen G. Nadeau, Ph.D. and Patricia Quinn, M.D (2002). ADD (ADHD) Self-report Questionnaire for Teenage/College Girls. <https://aaa.unl.edu/2015Conference/Presentations/AllHandouts.pdf>
- Katzman, M. A., Bilkey, T. S., Chokka, P. R., Fallu, A., & Klassen, L. J. (2017). Adult ADHD and comorbid disorders: Clinical implications of a dimensional approach. *BMC Psychiatry*, 17(1). <https://doi.org/10.1186/s12888-017-1463-3>
- Kausik, N. H., & Hussain, D. (2021). The impact of inclusive Education on Academic Motivation, Academic Self-Efficacy, and Well-Being of Students with Learning Disability. *Journal of Education*, 203(2), 251–257. <https://doi.org/10.1177/00220574211031957>
- Kawoos, Y., Wani, Z. A., Kadla, S. A., Shah, I. A., Hussain, A., Dar, M. M., Margoob, M. A., & Sideeq, K. (2017). Psychiatric co-morbidity in patients with irritable bowel syndrome at a tertiary care center in northern India. *Journal of Neurogastroenterology and Motility*, 23(4), 555–560. <https://doi.org/10.5056/jnm16166>
- Kent, K. M., Pelham, W. E., Molina, B. S. G., Sibley, M. H., Waschbusch, D. A., Yu, J., Gnagy, E. M., Biswas, A., Babinski, D. E., & Karch, K. M. (2010). The Academic Experience of Male High School Students with ADHD. *Journal of Abnormal Child Psychology*, 39(3), 451–462. <https://doi.org/10.1007/s10802-010-9472-4>
- Khan, R. (2020). Exploring learning disabilities among primary school students in reference to their socio-economic status in District Poonch (Unpublished M.Phil. thesis).
- Khasakhala, E., & Galava, P. (2016). Relationship between teachers' perception of causes of challenging behaviour and the choice of management strategies among learners with Autistic Spectrum Disorders. *Journal of Education and Practice*, 7(2), 80–87. <http://files.eric.ed.gov/fulltext/EJ1089784.pdf>
- Khodeir, M. S., El-Sady, S. R., & Mohammed, H. a. E. (2020). The prevalence of psychiatric comorbid disorders among children with specific learning

- disorders: A systematic review. *The Egyptian Journal of Otolaryngology*, 36(1). <https://doi.org/10.1186/s43163-020-00054-w>
- Kilicaslan, F., & Tufan, A. E. (2022). Autism spectrum disorder: Comorbidity and demographics in a clinical sample. *International Journal of Developmental Disabilities*, 70(2), 241–250. <https://doi.org/10.1080/20473869.2022.2074242>
- Kim, H., Cho, S., Kim, B., Kim, J., Shin, M., & Yeo, J. (2010). Does oppositional defiant disorder have temperament and psychopathological profiles independent of attention deficit/hyperactivity disorder? *Comprehensive Psychiatry*, 51(4), 412–418. <https://doi.org/10.1016/j.comppsy.2009.09.002>
- Kim, M. J., Park, I., Lim, M. H., Paik, K. C., Cho, S., Kwon, H., Lee, S. G., Yoo, S., & Ha, M. (2017). Prevalence of Attention-Deficit/Hyperactivity Disorder and its Comorbidity among Korean Children in a Community Population. *Journal of Korean Medical Science*, 32(3), 401. <https://doi.org/10.3346/jkms.2017.32.3.401>
- Klein, D. N. (2004). Different reasons for comorbidity require different solutions. *World Psychiatry*, 3(1), 28. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1414660/>
- Knight, T., Steeves, T., Day, L., Lowerison, M., Jette, N., & Pringsheim, T. (2012). Prevalence of TIC Disorders: A systematic review and meta-analysis. *Pediatric Neurology*, 47(2), 77–90. <https://doi.org/10.1016/j.pediatrneurol.2012.05.002>
- Krafnick, A. J., & Evans, T. M. (2019). Neurobiological sex differences in developmental dyslexia. *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.02669>
- Kraft, J. T., Dalsgaard, S., Obel, C., Thomsen, P. H., Henriksen, T. B., & Scahill, L. (2011). Prevalence and clinical correlates of tic disorders in a community sample of school-age children. *European Child & Adolescent Psychiatry*, 21(1), 5–13. <https://doi.org/10.1007/s00787-011-0223-z>
- Krebs, G., & Heyman, I. (2014). Obsessive-compulsive disorder in children and adolescents. *Archives of Disease in Childhood*, 100(5), 495–499. <https://doi.org/10.1136/archdischild-2014-306934>
- Kuhl, P. K. (1994). Learning and representation in speech and language. *Current Opinion in Neurobiology*, 4(6), 812–822. [https://doi.org/10.1016/0959-4388\(94\)90128-7](https://doi.org/10.1016/0959-4388(94)90128-7)
- Kumar, R. (2011). *Research Methodology: A Step-by-Step guide for Beginners* (3rd ed.). SAGE Publications. http://www.sociology.kpi.ua/wp-content/uploads/2014/06/Ranjit_Kumar_Research_Methodology_A_Step-by-Step_G.pdf

- Kunwar, R. (2022). Impacts of Dyscalculia in Learning Mathematics: Some considerations for content delivery and support. In *Learning disabilities - Neurobiology, assessment, clinical features and treatments*. IntechOpen. <https://doi.org/10.5772/intechopen.99038>
- Kurbanoglu, N. I., & Akim, A. (2010). The Relationships between University Students' Chemistry Laboratory Anxiety, Attitudes, and Self-Efficacy Beliefs. *the Australian Journal of Teacher Education*, 35(8). <https://doi.org/10.14221/ajte.2010v35n8.4>
- Kwak, C., Vuong, K. D., & Jankovic, J. (2003). Migraine headache in patients with Tourette syndrome. *Archives of Neurology*, 60(11), 1595. <https://doi.org/10.1001/archneur.60.11.1595>
- Kwon, S. J., Kim, Y., & Kwak, Y. (2018). Difficulties faced by university students with self-reported symptoms of attention-deficit hyperactivity disorder: a qualitative study. *Child and Adolescent Psychiatry and Mental Health*, 12(1). <https://doi.org/10.1186/s13034-018-0218-3>
- Kyriazos, T. A., & Stalikas, A. (2018). Applied Psychometrics: The steps of scale development and Standardization process. *Psychology*, 09(11), 2531–2560. <https://doi.org/10.4236/psych.2018.911145>
- Lagacé-Leblanc, J., Massé, L., & Rousseau, N. (2022). *Academic Impairments Faced by College Students with Attention-Deficit Hyperactivity Disorder: A Qualitative Study*. <https://eric.ed.gov/?id=EJ1364189>
- Lai, I., Lipscomb, S., & Johnson, A. (2024). Appropriate identification of children with disabilities for idea services: A report from recent national estimates. NCEE 2024-004r. *National Center for Education Evaluation and Regional Assistance*. https://eric.ed.gov/?q=Identification+of+Learning+disability&ff1=dyIn_2024&id=ED652735
- Larson, K., Russ, S. A., Kahn, R. S., & Halfon, N. (2011b). Patterns of Comorbidity, Functioning, and Service Use for US Children with ADHD, 2007. *Pediatrics*, 127(3), 462–470. <https://doi.org/10.1542/peds.2010-0165>
- Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, 28, 563-575. <https://doi.org/10.1111/j.1744-6570.1975.tb01393.x>
- Leckman, J. F., Bloch, M. H., & King, R. A. (2009). Symptom dimensions and subtypes of obsessive-compulsive disorder: A developmental perspective. *Dialogues in Clinical Neuroscience*, 11(1), 21–33. <https://doi.org/10.31887/dcns.2009.11.1/fleckman>
- Lewin, A. B., Park, J. M., Jones, A. M., Crawford, E. A., De Nadai, A. S., Menzel, J., Arnold, E. B., Murphy, T. K., & Storch, E. A. (2014). Family-based exposure and response prevention therapy for preschool-aged children with obsessive-

- compulsive disorder: A pilot randomized controlled trial. *Behaviour Research and Therapy*, 56, 30–38. <https://doi.org/10.1016/j.brat.2014.02.001>
- Li, F., Cui, Y., Li, Y., Guo, L., Ke, X., Liu, J., Luo, X., Zheng, Y., & Leckman, J. F. (2021). Prevalence of mental disorders in school children and adolescents in China: diagnostic data from detailed clinical assessments of 17,524 individuals. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 63(1), 34–46. <https://doi.org/10.1111/jcpp.13445>
- Liew, S., Sidhu, J., & Barua, A. (2015). The relationship between learning preferences (styles and approaches) and learning outcomes among pre-clinical undergraduate medical students. *BMC Medical Education*, 15(1). <https://doi.org/10.1186/s12909-015-0327-0>
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of psychology*. <https://psycnet.apa.org/record/1933-01885-001>
- Likert, R. A. (1952). A technique for the development of attitude scales. *Educational and Psychological Measurement*, 12, 313–315. <https://www.scirp.org/reference/referencespapers?referenceid=2654054>
- Lingam, R., Hunt, L., Golding, J., Jongmans, M., & Emond, A. (2009). Prevalence of Developmental Coordination Disorder using the DSM-IV at 7 years of Age: A UK Population–Based Study. *Pediatrics*, 123(4), e693–e700. <https://doi.org/10.1542/peds.2008-1770>
- Lingeswaran, A. (2013). Assessing knowledge of primary school teachers on specific learning disabilities in two schools in India. *Journal of Education and Health Promotion*, 2(1), 30. <https://doi.org/10.4103/2277-9531.115807>
- Lopes, J. A. (2007). Prevalence and comorbidity of emotional, behavioral and learning problems: a study of 7th-grade students. *Education & Treatment of Children*, 30(4), 165–181. <https://doi.org/10.1353/etc.2007.0027>
- Lu, E., Pyatka, N., Burant, C. J., & Sajatovic, M. (2021). Systematic literature review of psychiatric comorbidities in adults with epilepsy. *Journal of Clinical Neurology/the Journal of Clinical Neurology*, 17(2), 176. <https://doi.org/10.3988/jcn.2021.17.2.176>
- Luo, Q., Chen, L., Yu, D., & Zhang, K. (2023). The mediating role of learning engagement between Self-Efficacy and academic achievement among Chinese college students. *Psychology Research and Behavior Management*, Volume 16, 1533–1543. <https://doi.org/10.2147/prbm.s401145>
- Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, 35(6), 382–386. <https://doi.org/10.1097/00006199-198611000-00017>
- Lyon, G. R., Shaywitz, S. E., & Shaywitz, B. A. (2003). A definition of dyslexia. *Annals of Dyslexia*, 53(1), 1–14. <https://doi.org/10.1007/s11881-003-0001-9>

- Mahdavi, P., Valibeygi, A., Moradi, M., & Sadeghi, S. (2021). Relationship between achievement motivation, mental health and academic success in university students. *Community Health Equity Research & Policy*, 43(3), 311–317. <https://doi.org/10.1177/0272684x211025932>
- Maine, J. N. (2024). Relationship between self-efficacy and reading achievement among students with disabilities (Doctoral dissertation, Walden University). <https://scholarworks.waldenu.edu/dissertations/15927/>
- Margalit, M., Abramowitz, M. Z., Jaffe, E., Herbst, R., & Knobler, H. Y. (2019). Inclusion in community services and PTSD symptoms among adolescents with attention-deficit disorders (ADHD) and learning disabilities (LD). *European Journal of Special Needs Education*, 35(4), 482–496. <https://doi.org/10.1080/08856257.2019.1708640>
- Marsh, H. W., & Martin, A. J. (2011). Academic self-concept and academic achievement: Relations and causal ordering. *British Journal of Educational Psychology*, 81(1), 59–77. <https://doi.org/10.1348/000709910x503501>
- Martinez, N. T., Tiemeier, H., Luijk, M. P. C. M., Law, J., Van Der Ende, J., Verhulst, F., & Jansen, P. W. (2021b). Aggressive behavior, emotional, and attention problems across childhood and academic attainment at the end of primary school. *Social Psychiatry and Psychiatric Epidemiology*, 56(5), 837–846. <https://doi.org/10.1007/s00127-021-02039-3>
- Martinez, N. T., Tiemeier, H., Luijk, M. P. C. M., Law, J., Van Der Ende, J., Verhulst, F., & Jansen, P. W. (2021). Aggressive behavior, emotional, and attention problems across childhood and academic attainment at the end of primary school. *Social Psychiatry and Psychiatric Epidemiology*, 56(5), 837–846. <https://doi.org/10.1007/s00127-021-02039-3>
- Marwitz, L., & Pringsheim, T. (2018). Clinical utility of screening for anxiety and depression in children with Tourette syndrome. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 27(1), 15–21. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5777687/>
- Mason, W. A., Kosterman, R., Hawkins, J. D., Herrenkohl, T. I., Lengua, L. J., & Mccauley, E. (2004). Predicting depression, social phobia, and violence in early adulthood from childhood behavior problems. *Journal of the American Academy of Child & Adolescent Psychiatry*, 43(3), 307–315. <https://doi.org/10.1097/00004583-200403000-00012>
- Mataix-Cols, D., Isomura, K., Brander, G., Brikell, I., Lichtenstein, P., Chang, Z., Larsson, H., Kuja-Halkola, R., Black, K. J., Sidorchuk, A., & De La Cruz, L. F. (2023). Early-Life and Family Risk Factors for Tic Disorder Persistence into Adulthood. *Movement Disorders*, 38(8), 1419–1427. <https://doi.org/10.1002/mds.29454>
- Matteucci, M. C., & Soncini, A. (2021). Self-efficacy and psychological well-being in a sample of Italian university students with and without Specific Learning

- Disorder. *Research in Developmental Disabilities*, 110, 103858.
<https://doi.org/10.1016/j.ridd.2021.103858>
- Mattila, M., Hurtig, T., Haapsamo, H., Jussila, K., Kuusikko-Gauffin, S., Kielinen, M., Linna, S., Ebeling, H., Bloigu, R., Joskitt, L., Pauls, D. L., & Moilanen, I. (2010). Comorbid psychiatric disorders associated with Asperger Syndrome/High-functioning Autism: A community- and clinic-based study. *Journal of Autism and Developmental Disorders*, 40(9), 1080–1093.
<https://doi.org/10.1007/s10803-010-0958-2>
- McCarney, S. B., & Bauer, A. M. (2007). Learning Disability Evaluation Scale: Renormed second edition (LDES-R2). *Missouri: Hawthorne Educational Services*.
https://www.silvereye.com.au/documents/sample_pages/prod2994.pdf
- McCombes, S. (2023). What is a Research Design? Types, Guide & Examples.
<https://www.scribbr.com/methodology/research-design>
- McCurdy, E. E., & Cole, C. L. (2013). Use of a peer support intervention for promoting academic engagement of students with autism in general education settings. *Journal of Autism and Developmental Disorders*, 44(4), 883–893.
<https://doi.org/10.1007/s10803-013-1941-5>
- McDonald, A. S. (2001). The prevalence and effects of test anxiety in school children. *Educational Psychology*, 21(1), 89–101.
<https://doi.org/10.1080/01443410020019867>
- McEwan, R. C., & Downie, R. (2018). Patterns of Academic Success and Engagement among College Students with Psychiatric Disabilities. *Journal of College Student Psychotherapy*, 33(3), 257–272.
<https://doi.org/10.1080/87568225.2018.1483216>
- McGrath, J. J., Lim, C. C. W., Plana-Ripoll, O., Holtz, Y., Agerbo, E., Momen, N. C., Mortensen, P. B., Pedersen, C. B., Abdulmalik, J., Aguilar-Gaxiola, S., Al-Hamzawi, A., Alonso, J., Bromet, E. J., Bruffaerts, R., Bunting, B., De Almeida, J. M. C., De Girolamo, G., De Vries, Y. A., Florescu, S., De Jonge, P. (2020). Comorbidity within mental disorders: a comprehensive analysis based on 145 990 survey respondents from 27 countries. *Epidemiology and Psychiatric Sciences*, 29. <https://doi.org/10.1017/s2045796020000633>
- McGuire, J. F., Piacentini, J., Storch, E. A., Murphy, T. K., Ricketts, E. J., Woods, D. W., Walkup, J. W., Peterson, A. L., Wilhelm, S., Lewin, A. B., McCracken, J. T., Leckman, J. F., & Scahill, L. (2018). A multicenter examination and strategic revisions of the Yale Global Tic Severity Scale. *Neurology*, 90(19).
<https://doi.org/10.1212/wnl.0000000000005474>
- McHargue, K. M. (2019). The relationship between teacher experience and teacher attitude toward Attention Deficit Hyperactivity Disorder (ADHD) (Doctoral thesis, University of Liberty Lynchburg, US).
<https://digitalcommons.liberty.edu/doctoral/2132/>

- McHugh, R. K. (2015). Treatment of co-occurring anxiety disorders and substance use disorders. *Harvard Review of Psychiatry*, 23(2), 99–111. <https://doi.org/10.1097/hrp.000000000000058>
- McLoone, J., Hudson, J. L., & Rapee, R. M. (2006). Treating anxiety disorders in a school setting. *Education and Treatment of Children*, 29(2), 219–242. <https://eric.ed.gov/?id=EJ744806>
- Mega, C., Ronconi, L., & De Beni, R. (2014). What makes a good student? How emotions, self-regulated learning, and motivation contribute to academic achievement. *Journal of Educational Psychology*, 106(1), 121–131. <https://doi.org/10.1037/a0033546>
- Mehra, D., Lakiang, T., Kathuria, N., Kumar, M., Mehra, S., & Sharma, S. (2022). Mental health interventions among adolescents in India: A scoping review. *Healthcare*, 10(2), 337. <https://doi.org/10.3390/healthcare10020337>
- Mehta, M., Pattanayak, R. D., & Sagar, R. (2015). Adolescent psychiatry: An overview of the Indian research. In Springer eBooks (pp. 313–341). https://doi.org/10.1007/978-81-322-1674-2_16
- Merikangas, K. R., He, J., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., Benjet, C., Georgiades, K., & Swendsen, J. (2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the national comorbidity survey replication–adolescent supplement (NCS-A). *Journal of the American Academy of Child and Adolescent Psychiatry*, 49(10), 980–989. <https://doi.org/10.1016/j.jaac.2010.05.017>
- Ministry of Education, Government of India. (2024). *Minutes of the Project Approval Board (PAB) meeting for Jammu & Kashmir, 2024–25*. Department of School Education and Literacy. https://dsel.education.gov.in/sites/default/files/pab/JK_PAB_Minutes_2024_25.pdf
- Ministry of Human Resource Development, Government of India. (2020). *National Education Policy 2020*. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
- Ministry of Statistics and Programme Implementation, Government of India. (2016). *Disabled persons in India: A statistical profile 2016*. National Institute for Empowerment of Persons with Multiple Disabilities (NIEPMD). https://niepmd.tn.nic.in/documents/Disabledpersons2016_2408.pdf
- Mishra, P. & Pahwa, P. (2018). Review on learning disability in Indian and Abroad. *Paripex Indian Journal of Research*, 07(04), 53–54. https://www.researchgate.net/publication/342152491_Review_on_Learning_Disability_in_India_and_Abroad

