

Research Paper

## Gender Differences in ADHD: A Cross-sectional Hospital based Study

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### ABSTRACT

**Background:** Previous literature on attention deficit/hyperactivity disorder (ADHD) shows gender differences in the manifestation of its symptoms and the diagnosis is more prevalent in boys compared to girls, who continue to remain underdiagnosed. The aim of this study was to assess gender differences in attention deficit/hyperactivity disorder subtypes, psychiatric co-morbidities, behavioural problems and gender differentiated parenting styles in a hospital-referred sample of children diagnosed with ADHD. **Methods:** A cross-sectional research design was used; twenty-five boys and twenty-five girls with ADHD between 6–17 years, were included in the study (n=40). Sample was collected by purposive sampling method. The assessments included socio-demographic details, attention deficit/hyperactivity disorder test (ADHDT), parenting style questionnaire (PSQ), mini-international neuropsychiatric interview for children and adolescents (MINI KID), and the child behavior checklist (CBCL). Potential subjects were excluded if their parents were not available for the study, or if they were adopted. Subjects were also excluded if they had any sensorimotor handicaps (paralysis, deafness) or a history of sub-normal intelligence. **Results:** The analysis indicated similarities in a hospital-referred population, ADHD boys and girls did not differ on ADHD subtypes. No significant gender differences for psychiatric comorbidities were found. Girls presented with separation anxiety disorder. Gender differentiated parenting of boys and girls with ADHD were minimal. Only specific aspects of parenting were related to behavioural problems among children with ADHD. **Conclusion:** We did not find gender-specific symptoms in children with ADHD in a hospital referred sample. The study implicates the need to include an extensive community-based population, examining whether these similarities in symptoms among boys and girls are a result of referral bias.

**Keywords:** Attention-deficit/hyperactivity disorder, Gender differences, Parenting style, Psychiatric co-morbidities

Attention-deficit/hyperactivity disorder (ADHD) is one of the most prevalent neurodevelopmental disorders in children (Scandurra et al., 2019; Barkley, 2015). It is characterized by persistent difficulties with attention, hyperactivity and impulsive behaviours (American Psychiatric Association [APA] 2000). Commonly, this condition is associated with issues like stubbornness, parental defiance, poor social skills, impaired

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executive functioning and behavioural problems (Moghaddam, 2013; Babinski, 2019; Keown and Woodward, 2002). There is high comorbidity in ADHD with other psychiatric disorders like mood disorders, anxiety disorders, depression, oppositional defiant disorders, learning disorders, and communication disorders (Burgi Radmanović & Burgić, 2021; Biederman, 2005; Thapar et al., 2001). Children with ADHD often exhibit defiant behaviour towards their parents by disregarding rules and instructions and get into frequent confrontations with their peers, which cause parents to respond negatively (Babinski, 2019). Consequently, due to persistent physical and mental overload parents often resort to harsh parenting practices which may deteriorate the progression of the illness and lead to the secondary development of other behavioural issues, such as oppositional defiant disorder (Teixeira, 2015; Elemam, 2019). Cross-sectional research has demonstrated that parents of children with ADHD are less rewarding, responsive and warm, display inconsistent punishing practices, overprotectiveness, and controlling behaviour when compared to the parents of their neurotypical counterparts (Demmer, 2017; Moghaddam and Assareh 2013). Among children with ADHD, gender differences are not very well known but is said to be more prevalent among boys (Hasson and Fine, 2012; Elemam, 2019; Derks, 2007). Research shows that, more often than not, females with ADHD are less identified and remain underdiagnosed, due to the differences in manifestation of the disorder, as compared to men and their diagnosis is often the predominantly inattentive type (Skogli, 2013; Rucklidge, 2010). Research also points to the contention that, among those affected by ADHD, boys typically externalise frustrations, while girls turn their emotions of pain and rage inward. Due to this, girls face an increased risk of depression, anxiety and eating disorders (Levy, 2005).