- Misquitta, R., & Panshikar, A. (2022). Identification of learning disabilities in India: current challenges and issues. *Intervention in School and Clinic*, 58(3), 213–217. <https://doi.org/10.1177/10534512221081274>
- Moats, L. C., Dakin, K. E., & International Dyslexia Association (2008). Basic facts about dyslexia & other reading problems. International Dyslexia Association. <https://search.worldcat.org/title/166255106>
- Mohammadi, M. R., Ahmadi, N., Hooshyari, Z., Khaleghi, A., Yazdi, F. R., & Mehrparvar, A. H. (2021). Prevalence, comorbidity, and predictors of obsessive-compulsive disorder in Iranian children and adolescents. *Journal of Psychiatric Research*, 141, 192–198. <https://doi.org/10.1016/j.jpsychires.2021.06.018>
- Mohammadi, M. R., Ahmadi, N., Yazdi, F. R., Khaleghi, A., Mostafavi, S., Hooshyari, Z., Molavi, P., Sarraf, N., Hojjat, S. K., Mohammadzadeh, S., Amiri, S., Arman, S., Ghanizadeh, A., Ahmadipour, A., Ostovar, R., Nazari, H., Hosseini, S. H., Golbon, A., Derakhshanpour, F., . . . Mehrparvar, A. H. (2020). Prevalence, comorbidity and predictors of anxiety disorders among children and adolescents. *Asian Journal of Psychiatry*, 53, 102059. <https://doi.org/10.1016/j.ajp.2020.102059>
- Mohammadi, M. R., Badrfam, R., Khaleghi, A., Ahmadi, N., Hooshyari, Z., & Zandifar, A. (2021). Lifetime prevalence, predictors and comorbidities of TIC Disorders: A population-based survey of children and adolescents in Iran. *Child Psychiatry and Human Development*, 53(5), 1036–1046. <https://doi.org/10.1007/s10578-021-01186-7>
- Mohammadi, M., Zarafshan, H., Khaleghi, A., Ahmadi, N., Hooshyari, Z., Mostafavi, S., Ahmadi, A., Alavi, S., Shakiba, A., & Salmanian, M. (2019). Prevalence of ADHD and its comorbidities in a Population-Based sample. *Journal of Attention Disorders*, 25(8), 1058–1067. <https://doi.org/10.1177/1087054719886372>
- Moll, K., Kunze, S., Neuhoﬀ, N., Bruder, J., & Schulte-Körne, G. (2014). Specific learning disorder: Prevalence and gender differences. *PLoS ONE*, 9(7), e103537. <https://doi.org/10.1371/journal.pone.0103537>
- Mooney, S. J., & Garber, M. D. (2019). Sampling and sampling frames in big data epidemiology. *Current Epidemiology Reports*, 6(1), 14–22. <https://doi.org/10.1007/s40471-019-0179-y>
- Moroney, K. (2017). The relationship between obsessive-compulsive disorder and depression in the general population. Senior Honors Theses. 537 (Post graduation dissertation, Eastern Michigan University). <https://commons.emich.edu/cgi/viewcontent.cgi?article=1536&context=honors>

- Morrell, Y. (2021). Self-Efficacy and gifted teachers' perceptions of teaching gifted students with high-functioning autism (Doctoral thesis, Walden University, Minnesota). <https://scholarworks.waldenu.edu/dissertations/10599/>
- Morsanyi, K., Van Bers, B. M., McCormack, T., & McGourty, J. (2018). The prevalence of specific learning disorder in mathematics and comorbidity with other developmental disorders in primary school-age children. *British Journal of Psychology*, 109(4), 917–940. <https://doi.org/10.1111/bjop.12322>
- Mostafa, A. A. (2018). Academic procrastination, self-efficacy beliefs, and academic achievement among middle school First Year Students with learning disabilities. *International Journal of Psycho-Educational Sciences*, 7(2), 87–93. <http://files.eric.ed.gov/fulltext/EJ1253219.pdf>
- Mukherjee, M., & Odud, M. A. (2021). A study on the problems faced by Inclusive Learners in Secondary Schools in the district of Howrah, West Bengal, India. *International journal of humanities, engineering, science and management*, 2(02), 68-74. <https://journal.rkdfuniversity.org/index.php/ijhesm/article/view/93>
- Mulat, H., Yegezew, N., & Eyasu, T. (2021b). Co-morbidity of attention deficit hyperactivity disorder among children with seizure disorders at University of Gondar referral hospital Ethiopia (2016). *Scientific Reports*, 11(1). <https://doi.org/10.1038/s41598-021-95751-8>
- Muris, P. (2001). A brief questionnaire for measuring self-efficacy in youths. *Journal of Psychopathology and Behavioral Assessment*, 23(3), 145–149. <https://doi.org/10.1023/a:1010961119608>
- N., Sam M. S. (2013). Academic Problem in Psychology Dictionary org., <https://psychologydictionary.org/academic-problem/>
- Nasa, G. (2014). Academic self-efficacy: A reliable predictor of educational performances Prof. Hemant Lata Sharma. *British Journal of Education*, 2(3), 57-64. https://www.researchgate.net/publication/322790291_Academic_Self_Efficacy_A_reliable_Predictor_of_Educational_Performances
- National Council of Educational Research and Training (2020), PRASHAST: Screening Checklist for School Students. https://www.ncert.nic.in/pdf/DSCS_draft.pdf
- National Institute for the Mentally Handicapped (NIMN, 2009). Indian Scale for Assessment of Autism. [https://thenationaltrust.gov.in/upload/uploadfiles/files/ISAA%20TEST%20MANUAL\(2\).pdf](https://thenationaltrust.gov.in/upload/uploadfiles/files/ISAA%20TEST%20MANUAL(2).pdf)
- National Institute on Deafness and Other Communication Disorders (2023). Developmental language disorder. U.S. Department of Health and Human Services. <https://www.nidcd.nih.gov/health/developmental>

[languagedisorder#:~:text=DLD%20has%20also%20been%20called,of%20DLD%20persists%20into%20adulthood.](#)

- National Resource Centre on ADHD (2015). A Program of CHADD 4601 Presidents Drive, Suite 300. https://neurodiversitycenter.org/wp-content/uploads/doc-adhd-co-occurring-conditions_infographic.pdf
- Nebhinani, N., & Jain, S. (2019). Adolescent mental health: Issues, challenges, and solutions. *Annals of Indian Psychiatry*, 3(1), 4. https://doi.org/10.4103/aip.aip_24_19
- Niazov, Z., Hen, M., & Ferrari, J. R. (2021b). Online and academic procrastination in students with learning disabilities: The impact of academic stress and self-efficacy. *Psychological Reports*, 125(2), 890–912. <https://doi.org/10.1177/0033294120988113>
- Nind, M. (2011). Participatory data analysis: A step too far? *Qualitative Research*, 11(4), 349–363. <https://doi.org/10.1177/1468794111404310>
- Norbury, C. F., Gooch, D., Wray, C., Baird, G., Charman, T., Simonoff, E., Vamvakas, G., & Pickles, A. (2016). The impact of nonverbal ability on prevalence and clinical presentation of language disorder: Evidence from a population study. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 57(11), 1247–1257. <https://doi.org/10.1111/jcpp.12573>
- Office of the Registrar General & Census Commissioner, India. (2021). *D-Series: Primary census abstract data highlights – India & States/UTs*. Census Digital Library. <https://censusindia.gov.in/nada/index.php/catalog/2249>
- Orim, O. S., & Ezekiel, U. F. U. (2017b). Prevalence of specific learning disabilities and its management among pupils in calabar educational zone, cross river state. *IJAEDU- International E-Journal of Advances in Education*, 587–596. <https://doi.org/10.18768/ijaedu.370427>
- Ortiz, A. E., Morer, A., Moreno, E., Plana, M. T., Cordovilla, C., & Lázaro, L. (2015). Clinical significance of psychiatric comorbidity in children and adolescents with obsessive–compulsive disorder: subtyping a complex disorder. *European Archives of Psychiatry and Clinical Neuroscience*, 266(3), 199–208. <https://doi.org/10.1007/s00406-015-0642-9>
- Padhy, S. K., Goel, S., Das, S. S., Sarkar, S., Sharma, V., & Panigrahi, M. (2015). Perceptions of teachers about learning disorder in a northern city of India. *Journal of Family Medicine and Primary Care*, 4(3), 432. <https://doi.org/10.4103/2249-4863.161347>
- Pagerols, M., Prat, R., Rivas, C., Español-Martín, G., Puigbó, J., Pagespetit, È., Haro, J. M., Ramos-Quiroga, J. A., Casas, M., & Bosch, R. (2022b). The impact of psychopathology on academic performance in school-age children and adolescents. *Scientific Reports*, 12(1). <https://doi.org/10.1038/s41598-022-08242-9>

- Palaniappan, P., Seshadri, S., Girimaji, S., & Srinath, S. (2013). Pattern of comorbidities in Indian children and adolescents with attention deficit hyperactivity disorder. *European Psychiatry*, 28, 1. [https://doi.org/10.1016/s0924-9338\(13\)77398-x](https://doi.org/10.1016/s0924-9338(13)77398-x)
- Pallanti, S., Grassi, G., Sarrecchia, E. D., Cantisani, A., & Pellegrini, M. (2011). Obsessive–Compulsive Disorder Comorbidity: Clinical assessment and therapeutic implications. *Frontiers in Psychiatry*, 2. <https://doi.org/10.3389/fpsy.2011.00070>
- Pan, P., Bölte, S., Kaur, P., Jamil, S., & Jonsson, U. (2020b). *Neurological disorders in autism: A systematic review and meta-analysis*. *Autism*, 25(3), 812–830. <https://doi.org/10.1177/1362361320951370>
- Panagi, L., Newlove-Delgado, T., White, S. R., Bennett, S., Heyman, I., Shafran, R., & Ford, T. (2022c). Trends in comorbid physical and mental health conditions in children from 1999 to 2017 in England. *European Child & Adolescent Psychiatry*, 33(1), 33–38. <https://doi.org/10.1007/s00787-022-02112-5>
- Pappert, E. J., Goetz, C. G., Louis, E. D., Blasucci, L., & Leurgans, S. (2003). Objective assessments of longitudinal outcome in Gilles de la Tourette's syndrome. *Neurology*, 61(7), 936–940. <https://doi.org/10.1212/01.wnl.0000086370.10186.7c>
- Paul, I., Sinha, V. K., Sarkhel, S., & Praharaj, S. K. (2015). Co-morbidity of Obsessive-compulsive Disorder and Other Anxiety Disorders with Child and Adolescent Mood Disorders. *East Asian Archives of Psychiatry*, 25(2), 58–63. <https://pubmed.ncbi.nlm.nih.gov/26118744>
- Paul, M. A., & Khan, W. (2018). Prevalence of childhood mental disorders among school children of Kashmir Valley. *Community Mental Health Journal*, 55(6), 1031–1037. <https://doi.org/10.1007/s10597-018-0253-9>
- Pérez-Vigil, A., De La Cruz, L. F., Brander, G., Isomura, K., Jangmo, A., Feldman, I., Hesselmark, E., Serlachius, E., Lázaro, L., Rück, C., Kuja-Halkola, R., D'Onofrio, B. M., Larsson, H., & Mataix-Cols, D. (2018). Association of Obsessive-Compulsive Disorder with objective indicators of educational attainment. *JAMA Psychiatry*, 75(1), 47. <https://doi.org/10.1001/jamapsychiatry.2017.3523>
- Perou, R., Bitsko, R. H., Blumberg, S. J., Pastor, P., Ghandour, R. M., Gfroerer, J. C., ... & Centers for Disease Control and Prevention (CDC). (2013). Mental health surveillance among children—United States, 2005–2011. *MMWR suppl*, 62(2), 1-35. <https://pubmed.ncbi.nlm.nih.gov/23677130/>
- Peter, S., & Rab, M. (2017). A Very Good Question? *Psychometric Testing: Critical Perspectives*, 29-41. <https://doi.org/10.1002/9781119183020.ch3>

- Piacentini, J., Bergman, R. L., Keller, M., & McCracken, J. (2003). Functional Impairment in Children and Adolescents with Obsessive-Compulsive Disorder. *Journal of Child and Adolescent Psychopharmacology*, 13(supplement 1), 61–69. <https://doi.org/10.1089/1044546033221263594>
- Piedad, J. C. P., & Cavanna, A. E. (2016). Depression in Tourette syndrome: A controlled and comparison study. *Journal of the Neurological Sciences*, 364, 128–132. <https://doi.org/10.1016/j.jns.2016.03.030>
- Pittenger, C. (2017). *Obsessive-compulsive disorder: Phenomenology, pathophysiology, and treatment*. Oxford University Press. <https://doi.org/10.1093/med/9780190228163.001.0001>
- Plana-Ripoll, O., Pedersen, C. B., Holtz, Y., Benros, M. E., Dalsgaard, S., De Jonge, P., Fan, C. C., Degenhardt, L., Ganna, A., Greve, A. N., Gunn, J., Iburg, K. M., Kessing, L. V., Lee, B. K., Lim, C. C. W., Mors, O., Nordentoft, M., Prior, A., Roest, A. M., . . . McGrath, J. J. (2019b). Exploring comorbidity within mental disorders among a Danish national population. *JAMA Psychiatry*, 76(3), 259. <https://doi.org/10.1001/jamapsychiatry.2018.3658>
- Pollack, C., Wilmot, D., Centanni, T. M., Halverson, K., Frosch, I., D’Mello, A. M., Romeo, R. R., Imhof, A., Capella, J., Wade, K., Dahhan, N. Z. A., Gabrieli, J. D. E., & Christodoulou, J. A. (2021). Anxiety, motivation, and competence in mathematics and reading for children with and without learning difficulties. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.704821>
- Predescu, E., Asztalos, A. B., & Şipoş, R. (2020). Prevalence and treatment of anxiety disorders comorbidities in a clinical Romanian sample of children and adolescents with psychiatric disorders. In *Intech Open eBooks*. <https://doi.org/10.5772/intechopen.82083>
- Preeti, B. (2013). Role of emotional intelligence for academic achievement for students. *Research Journal of Educational Sciences* ISSN, 2321, 0508. http://www.isca.in/EDU_SCI/Archive/v1/i2/2.ISCA-RJES-2013-006.php
- Prunty, M., & Barnett, A. L. (2019). Accuracy and consistency of letter formation in children with developmental coordination Disorder. *Journal of Learning Disabilities*, 53(2), 120–130. <https://doi.org/10.1177/0022219419892851>
- Qounsar, T., & Parveen, A. (2018). Prevalence of anxiety among adolescents in Kashmir Division. *International Journal of Creative Research Thoughts (IJCRT)*. <https://www.researchgate.net/publication/339285240>
- Qu, Y., Jiang, H., Zhang, N., Wang, D., & Guo, L. (2015). Prevalence of mental disorders in 6–16-Year-Old students in Sichuan Province, China. *International Journal of Environmental Research and Public Health*, 12(5), 5090–5107. <https://doi.org/10.3390/ijerph120505090>
- Qu, Y., Jiang, H., Zhang, N., Wang, D., & Guo, L. (2015b). Prevalence of mental disorders in 6–16-Year-Old students in Sichuan Province, China.

International Journal of Environmental Research and Public Health, 12(5), 5090–5107. <https://doi.org/10.3390/ijerph120505090>

Quillen, T. F., & Gladstone, K. (2008). About dysgraphia. *Nursing*, 38(5), 26. <https://doi.org/10.1097/01.nurse.0000317668.40925.d8>

Quinn, J. M., & Wagner, R. K. (2013). Gender differences in reading impairment and in the identification of impaired readers. *Journal of Learning Disabilities*, 48(4), 433–445. <https://doi.org/10.1177/0022219413508323>

Rajesh, R., & Sunney, H. (2021b). Assessment on prevalence and risk factors of dyslexia among primary school students. *Indian Journal of Psychiatric Nursing*, 18(2), 85. https://doi.org/10.4103/iopn.iopn_18_21

Rajkumar, E., Julia, G. J., K, N. V. S. L., Ranjana, P. K., Manjima, M., Devi, R. R., Rukmini, D., Christina, G., Romate, J., Allen, J. G., Abraham, J., & Jacob, A. M. (2022). Prevalence of mental health problems among rural adolescents in India: A systematic review and meta-analysis. *Scientific Reports*, 12(1). <https://doi.org/10.1038/s41598-022-19731-2>

Rao, P. A., & Landa, R. J. (2013). Association between severity of behavioral phenotype and comorbid attention deficit hyperactivity disorder symptoms in children with autism spectrum disorders. *Autism*, 18(3), 272–280. <https://doi.org/10.1177/1362361312470494>

Rao, S., S, A., Ramanathan, V., Sharma, A., Dhar, M., Thatkar, P., & Pal, R. (2017b). Prevalence of dyslexia among school children in Mysore. *International Journal of Medical Science and Public Health*, 6(1), 159. <https://doi.org/10.5455/ijmsph.2017.05082016592>

Rapee, R. M., Kennedy, S., Ingram, M., Edwards, S., & Sweeney, L. (2005). Prevention and early intervention of anxiety disorders in inhibited preschool children. *Journal of Consulting and Clinical Psychology*, 73(3), 488–497. <https://doi.org/10.1037/0022-006x.73.3.488>

Rappaport, N., & Coffey, B. (2004). Psychopharmacology in the School Setting: Therapeutic Challenges in an Adolescent with Attention Deficit Hyperactivity Disorder, Possible Bipolar Disorder, and Other Comorbidity. *Journal of Child and Adolescent Psychopharmacology*, 14(1), 3–7. <https://doi.org/10.1089/104454604773840418>

Rasmuson, J. (2022). The prevalence of co-morbidities in autism: Consideration of co-morbidity in intervention and treatment response. *Autism Spectrum News*. <https://autismspectrumnews.org/the-prevalence-of-co-morbidities-in-autism-consideration-of-co-morbidity-in-intervention-and-treatment-response/>

Ravens-Sieberer, U., Wille, N., Erhart, M., Bettge, S., Wittchen, H., Rothenberger, A., Herpertz-Dahlmann, B., Resch, F., Hölling, H., Bullinger, M., Barkmann, C., Schulte-Markwort, M., & Döpfner, M. (2008). Prevalence of mental health problems among children and adolescents in Germany: Results of the

- BELLA study within the National Health Interview and Examination Survey. *European Child & Adolescent Psychiatry*, 17(S1), 22–33. <https://doi.org/10.1007/s00787-008-1003-2>
- Reale, L., Bartoli, B., Cartabia, M., Zanetti, M., Costantino, M. A., Canevini, M. P., Termine, C., & Bonati, M. (2017b). Comorbidity prevalence and treatment outcome in children and adolescents with ADHD. *European Child & Adolescent Psychiatry*, 26(12), 1443–1457. <https://doi.org/10.1007/s00787-017-1005-z>
- Reddy, Y. C., Rao, N., & Khanna, S. (2010). An overview of Indian research in obsessive compulsive disorder. *Indian Journal of Psychiatry*, 52(7), 200. <https://doi.org/10.4103/0019-5545.69233>
- Robertson, M. M., Banerjee, S., Eapen, V., & Fox-Hiley, P. (2002). Obsessive compulsive behaviour and depressive symptoms in young people with Tourette syndrome. *European Child & Adolescent Psychiatry*, 11(6), 261–265. <https://doi.org/10.1007/s00787-002-0301-3>
- Roca, M., Gili, M., Garcia-Garcia, M., Salva, J., Vives, M., Campayo, J. G., & Comas, A. (2009). Prevalence and comorbidity of common mental disorders in primary care. *Journal of Affective Disorders*, 119(1–3), 52–58. <https://doi.org/10.1016/j.jad.2009.03.014>
- Romero, M., Aguilar, J. M., Del-Rey-Mejías, Á., Mayoral, F., Rapado, M., Peciña, M., Barbancho, M. Á., Ruiz-Veguilla, M., & Lara, J. P. (2016). Psychiatric comorbidities in autism spectrum disorder: A comparative study between DSM-IV-TR and DSM-5 diagnosis. *International Journal of Clinical and Health Psychology*, 16(3), 266–275. <https://doi.org/10.1016/j.ijchp.2016.03.001>
- Ruchkin, V., Lorberg, B., Koposov, R., Schwab-Stone, M., & Sukhodolsky, D. G. (2008). ADHD symptoms and associated psychopathology in a community sample of adolescents from the European North of Russia. *Journal of Attention Disorders*, 12(1), 54–63. <https://doi.org/10.1177/1087054707305169>
- Russell, D.W. (2002). In search of underlying dimensions: The use (and abuse) of factor analysis in Personality and Social Psychology Bulletin. *Personality and Social Psychology Bulletin*, 28(12), 1629–46. <https://doi.org/10.1177/014616702237645.21>
- Ruzhenkova, V. V., Khamskaya, I. S., & Gomelak, Y. N. (2022b). Depression in medical students: prevalence, dynamics and comorbidity. *Žurnal Nevrologii I Psihiatrii Imeni S.S. Korsakova*, 122(6), 7. <https://doi.org/10.17116/jnevro20221220627>
- Sadi, O., & Uyar, M. (2013). The relationship between self-efficacy, self-regulated learning strategies and achievement: a path model. *Journal of Baltic Science Education*, 12(1), 21–33. <https://doi.org/10.33225/jbse/13.12.21>