### **MATERIALS AND METHODS**

The study adopted a cross sectional research design. The clinical sample was taken from the out-patient department of the Institute of Mental Health and Neurosciences-Kashmir (IMHANS-K), Srinagar, using purposive sampling. The Ethical Committee of Governmental Medical College, Srinagar, approved the study. The subjects were recruited after obtaining written informed consent. Children and adolescents diagnosed with the Attention Deficit/Hyperactivity Disorder as per ICD-10; ADHD severity  $\geq$  average, and in the age range of 6 to 17 years were invited to participate in the study. Subjects with known gross neurological abnormalities, those with major sensorimotor handicaps (paralysis, deafness, blindness) or psychosis and major major medical conditions were excluded. Subjects who were adopted and had a known history of sub-normal intelligence were also excluded.

#### ***Study Tools***

The study used a demographic data sheet, attention deficit/hyperactivity disorder test (ADHDT), mini-international neuropsychiatric interview for children and adolescents (MINI- KID), parenting style questionnaire (PSQ) and the child behavior checklist (CBCL) for collection of data.

#### ***Background Datasheet***

A socio-demographic data sheet was used to record demographic information of the subjects. Kuppaswamy socio-economic status scale was used to check the socio-economic status of the subjects. This is a widely used tool for hospital based research in India (Kuppaswamy, 1976; Khairnar, 2017). It takes into account the monthly income, educational level and occupation of the head of the family which produces a composite score of 3-29. Based on the cut-off scores the groups are classified as: upper class (26-29), upper-

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middle (16-25), lower middle (11-15), upper lower (5-10), lower (below 5) socio-economic status.

### ***Attention Deficit/Hyperactivity Disorder Test (ADHDT)***

ADHDT is a 33 statement Likert scale ranging between 0 and 3 (0= behavior never observed to 3= very often observed). It measures attention-deficit/hyperactivity disorder (ADHD) in individuals manifesting inattention, hyperactivity, and impulsivity, symptoms commonly associated with ADHD. Inattention section of the scale consists of 13 Likert scale statements, whilst the Hyperactivity/Impulsivity section of the rating scale consists of the remaining 23 statements of the 36 Likert type scale statements. It is used to assess ADHD in subjects of 5 to 17 years of age. To select the individual to complete the test, the ADHDT manual recommends a parent, teacher or a primary caretaker. The individual to complete the test must have observed the subject for at least 2 weeks and had regular interaction. The validity of the results largely depends on the relevance of the individual, selected to complete the rating scale, in regard to familiarity with the subject.

### ***The Parenting Style Questionnaire (PSQ)***

Parenting dimensions were assessed utilizing the PSQ (Diana Baumrind, 1972), a well-established 30-item questionnaire with proven reliability and validity. The scale employs a five-point Likert-type scale (ranging from 1 = "I totally agree" to 5 = "I totally disagree") and measures three patterns of parenting styles: authoritative, authoritarian, and permissive.

### ***The Mini-International Neuropsychiatric Interview for Children and Adolescents (MINI KID)***

The MINI-Kid screens for the 24 most common psychiatric disorders in children and adolescents. It takes approximately half an hour to administer. The MINI-Kid is a structured diagnostic interview utilized in clinical settings to assess the presence of psychiatric disorders among children and adolescents aged 6 to 17 years. It serves as a screening tool for identifying various mental health conditions. The MINI-Kid displays good test-retest reliability and validity for categorization of disorders which is in line with similar standardized tools for diagnostic purpose. It is mostly used for diagnostic screening in children and adolescents. For each disorder, there are typically two to four screening questions. If any of these questions receive a positive response, the remaining questions specific to that disorder are then administered. All questions in the scale follow a binary yes/no format. The scale can be administered by conducting interviews with parents and adolescents either together or separately

### ***The Child Behavior Checklist (CBCL)***

This instrument is protected by copyright and licensing restrictions, so permission was sought from ASEBA/Research Centre for Children, Youth & Families, University of Vermont. The Site License Agreement was entered between the licensor (Research Center for Children, Youth, & Families, Inc.) and the author (Licensee) under License number # 2080-02-25-20. The tool measures both internalizing and externalizing behaviors in children and adolescents. A CBCL score of 63 or higher in either internalizing, externalizing behaviours, or both, suggests that children and adolescents may be at risk. The CBCL is a 120-item questionnaire that utilizes a 3-point Likert scale, consisting of eight sub-scales. The Likert scale ranges from 0 to 2, where a score of 0 indicates the behaviour is not true of the child, a score of 1 represents sometimes true, and a score of 2 signifies often true. The CBCL demonstrates a reliability of 93%, with affective and behavioural symptoms exhibiting a reliability of 90%.

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### *Participants*

The sample consisted of forty children between the ages of 6 to 17 from Kashmir, India. 20 girls and 20 boys clinically diagnosed with ADHD who fulfilled the study criteria were included in the study after obtaining written consent from their parents and then the child's assent was gained by asking for his/her affirmative agreement to participate in the research supported with a written assent document appropriate to the child's age and comprehension level.

### **RESULTS**

Demographic data of the clinical sample of children diagnosed with attention-deficit/hyperactivity disorder (ADHD) show that girls and boys didn't differ significantly with respect to their age (Mean Rank Boys=21.35, Girls= 19.65;  $U=183.00$ ;  $p=.644$ ). Similarly, on years of education, no significant difference was found between the two groups (Mean Rank Boys=21.62, Girls= 19.38;  $U=177.50$ ;  $p=.54$ ). In terms of their domicile, 13 males (65%) were from urban backgrounds and 7 (35%) from rural; whereas in females 12 (60%) were from urban backgrounds and 8 (40%) from rural background ( $\chi^2=.107$ ;  $p=.744$ ). With respect to family type, 6 (30%) males and 6 females lived in a joint family and 14 (70%) of both the genders respectively were from a nuclear family ( $\chi^2=.00$ ;  $p=1.00$ ). As per the Kuppaswamy Scale of socio-economic status, 1(5%) males and no females were from the lower socio-economic strata; 6 (30%) males and 7 (35%) females were from lower-middle socio economic status; 3(15%) and 2(10%) came from upper-lower class. There were no significant gender differences between the sample on family type, socioeconomic status, and domicile score (all  $p > 0.05$ ).

The results of the current analysis of gender differences in attention-deficit/hyperactivity disorder (ADHD) for all three subtypes indicate that no significant gender differences emerged for the cardinal symptoms of ADHD. ADHD females and males did not differ significantly on hyperactivity ( $p=.84$ ,  $p > .05$ ), inattention ( $p=.41$ ,  $p > .05$ ), and impulsivity ( $p=.25$ ,  $p > .05$ ). The results also indicate that comorbidity profiles do not differ significantly among ADHD samples across gender; except that there are significant gender differences in comorbidity for separation anxiety disorder ( $p < 0.05$ ), showing relatively higher incidence of this co-morbidity in girls. No significant gender differences for other psychiatric comorbidities are found (all  $p > 0.05$ ). Parenting style scores between two genders indicates little difference between maternal (I) and paternal (H) reports of parenting styles among parents of children with ADHD. Gender differentiated parenting style was not found to be statistically significant in authoritative fathers and mothers ( $p=.36$  and  $p=.94$  respectively). However, authoritarian mothers of children with ADHD differed significantly between two genders (mothers  $p=.01^*$ ), with mothers being more authoritarian towards boys with ADHD (males mean rank = 25.15, females mean rank = 15.83) compared to girls. In addition, permissive score in mothers was higher, and there was a significant statistical difference between the two groups ( $p=0.003^*$ ), with mean ranks showing mothers to be more permissive towards girls (mean rank = 15.12) than boys (mean rank = 25.88). In permissive score of fathers, no significant statistical difference between the two groups was seen ( $p=.602$ ).

### **DISCUSSION**

The current study assessed gender differences in ADHD subtypes, parenting styles and comorbid psychiatric conditions and revealed that boys and girls were found to be more similar than different, and symptoms of ADHD were not gender specific in a hospital referred sample. Small differences have been found in psychiatric comorbidity profiles of

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ADHD samples across gender. Gender differentiated parenting of boys and girls with ADHD were minimal. Only specific aspects of parenting were related to behavioural problems, otherwise a low relationship was found between parenting style and behaviour problems among children with ADHD. Small gender differences were found in behavioural problems in the referred ADHD sample.