- Sagar, R., Dandona, R., Gururaj, G., Dhaliwal, R. S., Singh, A., Ferrari, A., Dua, T., Ganguli, A., Varghese, M., Chakma, J. K., Kumar, G. A., Shaji, K. S., Ambekar, A., Rangaswamy, T., Vijayakumar, L., Agarwal, V., Krishnankutty, R. P., Bhatia, R., Charlson, F., . . . Dandona, L. (2020). The burden of mental disorders across the states of India: The Global Burden of Disease Study 1990–2017. *The Lancet Psychiatry*, 7(2), 148–161. [https://doi.org/10.1016/s2215-0366\(19\)30475-4](https://doi.org/10.1016/s2215-0366(19)30475-4)
- Sahoo, M. K., Biswas, H., & Padhy, S. K. (2015). Psychological co-morbidity in children with specific learning disorders. *Journal of Family Medicine and Primary Care*, 4(1), 21. <https://doi.org/10.4103/2249-4863.152243>
- Sahu, A., Patil, V., Sagar, R., & Bhargava, R. (2019). Psychiatric Comorbidities in Children with Specific Learning Disorder-Mixed Type: A Cross-sectional Study. *Journal of Neurosciences in Rural Practice*, 10(04), 617–622. <https://doi.org/10.1055/s-0039-1697879>
- Salmon, G. (2007). Book Review: Russell A. Barkley, Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment (3rd ed.). New York: Guilford Press, 2006. 770 pp. ISBN 159385210X. £50.00. Russell A. Barkley and Kevin R. Murphy, Attention-Deficit Hyperactivity Disorder: A Clinical Workbook (3rd ed.). New York: Guilford Press, 2006. 165 pp. ISBN 1593852274. *Clinical Child Psychology and Psychiatry*, 12(4), 630–632. <https://doi.org/10.1177/13591045070120041203>
- Salvi, V., Ribuoli, E., Servasi, M., Orsolini, L., & Volpe, U. (2021). ADHD and Bipolar Disorder in Adulthood: Clinical and treatment implications. *Medicina*, 57(5), 466. <https://doi.org/10.3390/medicina57050466>
- Sarid, M., & Lipka, O. (2024b). The relationship between academic self-efficacy and class engagement of self-reported ld and adhd in Israeli undergraduate students during covid-19. https://eric.ed.gov/?q=academic+self+efficacy+and+academic+achievement+among+learning+disability&ff1=dtYn_2024&id=EJ1416772
- Scahill, L., Riddle, M. A., McSwiggin-Hardin, M., Ort, S. I., King, R. A., Goodman, W. K., Cicchetti, D., & Leckman, J. F. (1997). Children's Yale-Brown Obsessive Compulsive Scale: Reliability and Validity. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36(6), 844–852. <https://doi.org/10.1097/00004583-199706000-00023>
- Schraegle, W. A., Slomowitz, R. F., Gundlach, C., Hsu, D. A., Almane, D. N., Stafstrom, C. E., Seidenberg, M., Jones, J. E., & Hermann, B. P. (2023b). Disadvantage and neurocognitive comorbidities in childhood idiopathic epilepsies. *Epilepsia*, 64(6), 1663–1672. <https://doi.org/10.1111/epi.17581>
- Schrott, B., Kasperzack, D., Weber, L., Becker, K., Burghardt, R., & Kamp-Becker, I. (2018). Effectiveness of the stepping stones triple p group parenting program as an additional intervention in the treatment of autism spectrum disorders:

- Effects on parenting variables. *Journal of Autism and Developmental Disorders*, 49(3), 913–923. <https://doi.org/10.1007/s10803-018-3764-x>
- Schuerholz, L. J., Baumgardner, T. L., Singer, H. S., Reiss, A. L., & Denckla, M. B. (1996). Neuropsychological status of children with Tourette's syndrome with and without attention deficit hyperactivity disorder. *Neurology*, 46(4), 958–965. <https://doi.org/10.1212/wnl.46.4.958>
- Senkowski, E. E. (2024). An examination of specific learning disability identification post participation in the Michigan Department of Education Transformation Zone (Doctoral dissertation, Western Michigan University). https://eric.ed.gov/?q=Identification+of+Learning+disability&ff1=dyIn_2024&id=ED653032
- Seo, J., Jon, D., Shim, S., Sung, H., Woo, Y. S., Hong, J., Park, S., Seo, J. S., & Bahk, W. (2022b). Prevalence and comorbidities of attention deficit hyperactivity disorder among adults and children/adolescents in Korea. *Clinical Psychopharmacology and Neuroscience*, 20(1), 126–134. <https://doi.org/10.9758/cpn.2022.20.1.126>
- Sepúlveda Bernal, V. J. S., & Araneda, V. F. E. (2021c). Academic performance in higher education students with attention deficit disorder. *Pedagogical Studies*, 47(1), 91–108. <https://doi.org/10.4067/s0718-07052021000100091>
- Set, K. K., & Warner, J. N. (2021b). Tourette syndrome in children: An update. *Current Problems in Pediatric and Adolescent Health Care*, 51(7), 101032. <https://doi.org/10.1016/j.cppeds.2021.101032>
- Shafi, M., Younis, N., Rasool, U., Younis, S., Rather, Y. H., Lone, B. B., Bhat, F. R., & Khan, A. F. (2023). Prevalence of psychiatric morbidity among school-going adolescents in the age group of 13–19 years. *Middle East Current Psychiatry*, 30(1). <https://doi.org/10.1186/s43045-023-00337-x>
- Shalev, R. S., Auerbach, J., Manor, O., & Gross-Tsur, V. (2000). Developmental dyscalculia: Prevalence and prognosis. *European Child & Adolescent Psychiatry*, 9(S2), S58–S64. <https://doi.org/10.1007/s007870070009>
- Sharma, E., Jacob, P., Dharmendra, A., Reddy, Y. C. J., Seshadri, S. P., Girimaji, S. C., & Vijaysagar, K. J. (2021). Preschool-onset OCD: A review of literature and clinical experience. *Bulletin of the Menninger Clinic*, 85(3), 298–315. <https://doi.org/10.1521/bumc.2021.85.3.298>
- Sharma, E., Sharma, L. P., Balachander, S., Lin, B., Manohar, H., Khanna, P., Lu, C., Garg, K., Thomas, T. L., Au, A. C. L., Selles, R. R., Højgaard, D. R. M. A., Skarphedinsson, G., & Stewart, S. E. (2021). Comorbidities in obsessive-compulsive disorder across the lifespan: A systematic review and meta-analysis. *Frontiers in Psychiatry*, 12. <https://doi.org/10.3389/fpsy.2021.703701>

- Sharma, L. R. (2023). Choosing appropriate probability sampling designs in research. *PriMera Scientific Medicine and Public Health*, 2(2), 04–21. <https://primerascientific.com/psmph>
- Shastri, P., Shastri, J., & Shastri, D. (2010). Research in child and adolescent psychiatry in India. *Indian Journal of Psychiatry*, 52(7), 219. <https://doi.org/10.4103/0019-5545.69235>
- Shaywitz, S. E., Shaywitz, J. E., & Shaywitz, B. A. (2020). Dyslexia in the 21st century. *Current Opinion in Psychiatry*, 34(2), 80–86. <https://doi.org/10.1097/ycp.0000000000000670>
- Sheikh, M. M. E., Missiry, M. A. E., Hatata, H. A., Sabry, W. M., Fiky, A. a. a. E., & Essawi, H. I. (2016). Frequency of occurrence of specific reading disorder and associated psychiatric comorbidity in a sample of Egyptian primary school students. *Child and Adolescent Mental Health*, 21(4), 209–216. <https://doi.org/10.1111/camh.12174>
- Shek, D. T. L., Chai, W., & Tan, L. (2022). The relationship between anxiety and depression under the pandemic: The role of life meaning. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.1059330>
- Shen, Y., Chan, B. S. M., Liu, J., Zhou, Y., Cui, X., He, Y., Fang, Y., Xiang, Y., & Luo, X. (2018). The prevalence of psychiatric disorders among students aged 6-16 years old in central Hunan, China. *BMC Psychiatry*, 18(1). <https://doi.org/10.1186/s12888-018-1823-7>
- Shoaib, A., Cepeda, M. S., Murray, G., & Ochs-Ross, R. (2021). Autism: Comorbidities and treatment patterns in the real world, a retrospective cohort study among children, adolescents and adults newly diagnosed with autism. *Journal of Autism and Developmental Disorders*, 52(10), 4311–4320. <https://doi.org/10.1007/s10803-021-05289-x>
- Siegel, L. S. (2019). Solving the Problem of Learning Disabilities. *International Journal for Research in Learning Disabilities*, 4(1), 3–11. <https://eric.ed.gov/?id=EJ1219564>
- Simonoff, E., Pickles, A., Charman, T., Chandler, S., Loucas, T., & Baird, G. (2008). Psychiatric Disorders in Children with Autism Spectrum Disorders: Prevalence, comorbidity, and Associated Factors in a Population-Derived sample. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47(8), 921–929. <https://doi.org/10.1097/chi.0b013e318179964f>
- Sinclair, S., Jaggi, P., Hack, T. F., McClement, S. E., & Cuthbertson, L. (2020). A practical guide for item generation in measure development: Insights from the development of a patient-reported experience measure of compassion. *Journal of Nursing Measurement*, 28(1), 138–156. <https://doi.org/10.1891/jnm-d-19-00020>

- Singh, K., Junnarkar, M., & Kaur, J. (2016). Measures of positive psychology: Development and validation. *Springer eBooks*. <https://doi.org/10.1007/978-81-322-3631-3>
- Singh, S., Sawani, V., Deokate, M., Panchal, S., Subramanyam, A. A., Shah, H. R., & Kamath, R. M. (2017b). Specific learning disability: A 5 year study from India. *International Journal of Contemporary Pediatrics*, 4(3), 863. <https://doi.org/10.18203/2349-3291.ijcp20171687>
- Slobodin, O., & Davidovitch, M. (2022). Primary school children's self-reports of attention deficit hyperactivity disorder-related symptoms and their associations with subjective and objective measures of attention deficit hyperactivity disorder. *Frontiers in Human Neuroscience*, 16. <https://doi.org/10.3389/fnhum.2022.806047>
- Smith, M. (2016c). Movement disorders in childhood, Second Edition Edited by Harvey S Singer, Jonathan WMink, Donald L Gilbert, Joseph Jankovic London Academic Press, 2015\$180.00 (Hardcover), pp 594 Print Book ISBN: 9780124115736 eBook ISBN: 9780124115804. *Developmental Medicine & Child Neurology*, 58(8), 884. <https://doi.org/10.1111/dmcn.13155>
- Smith, T., & Adams, G. (2006). The effect of comorbid AD/HD and learning disabilities on parent-reported behavioral and academic outcomes of children. *Learning Disability Quarterly*, 29(2), 101–112. <https://doi.org/10.2307/30035538>
- Snow, C. E., Burns, M. S., & Griffin, P. (1998). Preventing reading difficulties in young children. In *National Academies Press eBooks*. <https://doi.org/10.17226/6023>
- Soares, N., Evans, T., & Patel, D. R. (2018). Specific learning disability in mathematics: A comprehensive review. *Translational Pediatrics*, 7(1), 48–62. <https://doi.org/10.21037/tp.2017.08.03>
- Soemantri, D., Mccoll, G., & Dodds, A. (2018). Measuring medical students' reflection on their learning: Modification and validation of the motivated strategies for learning questionnaire (MSLQ). *BMC Medical Education*, 18(1). <https://doi.org/10.1186/s12909-018-1384-y>
- Sood, V. (2013). Construction and standardization of verbal learning disabilities checklist for school children. *I-manager's Journal of Educational Psychology/I-manager Journal of Educational Technology*, 7(2), 30–41. <https://doi.org/10.26634/jpsy.7.2.2470>
- Specht, M. W., Woods, D. W., Piacentini, J., Scahill, L., Wilhelm, S., Peterson, A. L., Chang, S., Kepley, H., Deckersbach, T., Flessner, C., Buzzella, B. A., McGuire, J. F., Levi-Pearl, S., & Walkup, J. T. (2011). Clinical characteristics of children and adolescents with a primary tic disorder. *Journal of Developmental and Physical Disabilities*, 23(1), 15–31. <https://doi.org/10.1007/s10882-010-9223-z>

- Spence, S. H., Zubrick, S. R., & Lawrence, D. (2017). A profile of social, separation and generalized anxiety disorders in an Australian nationally representative sample of children and adolescents: Prevalence, comorbidity and correlates. *Australian & New Zealand Journal of Psychiatry*, 52(5), 446–460. <https://doi.org/10.1177/0004867417741981>
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder. *Archives of Internal Medicine*, 166(10), 1092. <https://doi.org/10.1001/archinte.166.10.1092>
- Srivastava, A., Sreejayan, K., Joseph, A., & Sharma, P. S. V. N. (2010). Indian research on comorbidities. *Indian Journal of Psychiatry*, 52(7), 246. <https://doi.org/10.4103/0019-5545.69240>
- Srour, M., Lespérance, P., Richer, F., & Chouinard, S. (2008). Psychopharmacology of TIC disorders. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 17(3), 150–159. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2527768/>
- Stafford, M., & Cavanna, A. E. (2020). Prevalence and clinical correlates of self-injurious behavior in Tourette syndrome. *Neuroscience & Biobehavioral Reviews/Neuroscience and Biobehavioral Reviews*, 113, 299–307. <https://doi.org/10.1016/j.neubiorev.2020.03.022>
- Stephenson, J., Browne, L., Carter, M., Clark, T., Costley, D., Martin, J., Williams, K., Bruck, S., Davies, L., & Sweller, N. (2020). Facilitators and barriers to inclusion of students with autism spectrum disorder: Parent, teacher, and principal perspectives. *Australasian Journal of Special and Inclusive Education*, 1–17. <https://doi.org/10.1017/jsi.2020.12>
- Stevens, A. E., Abu-Ramadan, T. M., & Hartung, C. M. (2021). Promoting academic success in college students with ADHD and LD: A systematic literature review to identify intervention targets. *Journal of American College Health*, 70(8), 2342–2355. <https://doi.org/10.1080/07448481.2020.1862127>
- Suja, G., & Elamaram, S. (2024). Challenges of inclusive education in India. *Shanlax International Journal of Arts Science and Humanities*, 11(3), 98–104. <https://doi.org/10.34293/sijash.v11i3.6905>
- Sun, Z., Zou, L., Zhang, J., Mo, S., Shao, S., Zhong, R., Ke, J., Lu, X., Miao, X., & Song, R. (2013). Prevalence and associated risk factors of dyslexic children in a Middle-Sized City of China: A Cross-Sectional Study. *PLoS ONE*, 8(2), e56688. <https://doi.org/10.1371/journal.pone.0056688>
- Syriopoulou-Delli, C. K., Polychronopoulou, S. A., Kolaitis, G. A., & Antoniou, A. G. (2018). Views of Teachers on Anxiety Symptoms in Students with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 49(2), 704–720. <https://doi.org/10.1007/s10803-018-3752-1>

- Tabachnick, B. G., & Fidell, L. S. (1996). *Using Multivariate Statistics (3rd ed.)*. New York: Harper Collins. (69–314).
<https://www.scirp.org/reference/ReferencesPapers?ReferenceID=1887286>
- Taherdoost, H. (2016b). Sampling methods in research methodology; How to choose a sampling technique for research. *SSRN Electronic Journal*.
<https://doi.org/10.2139/ssrn.3205035>
- Tallal, P., Sainburg, R. L., & Jernigan, T. (1991). The neuropathology of developmental dysphasia: Behavioral, morphological, and physiological evidence for a pervasive temporal processing disorder. *Reading and Writing*, 3(3–4), 363–377. <https://doi.org/10.1007/bf00354968>
- Tallal, P., Sainburg, R. L., & Jernigan, T. (1991b). The neuropathology of developmental dysphasia: Behavioral, morphological, and physiological evidence for a pervasive temporal processing disorder. *Reading and Writing*, 3(3–4), 363–377. <https://doi.org/10.1007/bf00354968>
- Taneja-Johansson, S., Singal, N., & Samson, M. (2021). Education of children with disabilities in Rural Indian Government Schools: A long road to inclusion. *International Journal of Disability Development and Education*, 70(5), 735–750. <https://doi.org/10.1080/1034912x.2021.1917525>
- Taylor, S. (2011). Early versus late onset obsessive–compulsive disorder: Evidence for distinct subtypes. *Clinical Psychology Review*, 31(7), 1083–1100.
<https://doi.org/10.1016/j.cpr.2011.06.007>
- Thakkar, A., Karande, S., Bala, N., Sant, H., Gogtay, N., & Sholapurwala, R. (2016). Is anxiety more common in school students with newly diagnosed specific learning disabilities? A cross-sectional questionnaire-based study in Mumbai, Maharashtra, India. *Journal of Postgraduate Medicine/Journal of Postgraduate Medicine*, 62(1), 12–19. <https://doi.org/10.4103/0022-3859.167663>
- The National Aphasia Association. (2024). What is Aphasia?
<https://aphasia.org/what-is-aphasia/>
- The Rights of Persons with Disabilities Act. (2016). In the Gazette of India Extraordinary: II (59), 2–3.
<https://cdnbbsr.s3waas.gov.in/s3e58aea67b01fa747687f038dfde066f6/uploads/2023/10/202310161053958942.pdf>
- Tokunaga, H. T. (2018). *Fundamental statistics for the social and behavioral sciences*. Sage Publications. <https://edge.sagepub.com/tokunaga2e>
- Tomblin, J. B., Records, N. L., Buckwalter, P., Zhang, X., Smith, E., & O'Brien, M. (1997). Prevalence of specific language impairment in kindergarten children. *Journal of Speech, Language, and Hearing Research*, 40(6), 1245–1260.
<https://doi.org/10.1044/jslhr.4006.1245>

- Top Doctors. (2015). *Dysphasia: causes, symptoms, and treatment*. <https://www.topdoctors.co.uk/medical-dictionary/dysphasia>
- Ueda, K., & Black, K. J. (2021b). A Comprehensive review of TIC disorders in children. *Journal of Clinical Medicine*, 10(11), 2479. <https://doi.org/10.3390/jcm10112479>
- Umeda, M., Shimoda, H., Miyamoto, K., Ishikawa, H., Tachimori, H., Takeshima, T., & Kawakami, N. (2019). Comorbidity and sociodemographic characteristics of adult autism spectrum disorder and attention deficit hyperactivity disorder: epidemiological investigation in the World Mental Health Japan 2nd Survey. *International Journal of Developmental Disabilities*, 67(1), 58–66. <https://doi.org/10.1080/20473869.2019.1576409>
- Valderas, J. M., Starfield, B., Sibbald, B., Salisbury, C., & Roland, M. (2009). Defining Comorbidity: Implications for understanding health and health services. *Annals of Family Medicine*, 7(4), 357–363. <https://doi.org/10.1370/afm.983>
- Valicenti-McDermott, M., Schluskel, D., Hurley, C., Rivelis, E., Bernstein, C., & Cardin, M. (2023b). Comorbidities in school-age children and adolescents with autism in an ethnically diverse population: Brief report. *Journal of Child and Adolescent Psychopharmacology*, 33(5), 190–194. <https://doi.org/10.1089/cap.2023.0006>
- Van Hees, V., Moyson, T., & Roeyers, H. (2014). Higher education experiences of students with autism spectrum disorder: Challenges, benefits and support needs. *Journal of Autism and Developmental Disorders*, 45(6), 1673–1688. <https://doi.org/10.1007/s10803-014-2324-2>
- Van Steensel, F. J. A., Bögels, S. M., & De Bruin, E. I. (2012). Psychiatric comorbidity in children with autism spectrum disorders: A comparison with children with ADHD. *Journal of Child and Family Studies*, 22(3), 368–376. <https://doi.org/10.1007/s10826-012-9587-z>
- Varughese, R. (2015). Integrating children with disabilities into society. *Kerala state planning board*. <https://spb.kerala.gov.in/sites/default/files/inline-files/Children%20with%20Disabilities.pdf>
- Vaz, S., Wilson, N., Falkmer, M., Sim, A., Scott, M., Cordier, R., & Falkmer, T. (2015). Factors associated with primary school teachers' attitudes towards the inclusion of students with disabilities. *PLoS ONE*, 10(8), e0137002. <https://doi.org/10.1371/journal.pone.0137002>
- Verger, P., Guagliardo, V., Gilbert, F., Rouillon, F., & Kovess-Masféty, V. (2009). Psychiatric disorders in students in six French universities: 12-month prevalence, comorbidity, impairment and help-seeking. *Social Psychiatry and Psychiatric Epidemiology*, 45(2), 189–199. <https://doi.org/10.1007/s00127-009-0055-z>

- Verkuijl, N., Perkins, M., & Fazel, M. (2015). Childhood attention-deficit/hyperactivity disorder. *BMJ*, 350 (May 2013), h2168. <https://doi.org/10.1136/bmj.h2168>
- Visser, L., Kalmar, J., Linkersdörfer, J., Görgen, R., Rothe, J., Hasselhorn, M., & Schulte-Körne, G. (2020). Comorbidities between specific learning disorders and psychopathology in elementary school children in Germany. *Frontiers in Psychiatry*, 11. <https://doi.org/10.3389/fpsyt.2020.00292>
- Wagner, G., Zeiler, M., Waldherr, K., Philipp, J., Truttmann, S., Dür, W., Treasure, J. L., & Karwautz, A. F. K. (2017). Mental health problems in Austrian adolescents: A nationwide, two-stage epidemiological study applying DSM-5 criteria. *European Child & Adolescent Psychiatry*, 26(12), 1483–1499. <https://doi.org/10.1007/s00787-017-0999-6>
- Waite, P., Codd, J., & Creswell, C. (2015). Interpretation of ambiguity: Differences between children and adolescents with and without an anxiety disorder. *Journal of Affective Disorders*, 188, 194–201. <https://doi.org/10.1016/j.jad.2015.08.022>
- Walkup, J. T., Albano, A. M., Piacentini, J., Birmaher, B., Compton, S. N., Sherrill, J. T., Ginsburg, G. S., Rynn, M. A., McCracken, J., Waslick, B., Iyengar, S., March, J. S., & Kendall, P. C. (2008). Cognitive behavioral therapy, sertraline, or a combination in childhood anxiety. *New England Journal of Medicine*, 359(26), 2753–2766. <https://doi.org/10.1056/nejmoa0804633>
- Waltz, C. F., & Bausell, R. B. (1981). *Nursing research: Design, Statistics, and Computer Analysis*. F. A. Davis Company. https://books.google.com/books/about/Nursing_Research.html?id=cyJtAAAAMAAJ
- Wang, C. W., & Neihart, M. (2015). How do supports from parents, teachers, and peers influence academic achievement of Twice-Exceptional students. *Gifted Child Today*, 38(3), 148–159. <https://doi.org/10.1177/1076217515583742>
- Wang, F., Yang, H., Li, F., Zheng, Y., Xu, H., Wang, R., Li, Y., & Cui, Y. (2024c). Prevalence and comorbidity of anxiety disorder in school-attending children and adolescents aged 6–16 years in China. *BMJ Paediatrics Open*, 8(1), e001967. <https://doi.org/10.1136/bmjpo-2023-001967>
- Wang, H., & Kuo, M. (2003). Tourette's syndrome in Taiwan: An epidemiological study of tic disorders in an elementary school at Taipei County. *Brain and Development*, 25, S29–S31. [https://doi.org/10.1016/s0387-7604\(03\)90005-2](https://doi.org/10.1016/s0387-7604(03)90005-2)
- Weckström, T., Elovainio, M., Pulkki-Råback, L., Suokas, K., Komulainen, K., Mullola, S., Böckerman, P., & Hakulinen, C. (2023b). School achievement in adolescence and the risk of mental disorders in early adulthood: A Finnish nationwide register study. *Molecular Psychiatry*, 28(7), 3104–3110. <https://doi.org/10.1038/s41380-023-02081-4>

- Weiss, A. P., & Jenike, M. A. (2000). Late-Onset Obsessive-Compulsive Disorder. *Journal of Neuropsychiatry*, 12(2), 265–268. <https://doi.org/10.1176/jnp.12.2.265>
- What is aphasia? Types, Causes and Treatment. (2017). *National Institute on Deafness and Other Communication Disorders*. <https://www.nidcd.nih.gov/health/aphasia>
- What is Dyspraxia/DCD? *Dyspraxia DCD America*. <https://www.dyspraxiadcdamerica.org/what-is-dyspraxia-dcd/>
- Whitbeck, L. B., Johnson, K. D., Hoyt, D. R., & Walls, M. L. (2006). Prevalence and comorbidity of mental disorders among American Indian children in the Northern Midwest. *Journal of Adolescent Health*, 39(3), 427–434. <https://doi.org/10.1016/j.jadohealth.2006.01.004>
- Wibrowski, C. R., Matthews, W. K., & Kitsantas, A. (2016). The role of a skills learning support program on First-Generation college students' self-regulation, motivation, and academic achievement: A longitudinal study. *Journal of College Student Retention Research Theory & Practice*, 19(3), 317–332. <https://doi.org/10.1177/1521025116629152>
- Wilens, T. E., Biederman, J., & Spencer, T. J. (2002). Attention Deficit/Hyperactivity Disorder across the lifespan. *Annual Review of Medicine*, 53(1), 113–131. <https://doi.org/10.1146/annurev.med.53.082901.103945>
- Williamson, D., & Johnston, C. (2015). Gender differences in adults with attention-deficit/hyperactivity disorder: A narrative review. *Clinical Psychology Review*, 40, 15–27. <https://doi.org/10.1016/j.cpr.2015.05.005>
- Wilson, F. G., Pan, W., & Schumsky, D. A. (2012). Recalculation of the critical values for Lawshe's content validity ratio. *Measurement and Evaluation in Counseling and Development*, 45(3), 197–210. <https://doi.org/10.1177/0748175612440286>
- Wolraich, M. L., Lambert, W., Doffing, M. A., Bickman, L., Simmons, T., & Worley, K. (2003). Psychometric properties of the Vanderbilt ADHD diagnostic parent rating scale in a referred population. *Journal of Pediatric Psychology*, 28(8), 559–568. <https://doi.org/10.1093/jpepsy/jsg046>
- Wood, D., Bruner, J. S., & Ross, G. (1976b). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, 17(2), 89–100. <https://doi.org/10.1111/j.1469-7610.1976.tb00381.x>
- Woodcock, S., & Moore, B. (2018). Inclusion and students with specific learning difficulties: The double-edged sword of stigma and teacher attributions. *Educational Psychology*, 41(3), 338–357. <https://doi.org/10.1080/01443410.2018.1536257>

- Woodcock, S., & Vialle, W. (2011). Are we exacerbating students' learning disabilities? An investigation of preservice teachers' attributions of the educational outcomes of students with learning disabilities. *Annals of Dyslexia*, 61(2), 223–241. <https://doi.org/10.1007/s11881-011-0058-9>
- Woodward, L. J., & Fergusson, D. M. (2001). Life course outcomes of young people with anxiety disorders in adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40(9), 1086–1093. <https://doi.org/10.1097/00004583-200109000-00018>
- World Health Organization. (2005). *International classification of diseases and related health problems (10th ed.)*. World Health Organization.
- Wright, J., (2015). *How to: Define academic problems: The first step in effective intervention planning*. https://www.interventioncentral.org/sites/default/files/pdfs/pdfs_blog/1_acad_problem_ID_revised.pdf
- Wu, I., Lo, C. O., & Tsai, K. (2019). Learning experiences of highly able learners with ASD: Using a success case method. *Journal for the Education of the Gifted*, 42(3), 216–242. <https://doi.org/10.1177/0162353219855681>
- Yang, L., Li, C., Li, X., Zhai, M., An, Q., Zhang, Y., Zhao, J., & Weng, X. (2022). Prevalence of developmental dyslexia in primary school children: A systematic review and meta-analysis. *Brain Sciences*, 12(2), 240. <https://doi.org/10.3390/brainsci12020240>
- Yen, J., Ko, C., Yen, C., Wu, H., & Yang, M. (2007). The comorbid psychiatric symptoms of internet addiction: attention deficit and hyperactivity disorder (ADHD), depression, social phobia, and hostility. *Journal of Adolescent Health*, 41(1), 93–98. <https://doi.org/10.1016/j.jadohealth.2007.02.002>
- Yeung, H. H., & Werker, J. F. (2009). Learning words' sounds before learning how words sound: 9-Month-olds use distinct objects as cues to categorize speech information. *Cognition*, 113(2), 234–243. <https://doi.org/10.1016/j.cognition.2009.08.010>
- Yoshimasu, K., Barbaresi, W. J., Colligan, R. C., Voigt, R. G., Killian, J. M., Weaver, A. L., & Katusic, S. K. (2012). Childhood ADHD is strongly associated with a broad range of psychiatric disorders during adolescence: a population-based birth cohort study. *Journal of Child Psychology and Psychiatry*, 53(10), 1036–1043. <https://doi.org/10.1111/j.1469-7610.2012.02567.x>
- Yunitasari, D., Lasmawan, I. W., Arnyana, I. B. P., & Ardana, I. M. (2025). Breaking barriers: Advancing inclusive education through early identification of learning challenges. *Nazhruna Jurnal Pendidikan Islam*, 8(1), 139–153. <https://doi.org/10.31538/nzh.v8i1.133>
- Zaben, F. A., Sehlo, M., Alghamdi, W., Tayeb, H., Khalifa, D., Altowaireb, A., Nughays, R., Jawa, H., Bashrahil, K., Alnemary, F., & Koenig, H. (2020).

- Risk factors for ADHD and comorbid psychiatric, academic and behavior problems among primary school students in Jeddah, Saudi Arabia. *International Journal of Psychiatry in Medicine*, 56(6), 422–432. <https://doi.org/10.1177/0091217420982266>
- Zapata, M. A., & Worrell, F. C. (2023). Disability acceptance and affirmation among U.S. adults with learning disabilities and ADHD. *Journal of Learning Disabilities*, 57(2), 79–90. <https://doi.org/10.1177/00222194231186665>
- Zendarski, N., Mensah, F., Hiscock, H., & Sciberras, E. (2019b). Trajectories of emotional and conduct problems and their association with early high school achievement and engagement for adolescents with ADHD. *Journal of Attention Disorders*, 25(5), 623–635. <https://doi.org/10.1177/1087054719833167>
- Ziegenfusz, S., Paynter, J., Flückiger, B., & Westerveld, M. F. (2022b). A systematic review of the academic achievement of primary and secondary school-aged students with developmental language disorder. *Autism & Developmental Language Impairments*, 7, 239694152210993. <https://doi.org/10.1177/23969415221099397>
- Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-Motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, 29(3), 663–676. <https://doi.org/10.3102/00028312029003663>
- Zuluaga-Valencia, J. B., & Fandiño-Tabares, D. C. (2017). Comorbilidades asociadas al déficit de atención con hiperactividad. *Revista De La Facultad De Medicina*, 65(1), 61–66. <https://doi.org/10.15446/revfacmed.v65n1.57031>

Appendix –A

Content Validity Ratio of Identification Battery on Co-morbid Conditions

Sr. No.	Statements	Tick The Item as per your Observation				Total (18)	CVR
		HR	RM	SR	NR		
Scale A - Reading Disorder /Dyslexia							
A1	I feels difficulty in recalling word or names.*	11	7	-	-	18	1
A2	I am slow in reading.	14	3	1	-	17	0.89
A3	I get confused with similar-looking words (e.g., beard/bread). *	16	1	1	-	17	0.89
A4	I feel difficulty in knowing left from right and other directions. *	13	2	2	1	15	0.67
A5	Letters such as “b” and “d” or the order of letters within the words confuse me.*	14	3	1	-	17	0.89
A6	I usually omit or add letters or words while reading.*	13	3	1	1	16	0.78
A7	I feel difficulty in identifying or generating rhyming words.*	12	4	1	1	16	0.78
A8	I started speaking late in my life.**	08	5	2	3	13	0.44
A9	I feel difficulty in recognizing words and letters on a printed page. **	14	-	-	4	14	0.56
A10	I fail to finish assignments in due time. **	11	5	1	1	16	0.78
Scale B - Writing Disorder/Dysgraphia							
B1	I commit spelling errors while writing.	14	2	1	1	16	0.78
B2	I am unable to read my own handwriting.	10	5	1	2	15	0.67
B3	I face difficulty with written expression (e.g. problems with grammar, punctuation or organization) even after being taught several times. * *	14	1	1	2	15	0.67
B4	I can explain things orally than in writing. *	12	3	2	1	17	0.89
B5	I fail to develop ideas in writing (e.g. written work is incomplete, too brief or disorganized. **	13	4	1	-	17	0.89

B6	I face difficulty with spellings of simple words.	13	3	-	2	16	0.78
B7	I reverse letters while writing, For example, writing 'q' instead of 'p' or b/d, u/v, w/m frequently.	16	-	1	1	16	0.78
B8	I use inappropriate spacing between words or sentences when writing.*	11	4	2	1	15	0.67
B9	I face difficulty in the use of capitalization*	12	4	2	-	16	0.78
B10	I require continued drill and practice in order to learn spelling words (i.e., takes much longer to learn words than other students). **	12	2	3	1	14	0.56
Scale C – Mathematical Disorder /Dyscalculia							
C1	I face difficulty in basic calculations like addition, subtraction, & multiplication facts.	17	1	-	-	18	1.00
C2	The mathematical facts slip from my mind even after a long drill and exercise. **	14	3	-	1	17	0.89
C3	I face trouble telling time (on either a digital or analog clock).	15	2	-	1	17	0.89
C4	I experience trouble in learning and applying formulas in problem solving.*	13	4	-	1	17	0.89
C5	I face difficulty in understanding mathematical symbols such as +, -, x, /.	15	3	-	-	18	1.00
C6	I face difficulty in remembering numbers, figures, i.e. dates, years or statistical facts.	15	2	-	1	17	0.89
C7	I face difficulty while following the direction (left-right/up-down/front/back).	10	3	2	2	13	0.44
C8	I face difficulty to correctly solve problems using measurement (e.g. length, volume, weight, etc.). **	14	3	-	1	17	0.89

C9	I face difficulty in understanding abstract concepts (e.g., dimensionality, size, space, shape, etc.).*	13	3	2	-	16	0.78
C10	I face difficulty in higher mathematics like arithmetic, geometry, algebra, and trigonometry. **	14	2	1	1	16	0.78
Scale D-Language Disorder /Dysphasia							
D1	I repeat words or parts of words or speak in short, fragmented phrases. **	16	2	-	-	18	1.00
D2	I stammer or face difficulty while speaking. *	14	2	2	-	16	0.78
D3	I take many pauses during Speaking. *	13	4	1	-	17	0.89
D4	I use lots of fillers (e.g., uh, um, and, you know, so) while speaking.	13	2	3	-	15	0.67
D5	I face difficulty in pronouncing the words.	17	1	-	-	18	1.00
D6	I face difficulty in completing statements while speaking (e.g., speaking in incomplete sentences, failing to think of correct words to express ideas, etc.). *	16	2	-	-	18	1.00
D7	I have a limited speaking vocabulary. **	12	4	1	1	16	0.78
D8	I face difficulty to carry on conversations with peers and adults. *	14	1	2	1	15	0.67
D9	I face difficulty in imitating speech sounds.	17	1	-	-	18	1.00
D10	I fail to use verb tenses correctly when speaking (e.g., past, present and future). **	12	6	-	-	18	1.00
Scale E-Developmental Co-ordination Disorder/Dyspraxia							
E1	I face difficulties with self-care tasks such as tying shoelaces, fastening buttons and zips. *	16	1	1	-	17	0.89
E2	I face difficulty in eating without getting dirty.	12	5	1	-	17	0.89
E3	I face difficulty writing neatly. *	10	4	2	2	14	0.56
E4	I commit mistakes while copying things down.*	10	5	2	1	15	0.67

E5	I face difficulty in learning to ride a bike compared to my peers. *	8	6	2	2	14	0.56
E6	I frequently bump into objects, people and trip over things. * *	13	5	-	-	18	1.00
E7	I face difficulties in organizing things in my room. **	13	3	2	-	16	0.78
E8	I face difficulties with playing team games such as football, volleyball, catching or throwing balls accurately. *	11	3	2	2	14	0.56
E9	I usually need someone to prompt while doing things. **	12	3	-	3	15	0.67
E10	I face difficulty in holding things like pens/balls/utensils etc.	16	2	-	-	18	1.00
Scale F – Anxiety Disorder							
F1	I worry too much **	16	2	-	-	18	1.00
F2	I worried about the things even before they happened. *	13	5	-	-	18	1.00
F3	I easily become annoyed or irritable. *	11	5	2	-	16	0.78
F4	I feel afraid as if something awful might happen. *	14	3	1	-	17	0.89
F5	I am unable to stop or control worrying.	13	3	1	1	16	
F6	I become so restless to sit still.	15	3	-	-	18	0.78
F7	I feel hard to relax. **	13	3	2	-	16	1.00
F8	I fear to be left alone. **	11	5	2	-	16	0.78
F9	I face difficulty in falling asleep.	14	3	1	-	17	0.78
F10	I face difficulty in concentration. *	15	1	1	1	16	0.89
Scale G- Attention Deficit Hyperactivity Disorder (ADHD)							
G1	I fail to pay close attention to details and commit Mistakes in schoolwork, work or other activities. **	15	3	-	-	18	1.00
G2	I face difficulty in sustaining attention in play activities and work tasks. *	13	5	-	-	18	1.00
G3	I easily get distracted by sounds, motion, or other stimuli. *	12	5	1	-	17	0.89

G4	I blurt out answers before questions gets completed *	12	4	1	1	16	0.78
G5	I always face difficulty waiting in queue.	14	2	1	1	16	0.78
G6	I fidget and squirm while sitting.	14	4	-	-	18	1.00
G7	I face difficulty in engaging in leisure activities or doing fun things quietly. *	10	6	1	1	16	0.78
G8	I often doodle or fiddle with something in my hand when I have to sit still. **	10	5	2	1	15	0.67
G9	I bump into things like door frames or table corners.	13	4	1	-	17	0.89
G10	I daydream a lot. **	11	4	-	3	15	0.67
Scale H- Obsessive Compulsive Disorder (OCD)							
H1	Most of my time is occupied by obsessive thoughts.	15	2	1	-	17	0.89
H2	My compulsive thoughts interfere with my school, social and daily life.	15	3	-	-	18	1.00
H3	I make efforts in order to resist my compulsions.*	12	4	2	-	16	0.78
H4	I wash hands more than normal times in a day.	14	3	-	1	17	0.89
H5	I can't talk to anyone unless I take my bath. **	13	1	2	2	14	0.56
H6	I frequently feel contaminated.	14	3	1	-	17	0.89
H7	I have fear of offending religious objects (God).	12	2	2	-	14	0.56
H8	I fear to get fail in examinations or in any situation. **	11	5	1	1	16	0.78
H9	I fear to might harm myself. **	10	4	1	3	14	0.56
H10	I usually check things more than normal (I doubt whether I have locked the door or turned off the stove/Light/gas).	16	2	-	-	18	1.00
Scale I- Autism Disorder (AD)							
I1	I face difficulty in making eye contact with anyone. *	16	2	-	-	18	1.00
I2	I face difficulty in showing appropriate social response.	15	2	1	-	17	0.89
I3	I face difficulty in showing appropriate emotional response.	15	2	-	1	17	0.89

I4	I engage in stereotyped and repetitive use of language. **	13	4	1	-	17	0.89
I5	I show delay in responding to others. *	13	4	1	-	17	0.89
I6	I mostly lost in my own world. **	11	4	2	1	15	0.67
I7	I face difficulty in playing/interacting/making friends with my classmates. *	13	4	-	1	17	0.89
I8	I face difficulty in coping with sudden changes in my routine (for example, changes in timetable due to teacher absence, or other circumstances, or substitute teacher, or moving to another classroom etc.).*	12	4	2	-	16	0.78
I9	I read fluently and repeat verbatim but not able to narrate (orally/written) in my own words. **	11	5	2	-	16	0.78
I10	I exhibit repetitive mannerisms like hand-flapping, nodding-head, finger movement and rocking body, vocal repetitions (sounds/words/phrases). *	14	4	-	-	18	1.00
Scale J- Tic disorder							
J1	I often repeat sudden twitches or jerks of the extremities (like eye-blinking, neck-twisting, muscle-tightening, shoulder-shrugging or any similar movement.) *	15	3	-	-	18	1.00
J2	I often utter involuntary sounds like grunts, yelps, squeaks, or throat clears. *	15	3	-	-	18	1.00
J3	Parts of my body jerk again and again that I can't control.*	13	4	-	1	17	0.89
J4	I feel pressure to talk, shout, or scream.	14	2	1	1	16	0.78
J5	I involuntarily mimic the motions or words of others.*	14	2	-	2	16	0.78
J6	The unpleasant or silly thought or picture goes through my mind.	12	5	1	-	17	0.89

J7	1 have habits or movements that come out more when I'm nervous. *	14	3	1	-	17	0.89
J8	I have ideas that bother me (like germs or like cutting myself). **	11	3	3	1	14	0.56
J9	Bad or swear words come out that I don't mean to say. **	12	3	3	-	15	0.67
J10	I have to repeat words or phrases over and over. **	12	3	-	1	15	0.67

* Statements modified according to the feedback received from grammar and other experts

** Statements deleted on the basis of the feedback received from experts

Appendix –B

Item Evaluation of Identification Battery on Co-morbid Conditions (IBCC) (p - Values)