Gender difference in ADHD was examined based on the parent reports of their children. The findings indicate that same level of impairment is shown by boys and girls in terms of impulsivity, hyperactivity and inattention. Partial support was found for this contention in Gaub and Carlson's meta-analysis of clinic-referred samples stating that referred boys and girls with ADHD are typically indistinguishable in terms of ADHD symptomatology and the impairment caused by it (Gaub and Carlson, 1997). However, other studies are in contradiction with this finding, and propose that a referred sample of girls with ADHD display more inattentive behaviour than do clinically referred boys (Greshon, 2002), which is inconsistent with our results. As earlier research suggests, the possible reason for this finding could be a referral bias which under identifies the inattentive subtype of ADHD in females (Ramtekkar, 2010). ADHD females often exhibit fewer disruptive behaviours compared to ADHD males, which increases the likelihood of their symptoms being overlooked, especially when they primarily manifest inattentive symptoms (Gaub & Carlson, 1997). And because symptoms of inattention and internalizing behaviours are less likely to get noticed at home or in the classroom setting, they might not make it to hospital/clinic referrals (Rucklidge, 2010). Consequently, fewer referrals of the inattentive subtype lead to fewer diagnosis, and treatment of ADHD in females (Biederman, 2002), suggesting that the diagnostic process of ADHD can easily miss out on females with inattentive ADHD subtype and so are less likely to be prescribed medication unless the externalizing symptoms are significant. So, girls who get referred to the hospitals for assessment and treatment could be the ones exhibiting particularly disruptive behaviours and substantial impairments in daily functioning. Also, because externalizing behaviours in females are less normative and socially less acceptable so even the slightest deviations from the norm are more likely to be observed and reported in females. Consequently, they might come across as severely affected (Abikoff, Jensen et.al. 2002). Another study highlights that certain neutral ADHD behaviours, such as fidgetiness and inattention, display more acceptance socially and culturally. Therefore, these behaviours attract less attention from adults, irrespective of the child's gender as compared to externalizing behaviours which are predominantly seen in boys and cannot go unnoticed. Therefore, these neutral ADHD behaviours are more likely to be similar in girls and boys with ADHD (Abikoff and Jensen, 2002). In a recent study, Mowlem et al. (2019) showed that hyperactivity/impulsivity symptoms and conduct problems were stronger predictors of clinical referrals, diagnosis and treatment as compared to other ADHD-related behaviours. However, the presence of true gender differences is contentious as it could be clouded by the relatively homogenous sample examined. Clinical samples of girls and boys may not be representative of all the children with ADHD and may mask true gender differences in the manifestation of ADHD across genders (Greshon, 2002).

Gender differences failed to emerge for psychiatric comorbidities in the present study, as revealed by statistically insignificant scores on MINI-KID. The only exception was that girls rated higher on 'separation anxiety disorder'. Past research was consistent with our finding and indicated that boys and girls do not differ significantly on cardinal symptoms of ADHD and psychiatric comorbidities (Graetz and Sawyer, 2005). Our findings were also supported by Levy's study suggesting higher prevalence of separation anxiety disorder in females.

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Hence, gender differences were found in internalizing disorders with high rates in females but no such gender differences were found for comorbid externalizing disorders which is again consistent with our findings (Levy, Hay and Bennet, 2004).

The current analysis also examined the differential utilization of parenting styles based on gender using Baumrind's questionnaire. Small variances were observed in parental control between boys and girls. Fathers displayed higher levels of control toward boys compared to girls, while mothers exhibited slightly more permissive tendencies with girls. The study suggests that parents of children with ADHD exhibit diverse parenting styles, with some gender-specific child-rearing practices being discernible. Our results indicated higher levels of maternal permissive parenting towards females with ADHD and higher levels of paternal authoritarian parenting towards boys with ADHD as compared to girls. The authoritative (autonomy/supportive) parenting score has no significant difference between the two genders. These findings are most consistent with some past studies which elucidate that having an ADHD child is negatively correlated with applying authoritative parenting style, and positively correlated with applying authoritarian parenting style (Alizadeh and Andries, 2014). The findings are in line with previous researches which claim that the perpetuation of ADHD through developmental years is moderately related to parenting styles, giving ADHD etiology an interactive interpretation (Campbell & Ewing, 1990; Hinshaw, 1994). Gender comparisons indicate that parents of children with ADHD show some differences in permissive and authoritarian styles of parenting across genders. McCleary's study is also in agreement with our findings indicating that parents display differential parenting styles and practices with boys and girls.