Sr. No.	Statements	p - Value
Scale A - Reading Disorder /Dyslexia		
A1	I feel difficulty in remembering words or names.	p<0.01
A2	I am slow in reading.	p<0.01
A3	I get confused with similar-looking words (e.g., beard/bread).	p<0.01
A4	I feel difficulty in differentiating left from right	p<0.01
A5	I get confused by letters like ‘b’ and ‘d,’ ‘m’ and ‘w’.	p<0.01
A6	While reading, I omit or add new letters/ words.	p<0.01
A7	I feel difficulty in identifying or generating rhyming words.	p<0.01
Scale B - Writing Disorder/Dysgraphia		
B1	I commit spelling errors while writing.	p<0.01
B2	I am unable to read my own handwriting.	p<0.01
B3	I feel comfortable in explaining things orally than in writing.	p<0.01
B4	I face difficulty with spellings of simple words.	p<0.01
B5	I reverse letters while writing, for example, writing “q” instead of “p” or b/d, u/v, w/m frequently.	p<0.01
B6	I face difficulty in spacing between words/letters while writing.	p<0.01
B7	I face difficulty in the use of capital and small letters.	p<0.01
Scale C – Mathematical Disorder /Dyscalculia		
C1	I face difficulty in basic calculations like addition, subtraction, & multiplication facts.	p<0.01
C2	I face trouble telling time (on either a digital or analog clock).	p<0.01
C3	I face difficulty in learning and applying mathematical formulas.	p<0.01
C4	I face difficulty in understanding mathematical symbols such as +, -, x, /.	p<0.01
C5	I face difficulty in remembering numbers, figures, i.e. dates, years or statistical facts.	p<0.01
C6	I face difficulty while following the direction (left-right/ up-down/front/back).	p<0.01
C7	I feel comfortable with concrete as compare to abstract concepts.	p<0.01
Scale D-Language Disorder /Dysphasia		
D1	I face difficulty while speaking.	p<0.01
D2	I feel difficulty in speaking complete sentences.	p<0.01
D3	I use lots of fillers (e.g., uh, um, and, you know, so) while speaking.	p<0.01

D4	I face difficulty in pronouncing the words.	p<0.01
D5	I take undesirable pauses while speaking.	p<0.01
D6	I face difficulty in communicating with others.	p<0.01
D7	I face difficulty in imitating speech sounds.	p<0.01
Scale E-Developmental Co-ordination Disorder/Dyspraxia		
E1	I face difficulties with daily tasks such as tying shoelaces, fastening buttons and zips.	p<0.01
E2	I face difficulty in eating without getting dirty.	p<0.01
E3	I face difficulty in writing my ideas clearly.	p<0.01
E4	I make errors while copying.	p<0.01
E5	I face difficulty in learning new skills/things.	p<0.01
E6	I face difficulty in coordinating with others.	p<0.01
E7	I face difficulty in holding things like pens/balls/utensils.	p<0.01
Scale F – Anxiety Disorder		
F1	I worry about things even before they happened.	p<0.01
F2	I become annoyed or irritable easily.	p<0.01
F3	I feel afraid as if something bad might happen.	p<0.01
F4	I am unable to stop or control worrying.	p<0.01
F5	I become restless to sit still.	p<0.01
F6	I faced difficulty in falling asleep.	p<0.01
F7	I face difficulty in concentration while performing any task.	p<0.01
Scale G- Attention Deficit Hyperactivity Disorder (ADHD)		
G1	I fail to pay consistent attention on work.	p<0.01
G2	I easily get distracted by any kind of sound and movement.	p<0.01
G3	I respond hastily, even before the completion of question.	p<0.01
G4	I always face difficulty waiting in queue.	p<0.01
G5	I fidget and squirm while sitting.	p<0.01
G6	I face difficulty in playing quietly.	p<0.01
G7	I bump into things like door frames or table corners.	p<0.01
Scale H- Obsessive Compulsive Disorder (OCD)		
H1	Most of my time is occupied by obsessive thoughts.	p<0.01
H2	My compulsive thoughts interfere with my school, social and daily life.	p<0.01
H3	I make efforts to fight against my compulsions.	p<0.01
H4	I wash hands more than normal times in a day.	p<0.01
H5	I frequently feel contaminated.	p<0.01
H6	I have fear of offending religious objects (God).	p<0.01
H7	I usually check things more than normal (I doubt whether I have locked the door or turned off the stove/Light/gas).	p<0.01
Scale I- Autism Disorder (AD)		
I1	I avoid eye contact.	p<0.01
I2	I face difficulty in showing appropriate social response.	p<0.01
I3	I face difficulty in showing appropriate emotional response.	p<0.01

I4	I usually give delayed response.	p<0.01
I5	I face difficulty in making friends.	p<0.01
I6	I face difficulty incoping with sudden changes in my routine (for example, changes in time table due to teacher absence or moving to another classroom etc.).	p<0.01
I7	I exhibit repetitive mannerisms like hand-flapping, nodding-head, finger movement, and rockingbody, vocal repetitions (sounds/words/phrases).	p<0.01
Scale J- Tic disorder		
J1	I often repeat sudden twitches or jerks of the extremities, (like eye-blinking, neck-twisting, muscle-tightening, shoulder-shrugging, or any similar movement).	p<0.01
J2	I often utter involuntary sounds (like grunts, yelps, squeaks, or throat clears).	p<0.01
J3	I cannot control my body to jerk.	p<0.01
J4	I feel pressure to talk, shouts, or screams.	p<0.01
J5	I involuntarily mimic the motions or words of others.	p<0.01
J6	The unpleasant or silly thought or picture goes through my mind.	p<0.01
J7	I have habits or movements that come out more when I'm nervous.	p<0.01

Appendix –C
Exploratory factory Analysis (EFA) of Identification Battery on Co-morbid
Conditions (IBCC)

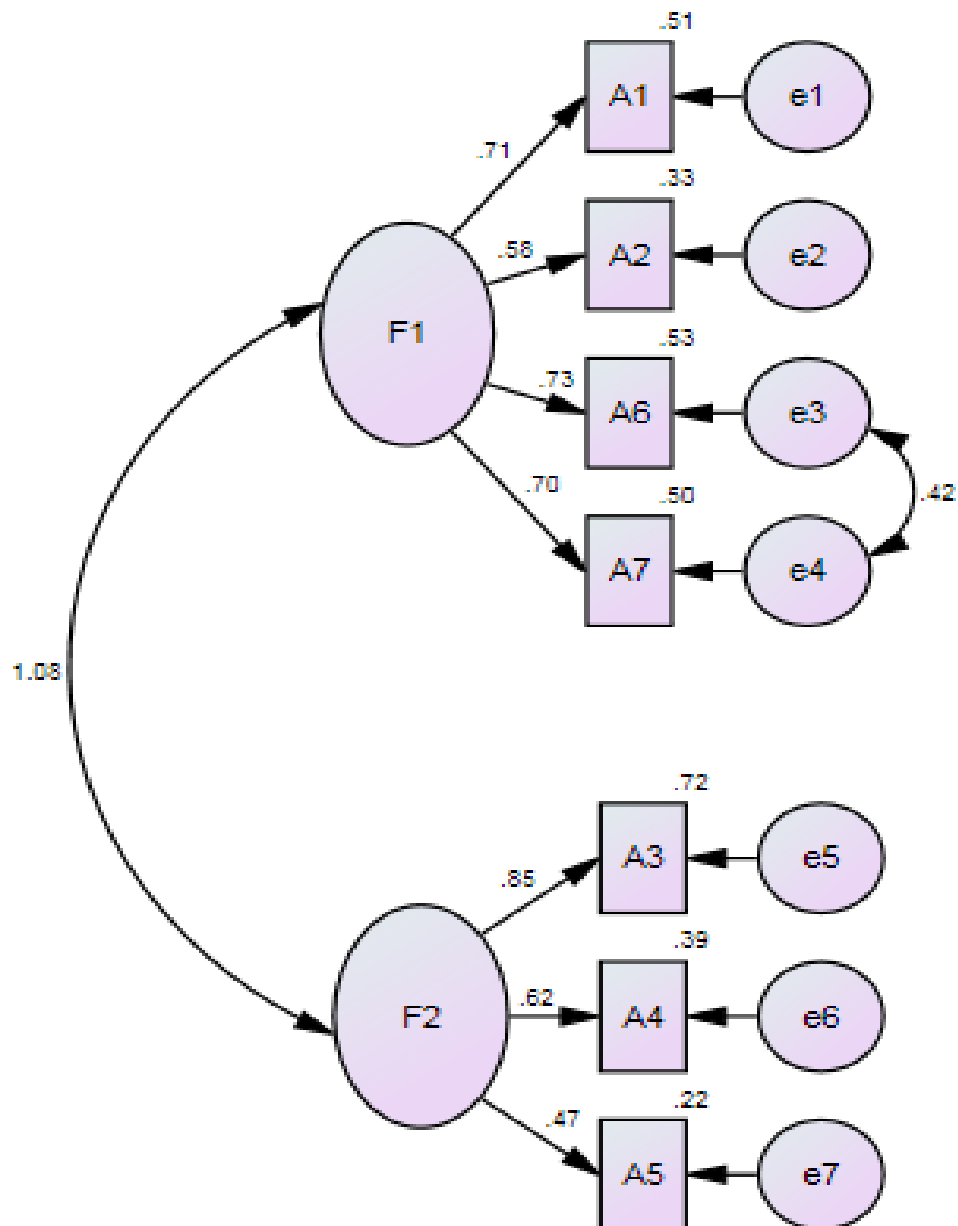
Sr. No.	Statements	Factor Loading
Scale A - Reading Disorder /Dyslexia		
A1	I feel difficulty in remembering words or names.	.894
A2	I am slow in reading.	.831
A3	I get confused with similar-looking words (e.g., beard/bread).	.619
A4	I feel difficulty in differentiating left from right.	.549
A5	I get confused by letters like ‘b’ and ‘d,’ ‘m’ and ‘w’.	.800
A6	While reading, I omit or add new letters/ words.	.784
A7	I feel difficulty in identifying or generating rhyming words.	.688
Scale B - Writing Disorder/Dysgraphia		
B1	I commit spelling errors while writing.	.847
B2	I am unable to read my own handwriting.	.816
B3	I feel comfortable in explaining things orally than in writing.	.797
B4	I face difficulty with spellings of simple words.	.771
B5	I reverse letters while writing, for example, writing “q” instead of “p” or b/d, u/v, w/m frequently.	.832
B6	I face difficulty in spacing between words/letters while writing.	.765
B7	I face difficulty in the use of capital and small letters.	.650
Scale C – Mathematical Disorder /Dyscalculia		
C1	I face difficulty in basic calculations like addition, subtraction, & multiplication facts.	.902
C2	I face trouble telling time (on either a digital or analog clock).	.899
C3	I face difficulty in learning and applying mathematical formulas.	.882
C4	I face difficulty in understanding mathematical symbols such as +, -, x, /.	.663
C5	I face difficulty in remembering numbers, figures, i.e. dates, years or statistical facts.	.884
C6	I face difficulty while following the direction (left-right/up-down/front/back).	.695
C7	I feel comfortable with concrete as compare to abstract concepts.	.574

Scale D-Language Disorder /Dysphasia		
D1	I face difficulty while speaking.	.809
D2	I feel difficulty in speaking complete sentences.	.805
D3	I use lots of fillers (e.g., uh, um, and, you know, so) while speaking.	.619
D4	I face difficulty in pronouncing the words.	.850
D5	I take undesirable pauses while speaking.	.876
D6	I face difficulty in communicating with others.	.881
D7	I face difficulty in imitating speech sounds.	.849
Scale E-Developmental Co-ordination Disorder/Dyspraxia		
E1	I face difficulties with daily tasks such as tying shoelaces, fastening buttons and zips.	.905
E2	I face difficulty in eating without getting dirty.	.827
E3	I face difficulty in writing my ideas clearly.	.801
E4	I make errors while copying.	.720
E5	I face difficulty in learning new skills/things.	.691
E6	I face difficulty in coordinating with others.	.945
E7	I face difficulty in holding things like pens/balls/utensils.	.896
Scale F – Anxiety Disorder		
F1	I worry about things even before they happened.	.876
F2	I become annoyed or irritable easily.	.882
F3	I feel afraid as if something bad might happen.	.855
F4	I am unable to stop or control worrying.	.892
F5	I become restless/sit still.	.812
F6	I face difficulty in falling asleep.	.716
F7	I face difficulty in concentration while performing any task.	.514
Scale G- Attention Deficit Hyperactivity Disorder (ADHD)		
G1	I fail to pay consistent attention on work.	.686
G2	I easily get distracted by any kind of sound and movement.	.856
G3	I respond hastily, even before the completion of question.	.772
G4	I always face difficulty waiting in queue.	.902
G5	I fidget and squirm while sitting.	.884
G6	I face difficulty in playing quietly.	.868
G7	I bump into things like door frames or table corners.	.796
Scale H- Obsessive Compulsive Disorder (OCD)		
H1	Most of my time is occupied by obsessive thoughts.	.813
H2	My compulsive thoughts interfere with my school, social and daily life.	.851
H3	I make efforts to fight against my compulsions.	.926
H4	I wash hands more than normal times in a day.	.848
H5	I frequently feel contaminated.	.839
H6	I have fear of offending religious objects (God).	.614

H7	I usually check things more than normal (I doubt whether I have locked the door or turned off the stove/Light/gas).	.767
Scale I- Autism Disorder (AD)		
I1	I avoid eye contact.	.712
I2	I face difficulty in showing appropriate social response.	.802
I3	I face difficulty in showing appropriate emotional response.	.703
I4	I usually give delayed response.	.858
I5	I face difficulty in making friends.	.690
I6	I face difficulty in coping with sudden changes in my routine (for example, changes in timetable due to teacher absence or moving to another classroom etc.).	.859
I7	I exhibit repetitive mannerisms like hand-flapping, nodding-head, finger movement, and rocking body, vocal repetitions (sounds/words/phrases).	.848
Scale J- Tic Disorder		
J1	I often repeat sudden twitches or jerks of the extremities, (like eye-blinking, neck-twisting, muscle-tightening, shoulder-shrugging, or any similar movement).	.877
J2	I often utter involuntary sounds (like grunts, yelps, squeaks, or throat clears).	.854
J3	I cannot control my body to jerk.	.837
J4	I feel pressure to talk, shouts, or screams.	.630
J5	I involuntarily mimic the motions or words of others.	.563
J6	The unpleasant or silly thought or picture goes through my mind.	.851
J7	I have habits or movements that come out more when I'm nervous.	.746

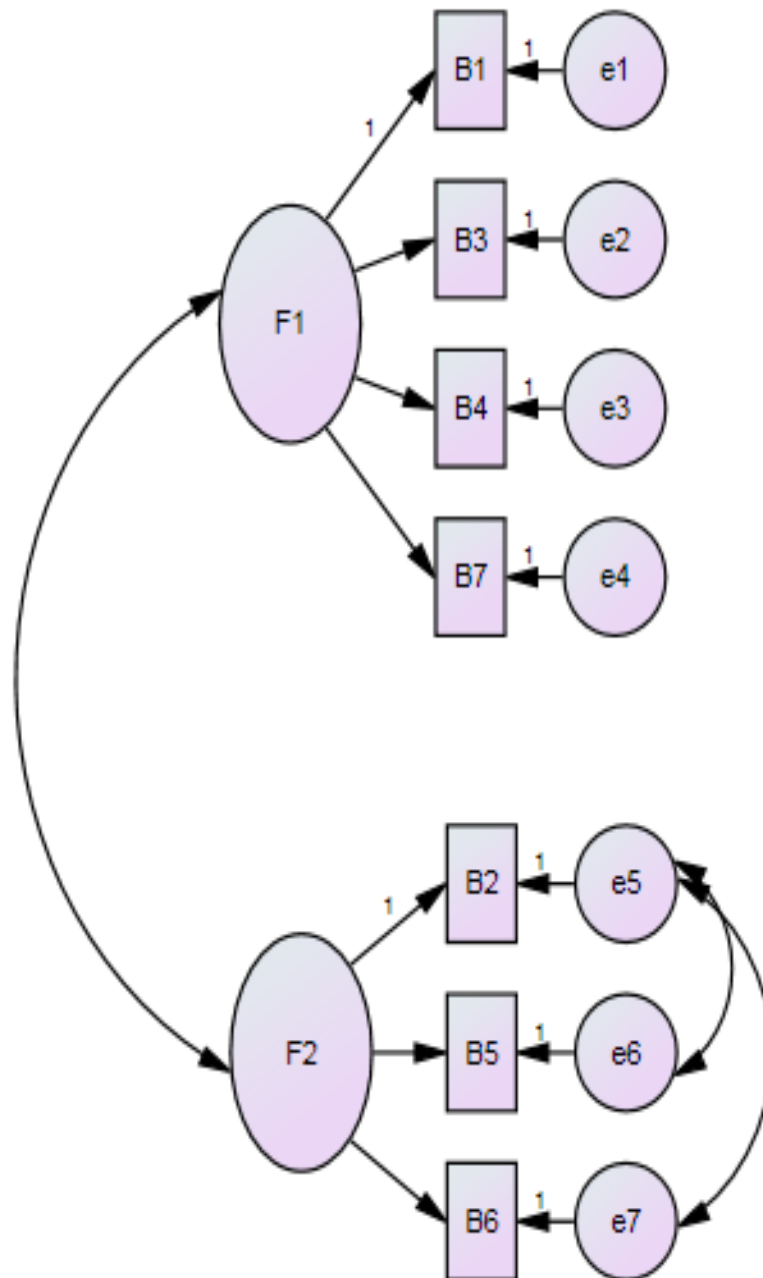
Appendix-D-I

CFA Model for Dyslexia (Dys-L) Construct of Identification Battery on Co-morbid Conditions (IBCC) Scale



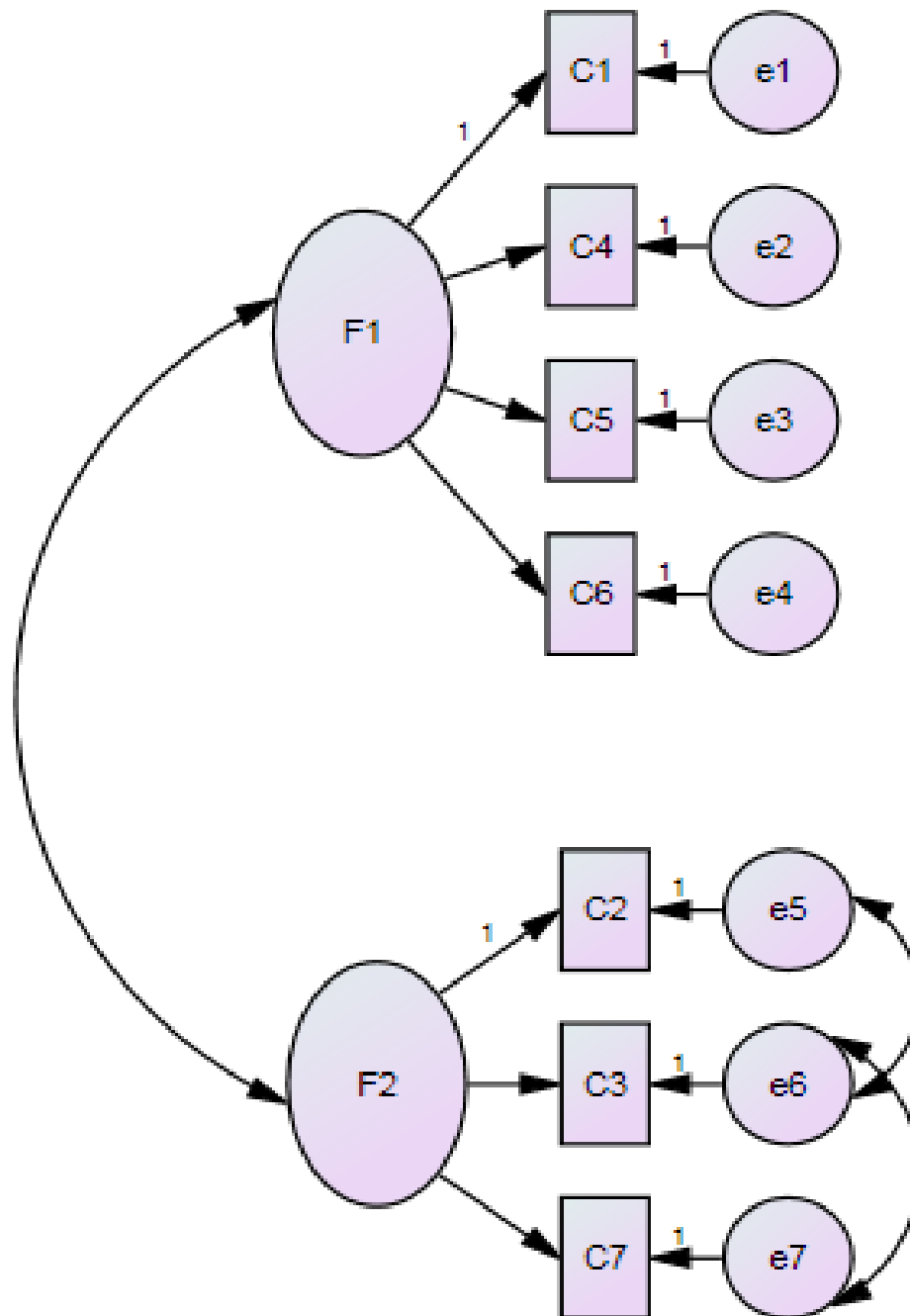
Appendix-D-II

CFA Model for Dysgraphia (Dys-G) Construct of Identification Battery on Co-morbid Conditions (IBCC) Scale



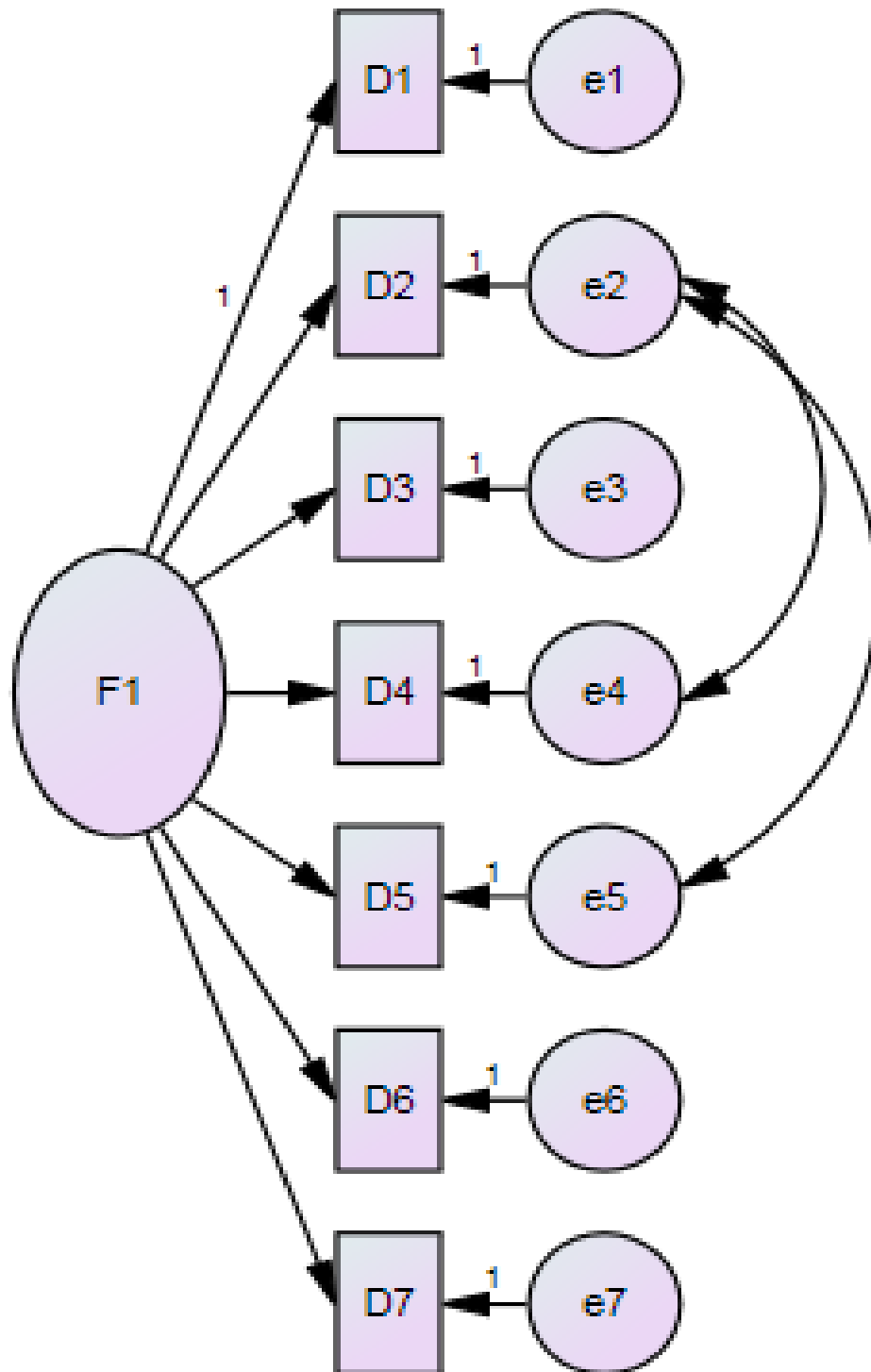
Appendix-D-III

CFA Model for Dyscalculia (Dys-C) Construct of Identification Battery on Co-morbid Conditions (IBCC) Scale



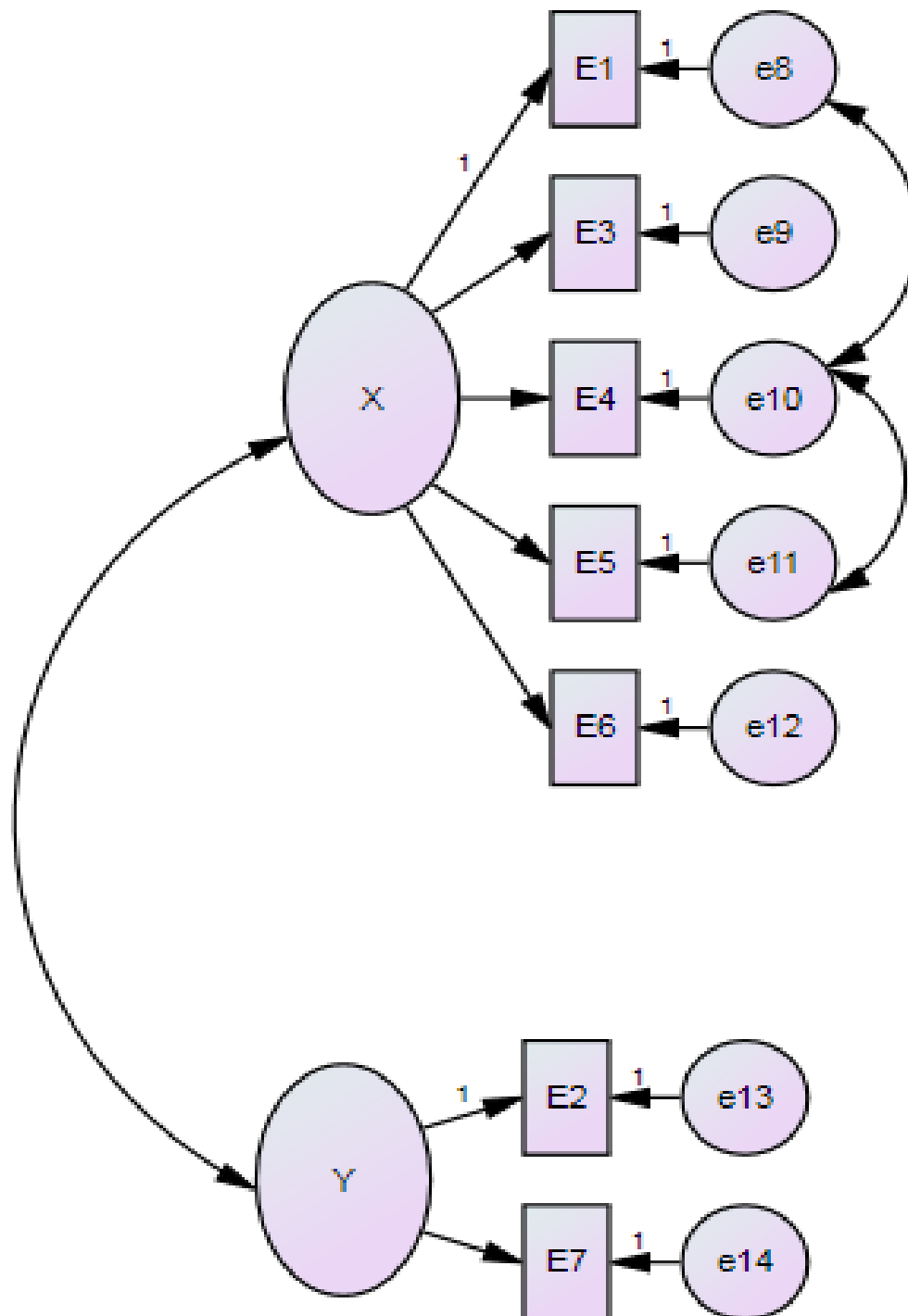
Appendix-D-IV

CFA Model for Dysphasia (Dys-P) Construct of Identification Battery on Co-morbid Conditions (IBCC) Scale



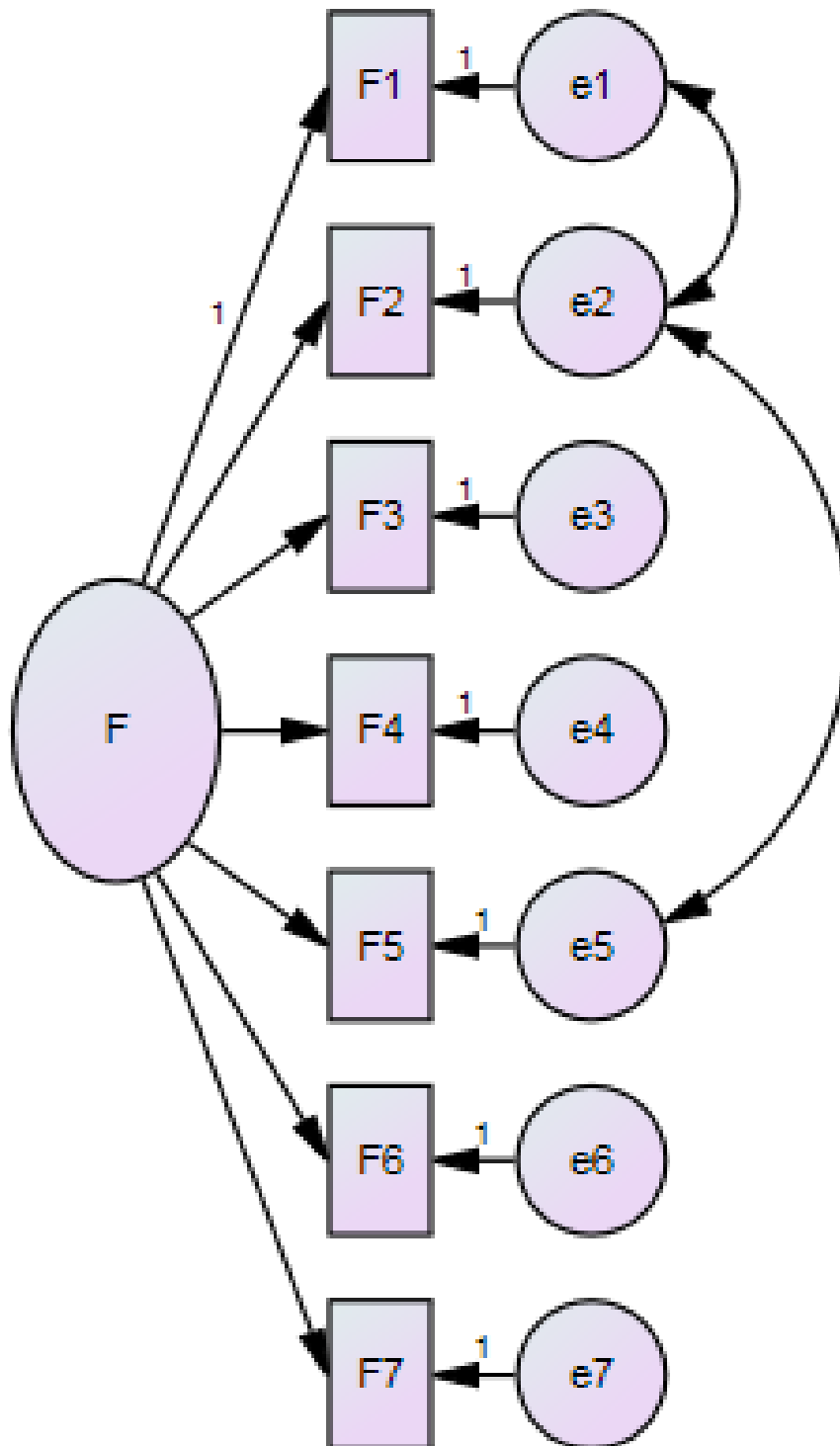
Appendix-D-V

CFA Model for Dyspraxia (Dys-Pr) Construct of Identification Battery on Co-morbid Conditions (IBCC) Scale



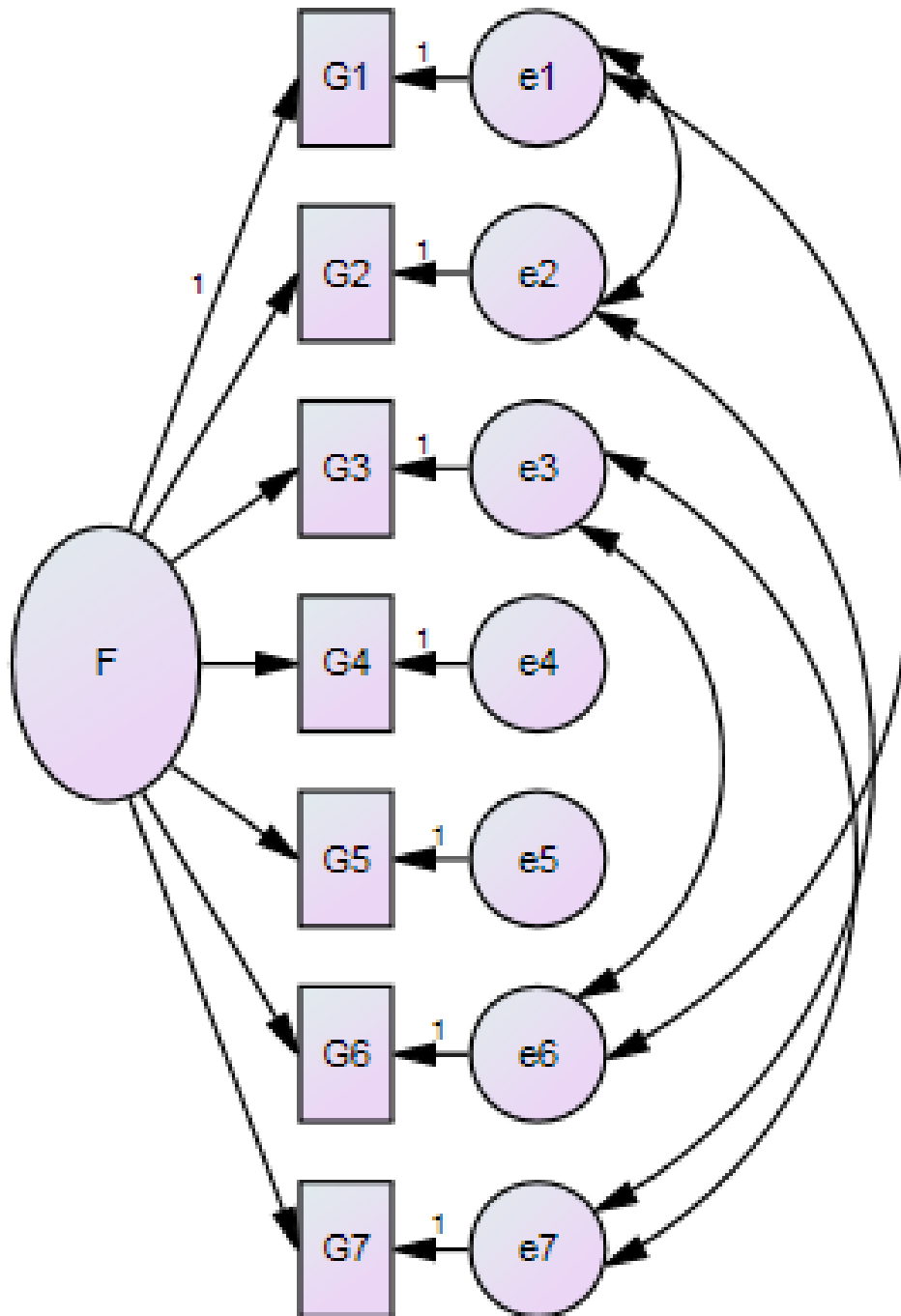
Appendix-D-VI

CFA Model for Anxiety (Anx) Disorder Construct of Identification Battery on Co-morbid Conditions (IBCC) Scale



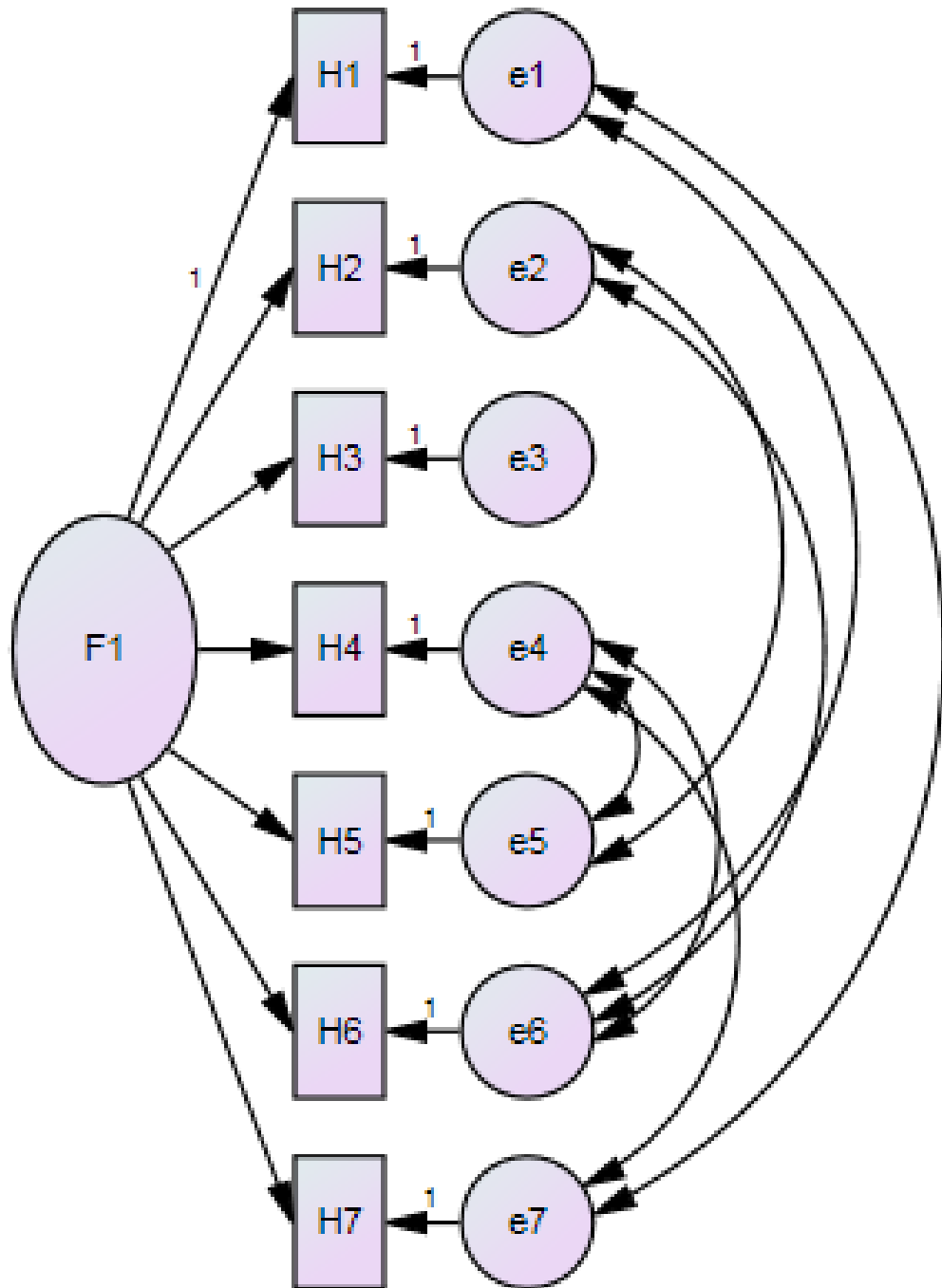
Appendix-D-VII

CFA Model for Attention Deficit Hyperactive Disorder (ADHD) Construct of
Identification Battery on Co-morbid Conditions (IBCC) Scale