The possible explanation for gender differentiated parenting could be explained by the theoretical model of gender socialization as a biosocial process. Biosocial theory (Money and Earhardt, 1972) argues that based on physical differences men and women are assigned different gender roles which lead to subsequent gender differences and stereotypes (Luxen, 2007). It claims that differential control and reinforcement of boys and girls behaviour is an important mechanism of socialization of gender stereotypes (Money & Earhardt, 1972) which consequently lead to differential treatment of boys and girls by their parents (Wood and Eagly, 2012). Parents show systematic differences in rearing of boys and girls (Lytton & Romney, 1991) by encouraging gender-typical behaviours and discouraging gender-atypical activity (Kane, 2006). Parenting practices tend to reinforce gender roles defined in the society. It can be seen in parents' use of different control strategies with boys and girls (Endendijk, Groeneveld & Bakerman, 2016). Parental control strategies often differ based on the gender of the child. Girls are typically subjected to parental control characterized by kindness, empathy, and interpersonal closeness, while boys experience control strategies marked by power, assertiveness, aggressiveness, and dominance (Joyce & Marleen, 2016). According to a meta-analytical study by Leaper and colleagues, mothers tend to employ more supportive speech when interacting with daughters compared to sons. The finding in Ember's analysis show that through harsh parenting practices aggressiveness is encouraged in boys but not in girls (Ember, 1994; Kochanska and Barry, 2009) shows an association between gender roles and gender differentiated parenting. The results of the current analysis also show that mothers were slightly more permissive towards girls with ADHD as compared to boys with the same condition. This could be because women are more rejecting of the social norms that suppress women as compared to men (Lee and Prato, 2011) and therefore, mothers may be less likely to socialize their daughters into societal gender roles and hence more tolerant of their apparent non-conforming ADHD-related behaviours

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biasing them into gender-differentiated parenting practices. Consistent with prior research our findings indicate that parents use differential parenting strategies with boys and girls.

The present analysis also evaluated the gender differences in behavioural problems among children and adolescents with ADHD, but failed to find any significant differences in the referred sample ( $p > 0.05$ ). According to the results of this study ADHD males and females manifested similar externalizing and internalizing problems as evaluated by the Child Behaviour Checklist (CBCL). In contention, previous literature has often but not always found significant differences between behavioural problems in boys and girls with ADHD (Abikoff and Jensen, 2002). Both the genders with ADHD were found to be dissimilar in terms of disruptive and other externalizing behaviours. The literature of normative gender differences in behaviour problems is not in consensus with the results of the current study. This could be because of certain confounding variables such as: a referral bias, as females display internalizing behaviours and inattentive subtype of ADHD more than males, they are more likely to go unnoticed and unevaluated compared to their male counterparts who are more disruptive and thus more commonly referred to seek help (Arnold, 1996).

This study also assessed the correlation between behavioural problems and parenting styles. The findings of the present study highlight significant correlation between thought problem and maternal permissive parenting. No statistically significant correlation was found between other behavioural problems and parenting style. Contrary to our hypothesis and findings, previous research on parenting styles and child behaviour indicates a consistent relationship between parenting styles and delinquent behaviour in children and adolescents. There is ample evidence to support this association (Williams, 2009; Harper, 2010; Fletcher, 2008; Baumrind, 1991; Palmer, 2009; Sommer, 2007). The study conducted by Weiss and Schwartz (1996) consistently demonstrated that parenting styles have the potential to positively or negatively influence acceptable behavioural outcomes in children.