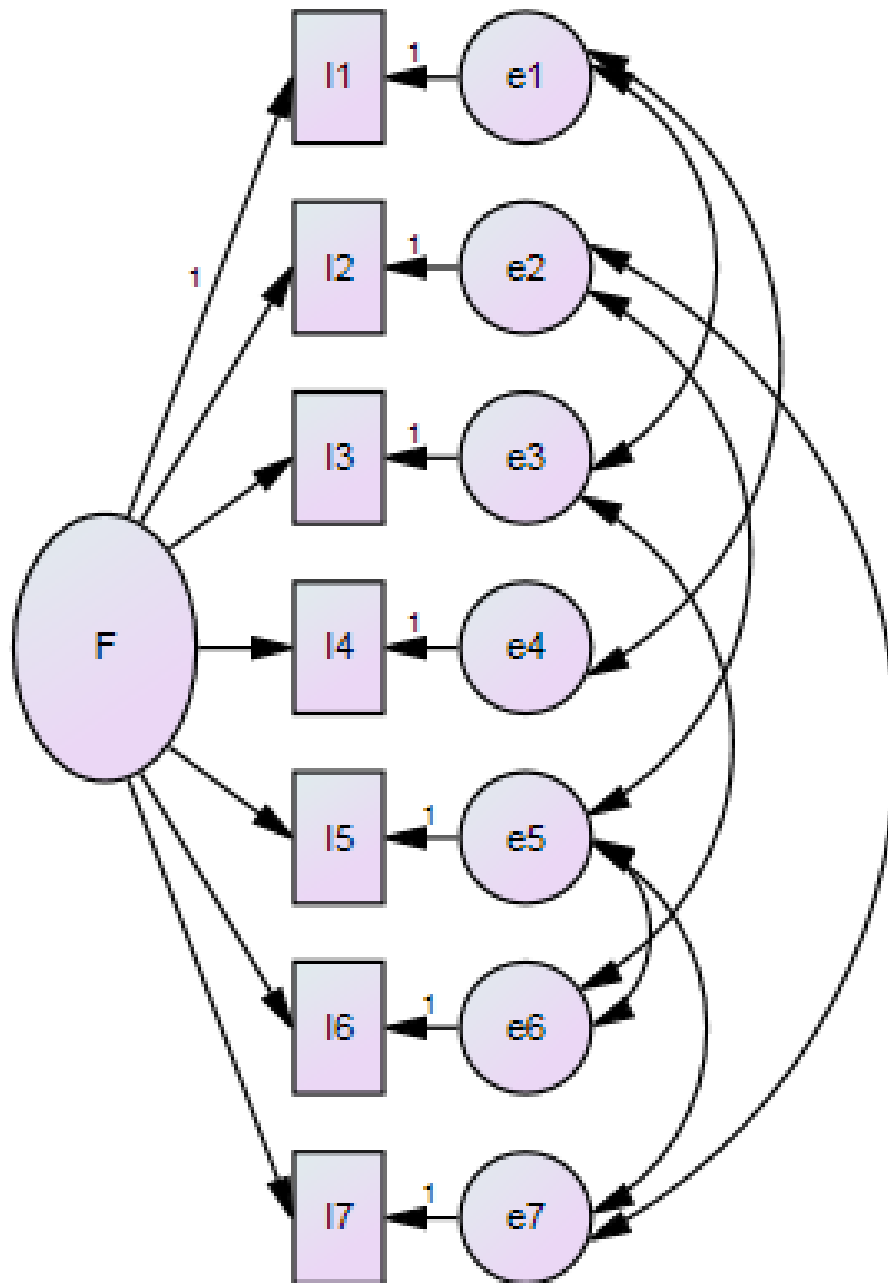
Appendix-D-VIII

CFA Model for Obsessive Compulsive Disorder (OCD) Construct of
Identification Battery on Co-morbid Conditions (IBCC) Scale



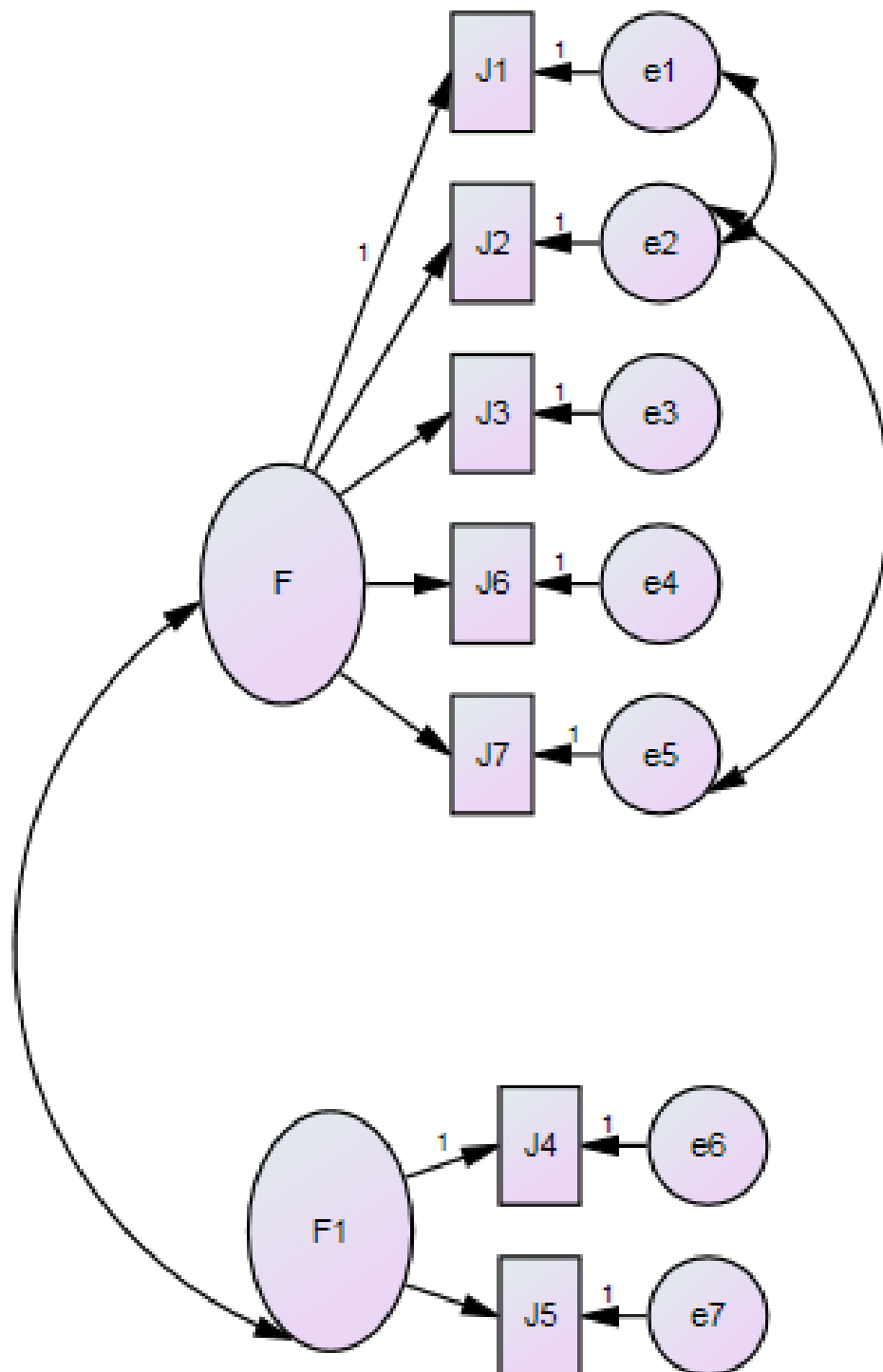
Appendix-D-IX

CFA Model for Autism Disorder (AD) Construct of Identification Battery on Co-morbid Conditions (IBCC) Scale



Appendix-D-X

CFA Model for Tic Disorder (TD) Construct of Identification Battery on Co-morbid Conditions (IBCC) Scale



Appendix –E

Identification Battery on Co-morbid Conditions (IBCC)

Name (Optional): _____ **Gender (F/M):** _____
Age: _____ **Class:** _____
Family income (Monthly): _____ **Name of the School:** _____
Locality of School: Urban/Rural _____ **Name of the District:** _____
Name of the Block where School located: _____

Instructions:

1. For each statement there are 5 response options i.e. **Never (N), Rarely (R), Sometimes (S), Often (O) and Always (A)**. Kindly Tick the most appropriate option.
2. Give response to all the statements.

Sr. No.	Statements	Tick which is applicable on you				
PART-A						
A1	I feel difficulty in remembering words or names.	N	R	S	O	A
A2	I am slow in reading.	N	R	S	O	A
A3	I get confused with similar-looking words (e.g., beard/bread).	N	R	S	O	A
A4	I feel difficulty in differentiating left from right	N	R	S	O	A
A5	I get confused by letters like 'b' and 'd', 'm' and 'w'.	N	R	S	O	A
A6	While reading, I omit or add new letters/ words.	N	R	S	O	A
A7	I feel difficulty in identifying or generating rhyming words.	N	R	S	O	A
PART-B						
B1	I commit spelling errors while writing.	N	R	S	O	A
B2	I am unable to read my own handwriting.	N	R	S	O	A
B3	I feel comfortable in explaining things orally than in writing.	N	R	S	O	A
B4	I face difficulty with spellings of simple words.	N	R	S	O	A
B5	I reverse letters while writing, for example, writing "q" instead of "p" or b/d, u/v, w/m frequently.	N	R	S	O	A
B6	I face difficulty in spacing between words/letters while writing.	N	R	S	O	A
B7	I face difficulty in the use of capital and small letters.	N	R	S	O	A

PART-C						
C1	I face difficulty in basic calculations like addition, subtraction, & multiplication facts.	N	R	S	O	A
C2	I face trouble telling time (on either a digital or analog clock).	N	R	S	O	A
C3	I face difficulty in learning and applying mathematical formulas.	N	R	S	O	A
C4	I face difficulty in understanding mathematical symbols such as +, -, x, /.	N	R	S	O	A
C5	I face difficulty in remembering numbers, figures, i.e. dates, years or statistical facts.	N	R	S	O	A
C6	I face difficulty while following the direction (left-right/up-down/front/back).	N	R	S	O	A
C7	I feel comfortable with concrete as compare to abstract concepts.	N	R	S	O	A
PART-D						
D1	I face difficulty while speaking.	N	R	S	O	A
D2	I feel difficulty in speaking complete sentences.	N	R	S	O	A
D3	I use lots of fillers (e.g., uh, um, and, you know, so) while speaking.	N	R	S	O	A
D4	I face difficulty in pronouncing the words.	N	R	S	O	A
D5	I take undesirable pauses while speaking.	N	R	S	O	A
D6	I face difficulty in communicating with others.	N	R	S	O	A
D7	I face difficulty in imitating speech sounds.	N	R	S	O	A
PART-E						
E1	I face difficulties with daily tasks such as tying shoelaces, fastening buttons and zips.	N	R	S	O	A
E2	I face difficulty in eating without getting dirty.	N	R	S	O	A
E3	I face difficulty in writing my ideas clearly.	N	R	S	O	A
E4	I make errors while copying.	N	R	S	O	A
E5	I face difficulty in learning new skills/things.	N	R	S	O	A
E6	I face difficulty in coordinating with others.	N	R	S	O	A
E7	I face difficulty in holding things like pens/balls/utensils.	N	R	S	O	A
PART-F						
F1	I worry about things even before they happened.	N	R	S	O	A
F2	I become annoyed or irritable easily.	N	R	S	O	A
F3	I feel afraid as if something bad might happen.	N	R	S	O	A
F4	I am unable to stop or control worrying.	N	R	S	O	A
F5	I become restless/sit still.	N	R	S	O	A
F6	I face difficulty in falling asleep.	N	R	S	O	A

F7	I face difficulty in concentration while performing any task.	N	R	S	O	A
PART-G						
G1	I fail to pay consistent attention on work.	N	R	S	O	A
G2	I easily get distracted by any kind of sound and movement.	N	R	S	O	A
G3	I respond hastily, even before the completion of question.	N	R	S	O	A
G4	I always face difficulty waiting in queue.	N	R	S	O	A
G5	I fidget and squirm while sitting.	N	R	S	O	A
G6	I face difficulty in playing quietly.	N	R	S	O	A
G7	I bump into things like door frames or table corners.	N	R	S	O	A
PART-H						
H1	Most of my time is occupied by obsessive thoughts.	N	R	S	O	A
H2	My compulsive thoughts interfere with my school, social and daily life.	N	R	S	O	A
H3	I make efforts to fight against my compulsions.	N	R	S	O	A
H4	I wash hands more than normal times in a day.	N	R	S	O	A
H5	I frequently feel contaminated.	N	R	S	O	A
H6	I have fear of offending religious objects (God).	N	R	S	O	A
H7	I usually check things more than normal (I doubt whether I have locked the door or turned off the stove/Light/gas).	N	R	S	O	A
PART-I						
I1	I avoid eye contact.	N	R	S	O	A
I2	I face difficulty in showing appropriate social response.	N	R	S	O	A
I3	I face difficulty in showing appropriate emotional response.	N	R	S	O	A
I4	I usually give delayed response.	N	R	S	O	A
I5	I face difficulty in making friends.	N	R	S	O	A
I6	I face difficulty coping with sudden changes in my routine (for example, changes in timetable due to teacher absence or moving to another classroom etc.).	N	R	S	O	A
I7	I exhibit repetitive mannerisms like hand-flapping, nodding-head, finger-movement, and rocking body, vocal repetitions (sounds/words/phrases).	N	R	S	O	A
PART-J						
J1	I often repeat sudden twitches or jerks of the extremities, (like eye-blinking, neck-twisting,	N	R	S	O	A

	muscle-tightening, shoulder shrugging, or any similar movement).					
J2	I often utter involuntary sounds (like grunts, yelps, squeaks, or throat clears).	N	R	S	O	A
J3	I cannot control my body to jerk.	N	R	S	O	A
J4	I feel pressure to talk, shout, or scream.	N	R	S	O	A
J5	I involuntarily mimic the motions or words of others.	N	R	S	O	A
J6	The unpleasant or silly thought or picture goes through my mind.	N	R	S	O	A
J7	I have habits or movements that come out more when I'm nervous.	N	R	S	O	A

Appendix –F

Content Validity Ratio of Academic Self-Efficacy Scale (ASE)

Sr. No.	Statements	Tick The Item as per your Observation				Total (16)	CVR
		HR	RM	SR	NR		
01	I need teachers to help me when I get stuck on schoolwork. **	13	1	2	-	14	0.75
02	I succeed in finishing all my homework every day. *	14	2	-	-	16	1
03	I use library to get information for class assignments. *	12	3	-	1	15	0.875
04	I participate in class discussions*	13	2	1	-	15	0.875
05	I can deal efficiently with the unexpected problems in my study.	13	3	-	-	16	1
06	If I try, I can become one of the good grade holders.	13	1	1	1	14	0.75
07	I can manage time efficiently for learning.*	15	1	-	-	16	1
08	I can express ideas well in the classroom and examination. *	13	2	1	-	15	0.875
09	I can accomplish my aims in learning.*	12	2	1	1	14	0.75
10	I can be calm at the time of exams as I am conscious of my ability to learn.*	12	3	1	-	15	0.875
11	I can usually handle the disturbing situations in the study.*	13	2	1	-	15	0.875
12	If a sudden test is conducted for us without prior notice, I can answer it well. *	15	1	-	-	16	1
13	Irrespective of the subject, I am competent in learning.*	11	3	2	-	14	0.75
14	I can complete my homework without any help from guidebooks, previous notes etc *	11	2	2	1	13	0.625

15	However twisted the questionis, I can answer them.*	10	4	2	-	14	0.75
16	During examinations, I can recollect what I have learnt. *	13	2	1	-	15	0.875
17	I feel that I have ability to keep things remember. *	13	3	-	-	16	1
18	I can read and understand my textbooks well. **	15	1	-	-	16	1
19	I am able to successfully overcome any kind of challenge faced in my Academic Life *	12	3	1	-	15	0.875
20	If I miss some classes for some reason, I can compensate for the loss fairly well.*	11	3	1	1	14	0.75

Total Number of Statements = 20, Deleted Items = 02, Revised Items =16, Total Number of Experts = 16, Expected CVR Value = 0.49, grammatically error has been removed after Language Expert Review

**Statements modified according to the feedback received from grammar and other experts*

*** Statements deleted on the basis of the feedback received from experts*

Appendix –G

Item Evaluation of Academic Self-Efficacy Scale (ASE) (p -Values)

Sr. No.	Statements	p - Value
01	I complete my homework every day.	p<0.01
02	I consult library to complete difficult class assignments.	p<0.01
03	I can participate in class discussions confidently.	p<0.01
04	I can deal efficiently with the unexpected problems in my study.	p<0.01
05	If I try, I can become one of the good grade holders.	p<0.01
06	I can manage my learning time efficiently.	p<0.01
07	I can express my ideas freely in my own ways.	p<0.01
08	I can achieve my learning goals efficiently.	p<0.01
09	I can keep myself calm during exams.	p<0.01
10	I can handle the uneasy academic situations.	p<0.01
11	I can answer all the questions of a surprise test.	p<0.01
12	Whatever the subject, I am capable of learning.	p<0.01
13	I can complete my homework independently.	p<0.01
14	I can answer the difficult questions even.	p<0.01
15	During the exams, I can recall whatever I have learned.	p<0.01
16	I can easily remember things for longer time.	p<0.01
17	I can face any academic challenge successfully.	p<0.01
18	I can compensate the loss of missed classes.	p<0.01

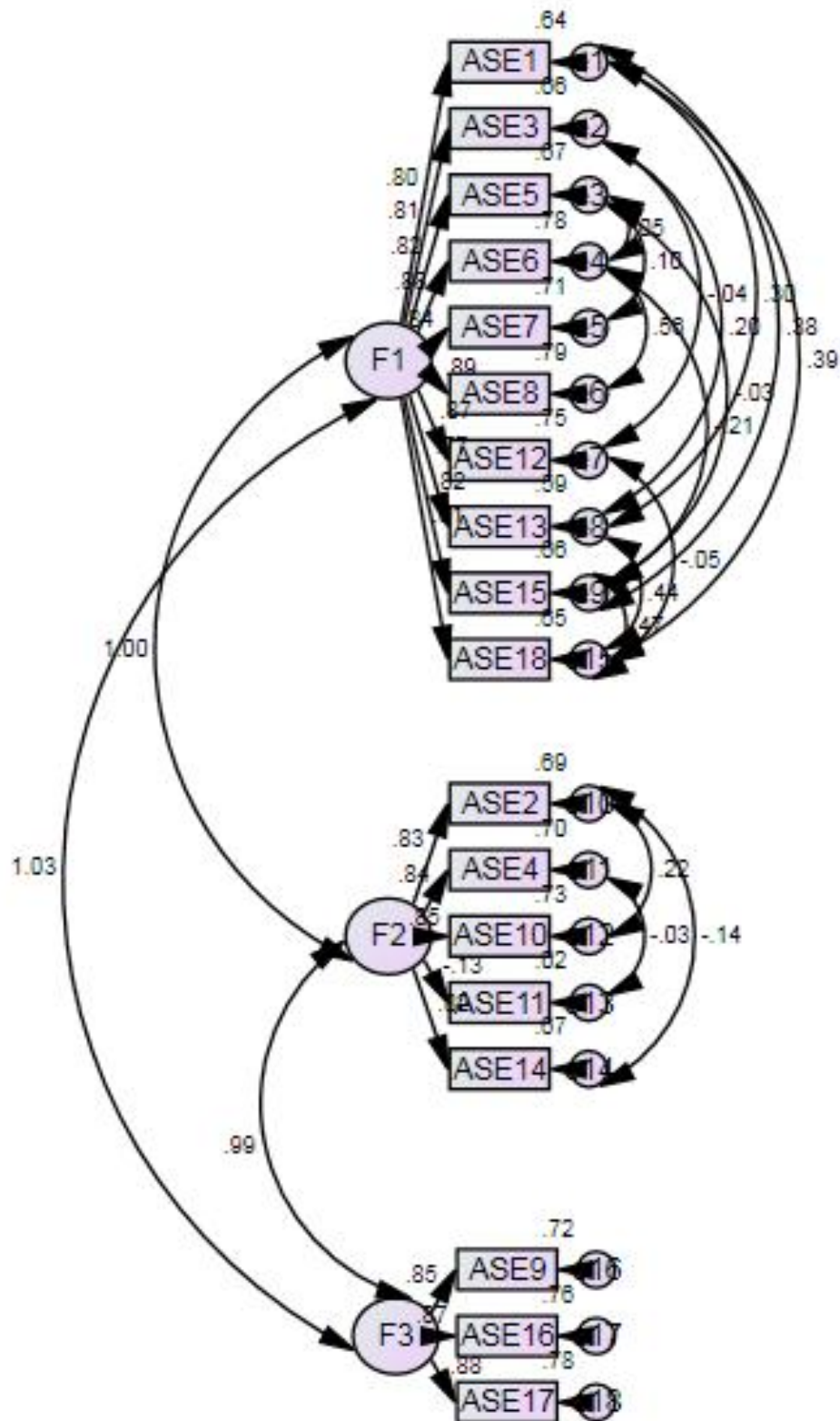
Appendix –H

Exploratory factory Analysis (EFA) of Academic Self-Efficacy (ASE)

Sr. No.	Item No	Factor Loading
1	I complete my homework every day.	.802
2	I consult library to complete difficult class assignments.	.708
3	I can participate in class discussions confidently.	.576
4	I can deal efficiently with the unexpected problems in my study.	.726
5	If I try, I can become one of the good grade holders.	.575
6	I can manage my learning time efficiently.	.594
7	I can express my ideas freely in my own ways.	.519
8	I can achieve my learning goals efficiently.	.530
9	I can keep myself calm during exams.	.659
10	I can handle the uneasy academic situations.	.905
11	I can answer all the questions of a surprise test.	.658
12	Whatever the subject, I am capable of learning.	.703
13	I can complete my homework independently.	.815
14	I can answer the difficult questions even.	.713
15	During the exams, I can recall whatever I have learned.	.642
16	I can easily remember things for longer time.	.697
17	I can face any academic challenge successfully.	.561
18	I can compensate the loss of missed classes.	.801

Appendix-I

CFA Model for Academic Self-Efficacy (ASE) Scale



Appendix –J

Z-Score of Academic Self-Efficacy Scale (ASE)

Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score
18	-2.29	37	-0.95	56	0.55
19	-2.22	38	-0.87	57	0.63
20	-2.14	39	-0.80	58	0.70
21	-2.07	40	-0.72	59	0.78
22	-1.99	41	-0.65	60	0.85
23	-1.92	42	-0.57	61	0.93
25	-1.84	43	-0.50	62	1.00
26	-1.77	44	-0.42	63	1.07
27	-1.69	46	-0.35	64	1.15
28	-1.62	47	-0.12	65	1.22
29	-1.54	48	-0.05	66	1.30
30	-1.47	49	0.03	67	1.37
31	-1.40	50	0.10	68	1.45
32	-1.32	51	0.18	69	1.52
33	-1.25	52	0.25	70	1.60
34	-1.17	53	0.33	71	1.67
35	-1.10	54	0.40	72	1.75
36	-1.02	55	0.48	73	1.82

Appendix –K
Academic Self-Efficacy Scale (ASE)

Name (Optional):_____ **Gender (F/M):**_____

Age: _____ **Class:** _____

Socio-Economic Status: _____ **Name of the School:** _____

Locality of School: Urban/Rural_____ **Name of the District:**_____

Instructions:

1. For each statement there are 5 response options i.e. **Never (N), Rarely (R), Sometimes (S), Often (O) and Always (A)**. Kindly Tick the most appropriate option
2. Give response to all the statements.

Sr. No.	Statements	Tick which is applicable on you				
		N	R	S	O	A
01	I complete my homework every day.					
02	I consult library to complete difficult class assignments.					
03	I can participate in class discussions confidently.					
04	I can deal efficiently with the unexpected problems in my study.					
05	If I try, I can become one of the good grade holders.					
06	I can manage my learning time efficiently.					
07	I can express my ideas freely in my own ways.					
08	I can achieve my learning goals efficiently.					
09	I can keep myself calm during exams.					
10	I can handle the uneasy academic situations.					
11	I can answer all the questions of a surprise test.					
12	Whatever the subject, I am capable of learning.					
13	I can complete my homework independently.					
14	I can answer the difficult questions even.					
15	During the exams, I can recall whatever I have learned.					
16	I can easily remember things for longer time.					
17	I can face any academic challenge successfully.					
18	I can compensate the loss of missed classes.					

Appendix –L

Content Validity Ratio of Semi-structured Interview Schedule for Teachers

Sr. No.	Statements	Tick The Item as per your Observation				Total (16)	CVR
		HR	RM	SR	NR		
01	Do you know some of the students in your class, who are at risk or having learning problems?	15	1	-	-	16	1
02	What types of problems these students are facing in the classroom or school?	16	-	-	-	16	1
03	How do you identify these problems?*	13	2	1	-	15	0.875
04	Do you use some psychological tools to identify these problems? If yes, mention those tools.*	13	-	2	1	13	0.625
05	Are you taking assistance of i. Psychological Expert ii. Counselor iii. Special Educators iv. Any other (mention)	14	1	1	-	15	0.875
06	What are your general observations about these students/problems while teaching?*	15	1	-	-	16	1
07	Problems do you think are more common among these students? (Please tick whichever is applicable) i. Problem in Reading ii. Spellings Errors iii. Writing Problems iv. Doing Mathematical Calculations v. Self-Organizational Problem vi. Problem in Understanding Social Cues vii. Auditory Processing Problem viii. Visual Processing Problem	15	1	-	-	16	1

	ix. Mispronounce words while speaking x. Difficulty in Out of following problems, which remaining focused xi. Hard to focus and follow verbal instructions xii. Difficulties doing things in sequential order xiii. Difficulties understanding what has been taught xiv. Difficulties taking notes during classes xv. Difficulty copying what is written on the board xvi. Difficulties expressing his/her thoughts/ideas while writing						
08	Do you find more than one problem in your students? If yes, please mention.	13	2	1	-	15	0.875
09	How you solve the problems of these students?*	15	-	1	-	15	0.875
10	Are you discussing these problems with your students? How?*	12	2	1	-	14	0.75
11	Are you discussing these problems with your peers? How?*	13	1	2	-	14	0.75
12	Are you discussing these problems with parents of students? How?*	16	-	-	-	16	1

Total Statements = 12, Deleted Items = None, Revised Statements = 01, Total Experts = 16, Expected CVR = 0.49, Grammatically error has been removed after Language Expert Review

***Statements modified according to the feedback received from grammar and other experts**

Appendix –M

Content Validity Ratio of Semi-structured Interview Schedule for Students

Sr. No.	Statements	Tick The Item as per your Observation				Total (16)	CVR
		HR	RM	SR	NR		
01	What types of problems are you facing in the school? *	15	1	-	-	16	1
02	Out of following problems, tick the problem(s) you are facing: i. Problem in Reading ii. Spellings errors iii. Writing problems iv. Doing Mathematical calculations v. Self-Organizational problems vi. Problem in Understanding Social cues vii. Auditory Processing Problem viii. Visual Processing Problem ix. Mispronounce words while speaking x. Difficulty in remaining focused xi. Hard to focus and follow verbal instructions xii. Difficulties doing things in sequential order xiii. Difficulties understanding what has been taught	13	3	-	-	16	1

	xiv. Difficulties taking notes during classes xv. Difficulty copying what is written on the board xvi. Difficulties expressing your thoughts/ideas while writing xvii. Difficulties in controlling thoughts xviii. Stuck in Repetitions						
03	When you came to know about these problems? *	11	3	2	-	14	0.75
04	With whom you generally talk about these problems?	15	-	1	-	15	0.875
05	How these problems interfere with your studies?	15	1	-	-	16	1
06	Do you solve these problems by your own? If yes, why? *	13	3	-	-	16	1
07	Do you solve these problems with the help of others? If yes, with whom?	15	1	-	-	16	1
08	What is the attitude of the following towards you or your problems? Teachers School authorities Peers Parents	15	1	-	-	16	1
09	How your school helps you in solving these problems? *	15	1	-	-	16	1
10	How your teachers help you in	13	2	-	1	15	0.875

	solving these problems? *						
11	How your peers help you in solving these problems? *	13	2	-	1	15	0.875
12	How your parents help you in solving these problems? *	15	1	-	-	16	1
13	Are you satisfied with way people deals with your problems inside school? If yes/no, give reasons. *	15	1	-	-	16	1
14	Are you satisfied with way people deals with your problems outside school? If yes/no, give reasons.*	10	3	3	-	13	0.625

Total Statements = 14, Deleted Items = None, Revised Statements = 04, Total Experts= 16, Expected CVR = 0.49

**Grammatically error has been removed after Language Expert Review*

**Statements modified according to the feedback received from grammar and other experts*

Appendix –N
List of Experts for Content Validity of Tools

Sr. No.	Name	Designation	University/College
1.	Prof.G.M. Malik	Professor	Baba Ghulam Shah Badshah University
2.	Prof. C.P Chahuhan	Professor	Alighar Muslim University
3.	Dr. Samir Dukmak	Associate Professor in Special Education	Al Ain University, Abu Dhabi
4.	Dr. Javeed Ahmad	Senior Assistant Professor (Special Education)	University of Kashmir
5.	Dr. Asma Nabi	Assistant Professor & Academic counsellor (Specialization in Clinical Psychology)	University of Kashmir
6.	Dr. Osama Al Mahdi	Assistant Professor	University of Bahrain
7.	Dr. Radwan AbuSaif	Assistant Professor	Imam Abdulrahman bin Faisal University
8.	Dr. Ghulam Sarwer	Assistant Professor	Baba Ghulam Shah Badshah University
9.	Dr. Sheikh Aabid Azad	Assistant Professor	Baba Ghulam Shah Badshah University
10.	Dr. Aliya Khatun	Assistant Professor	Jananayak Chandrshekhar University, Ballia
11.	Dr. Zahoor	Assistant Professor	Lovely Professional University (LPU)
12.	Dr. Mohammad Sayid Bhat	Senior Assistant Professor	Central University of Kashmir

13.	Ms. Gurnam Kour	Principal	Army Goodwill Public School, Rajouri
14.	Dr. Ranjan	Language Expert	Kendriya Vidyalaya – 02, Jalandhar Cantt.
15.	Dr. Hansa Kinkini Dev Roy	Assistant Professor (Consultant Psychologist)	University of Calcutta
16.	Ms. Archika Jain	Psychologist and Director	Silent Door-Unleash your Mind
17.	Ms. Meenakshi Devi	Special Educator	Model Academy Inclusive School, Jammu
18.	Ms. Ruchika	Special Educator	MIER College of Education
19.	Ms. Savita Rani	Special Educator	MIER College of Education

Appendix – O
Permission Letter from Institutional Ethics Committee



**INSTITUTIONAL ETHICS
COMMITTEE (IEC)**
(Registration No: EC/NEW/INST/2022/3110)

Ref: LPU/IEC-LPU/2023/1/26
Date: 15.10.23

Subject: Exemption from ethical review

Dear Rafia Khan,

I am writing to inform you that your study, titled "Co-morbidity Among Middle School Students: A Cross-Sectional Exploration of Academic Problems Academic Self-Efficacy, and Academic Achievement," has been granted an exemption from review by the institutional ethics committee. The committee has carefully reviewed your application and has determined that your study poses less than minimal risk to participants.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Xana J. Jee', is written over a horizontal line.

15.10.23

Chairperson/Member secretary/Alternate member secretary, IEC-LPU dd/mm/yyyy

Member Secretary
Institutional Ethics Committee
Lovely Professional University
Phagwara-Punjab-144411



Jalandhar-Delhi G.T. Road, Phagwara, Punjab (India) - 144411
Ph : +91-1824-444039 E-mail : ms_ieclpu@lpu.co.in website : www.lpu.in

Appendix – P

Permission Letter for Data Collection from School of Education, LPU



**School of
Education**

Dated: _____

To

AUTHORITY LETTER

Dear Sir/Madam

Ms. Rafia Khan is a bonafide student of Ph.D. in Education Programme of this University under registration no. 12021154 and pursuing research for the completion of her thesis. She may be allowed to collect information from your office as per the attached format for the research purpose only. The data collected will be kept confidential in all respect. Your kind cooperation in this regard will be appreciated.

Thanking You

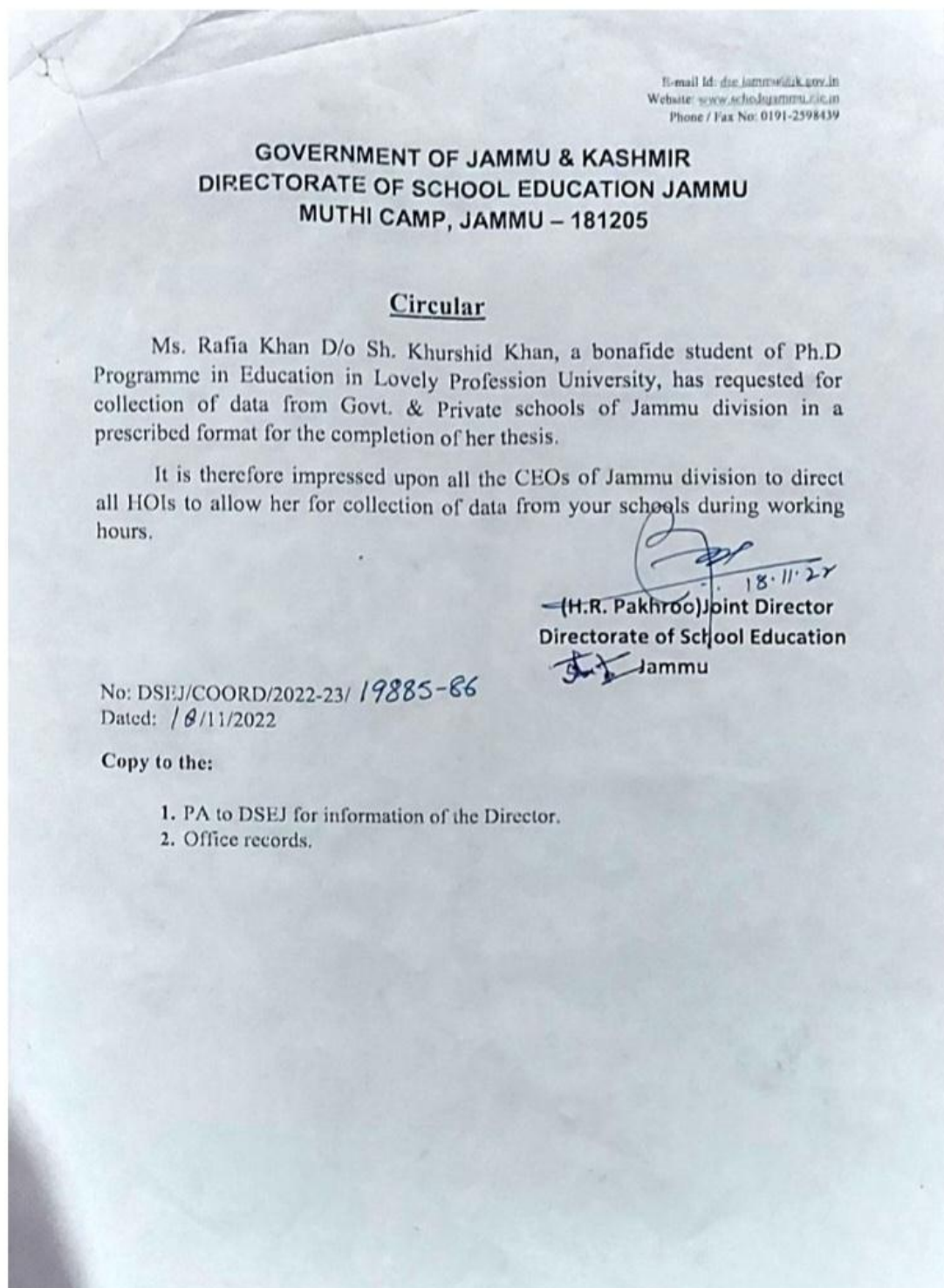
Yours Truly


Supervisor

Jalandhar-Delhi G.T.Road , Phagwara, Punjab (India) - 144411

Ph : 01824-444286, 444289 Fax : +91-1824-506111 E-mail : ao.lsedu@lpu.co.in website : www.lpu.in

Appendix – Q
Permission Letter for data Collection from Directorate of School
Education, Jammu



IPR-Copyright on Identification Battery on Co-morbid Conditions (IBCC)

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Appendix-S-I

Research Paper Publish in Scopus Indexed Journal (Q1)

**Journal of
Interdisciplinary Studies in Education**
Online ISSN 2690-0408, Print ISSN 2166-2681





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Identification of comorbid conditions among middle school students

A cross-sectional study of Jammu province

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DOI: <https://doi.org/10.32674/pfy2xs46>

Keywords: Comorbid conditions, identification, Jammu province, middle school students

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Published
2024-10-21

Issue
[Vol. 13 No. S1 \(2024\): Special Issue: Journal of Interdisciplinary Studies in Education](#)

Section
Conference Special Issue with
Chandigarh University

Article



**Journal of
Interdisciplinary Studies
in Education**

Volume 13, Issue S1 (2024), pp. 221-235

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ISSN: 2166-2681 Print 2690-0408 Online | <https://ojed.org/jise>

Identification of comorbid conditions among middle school students: A cross-sectional study of Jammu province

*Rafia Khan, Harish Mittu
Lovely Professional University, India*

ABSTRACT

Using a multistage sampling technique, the students completed the self-constructed Identification Battery on Comorbid Conditions (IBCC), which assesses 10 disorders, including dyslexia, dysgraphia, dyscalculia, dysphasia, dyspraxia, anxiety, attention deficit hyperactive disorder (ADHD), obsessive-compulsive disorder (OCD), autism, and tic disorder. The results revealed that 20.66% of the students exhibited comorbid conditions, with dyscalculia being the most prevalent, followed by dyslexia and others. Comorbid conditions varied, with some students having different combinations of disorders. The Jammu district had the highest prevalence. This study emphasizes the importance of early diagnosis and intervention, highlighting the need for increased stakeholder awareness to address these issues effectively.

Keywords: *Comorbid conditions, identification, Jammu province, middle school students.*

Appendix-S-II

Research Paper Publish in Scopus Indexed Journal (Q4)

Rafia Khan/Afr.J.Bio.Sc. 6(13) (2024) 3918-3929

ISSN: 2663-2187

<https://doi.org/10.33472/AFJBS.6.13.2024.3918-3929>



African Journal of Biological Sciences

Journal homepage: <http://www.afjbs.com>



Research Paper

Open Access

EXPLORING CO-MORBIDITY PATTERNS AMONG MIDDLE SCHOOL STUDENTS: A COMPREHENSIVE ANALYSIS

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ABSTRACT:

Background & Purpose: The objective of this study was to identify the various combinations of patterns of co-morbidity among middle school students in Jammu Province to address the difficulties of these interconnected diseases

Method: This cross-sectional study was conducted in 10 districts of Jammu province, focusing on students from 70 government middle schools within the age group of 11-15 years. The study investigated 10 disorders, including five learning disorders i.e., Dyslexia (Dys-L), Dysgraphia (Dys-G), Dyscalculia (Dys-C), Dysphasia (Dys-P), and Dyspraxia (Dys-Pr), as well as Anxiety (Anx), Attention Deficit Hyperactivity Disorder (ADHD), Obsessive Compulsive Disorder (OCD), Autism Disorder (AD), and Tic disorder (TD). A self-constructed battery, known as the Identification Battery on Co-morbid conditions (IBCC), was administered on 1084 students out of which 224 students were identified with co-morbid conditions.

Result: The findings of the study indicated that the prevalence of the Dys-L & Dys-C; Dys-L, Dys-G& Dys-C; Dys-L, Dys-G, Dys-C & Dys-P; and Dys-L, Dys-G, Dys-C, Anx. & ADHD were highest among 16.07%, 39.28%, 4.01% and 2.23% of students with Combinations of two, three, four & five disorders respectively. The present study also includes a discussion on the pattern matrix of co-morbid conditions, examining primary & secondary disabilities. The prevalence of primary and secondary disabilities among middle school students varies significantly.

Conclusion: These findings have enormous promise for guiding educators, policymakers, and healthcare professionals in developing focused treatments and support systems that are customized to the different needs of students with co-morbid disorders.

Keywords: Patterns, Co-Morbidity, Middle School Students, Pattern Matrix, Learning Disorders, Combinations of Disorders and Jammu Province.

Appendix-T-I
Certificate of Conference-I



Appendix-T-II
Certificate of Conference-II



IPR-Copyright on Identification of Co-morbid Conditions: A Demographic Perspective of Middle School Students of Jammu Province

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