The likely explanation for our contradictory findings could be that we have relied on maternal report of parenting practices and symptoms of the child which could have led to socially desirable responding by mothers. Furthermore, since differential parenting primarily occurs at an unconscious level, it is more likely to be identified through observational methods rather than relying on self-report measures (Joyce & Marleen, 2016; Culp & Cook, 1983). Therefore, relying on subjective scales alone, which are often susceptible to reporter's bias, may have contributed to these conflicting findings (Quinn and Madhoo, 2014). However, some of our findings were partly in agreement with previous research which showed a significant correlation between permissive parenting and thought problems. Alizadeh and Talib's study elucidates that permissive parenting which is characterized by a lack of demand, high emotional responsiveness, inconsistency in enforcing discipline and setting boundaries leads children to become dependent, passive and unresponsive in their interaction with others, display low-achievement, become more prone to delinquency and substance use and lack social responsibility. We were able to corroborate it with our findings and assert that the permissive style of parenting could be positively associated with certain behavioural problems in children (Alizadeh, Talib et.al, 2011).

In conclusion, based on the quantitative analysis it can be concluded that no evidence of gender specific symptoms was established in our study. Therefore, small gender differences have been found in children and adolescents with ADHD.

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### *Implications*

Our study provides leads for further investigation on gender biases in the diagnosis of ADHD. The need to study prevalence of ADHD in a community sample in order to minimize the confounding effects of a referral bias and achieve a more accurate picture of gender differences in ADHD symptomatology is highlighted. Furthermore, the need to investigate gender differentiated parenting styles will also elucidate the role of socialization and environment in determining the apparent gender differences in the manifestation of ADHD symptoms. A relatively bias free ADHD symptom profile of both the genders will have implications in diagnosis and treatment. Currently, the approaches being used do not fully answer the possible sociocultural and biological etiologies of ADHD; therefore, continued investigation is required in this regard to come up with more conclusive answers of gender differences in ADHD.

## RESULTS

**Table 1: Comparison of ADHD Subtypes across Gender among children with Attention-Deficit Hyperactivity Disorder**

Attention Deficit Hyperactivity Disorder Subtypes	Mean Ranks		Mann-Whitney U	p-value
	Males	Females		
Hyperactivity	20.12	20.90	192.00	.841
Impulsivity	18.38	22.62	157.50	.253
Inattention	22.02	18.98	169.5	.414
ADHD Total	20.58	20.42	198.50	.968

ADHD females and males did not differ significantly on hyperactivity, inattention, and impulsivity. All scales were almost similar with no significant differences when compared across genders ( $p < .05$ ).

**Table 2: Gender differences in comorbidities in a referred sample of ADHD boys and girls.**

Variables	Count		X <sup>2</sup> /Fisher Exact	df	p-value
	Males N=20 [%]	Females N=20 [%]			
MDE	4 [20%]	5 [25%]	.143	1	1.000
Suicidality	0 [0%]	1 [5%]	1.026	1	1.000
Dysthymia	6 [30%]	8 [40%]	.440	1	.507
Hypomania	0 [0%]	2 [10%]	2.105	1	.487
Panic	1 [5%]	2 [10%]	.360	1	1.000
Agoraphobia	0 [0%]	1 [(5%]	1.026	1	1.000
Separation Anxiety	0 [0%]	6 [30%]	7.059	1	<b>.020*</b>
Social Phobia	2 [10%]	3 [15%]	.229	1	1.000
OCD	3 [15%]	4 [20%]	.173	1	1.000
Substance Abuse	5 [25%]	2 [10%]	1.558	1	.407
ADHD Combined	6 [30%]	7 [35%]	.114	1	.736
ADHD Inattentive	13 [65%]	15 [75%]	.476	1	.490
ADHD Hyperactive/I	13 [65%]	12 [60%]	.107	1	.744
Conduct Disorder	3 [15%]	1 [5%]	1.111	1	.605
ODD	9 [45%]	8 [40%]	.102	1	.749
GAD	6 [30%]	6 [30%]	.000	1	1.000
BPAD II	0 [0%]	1[5%]	1.026	1	.311
BPAD NOS	0[0%]	1[5%]	1.026	1	.311



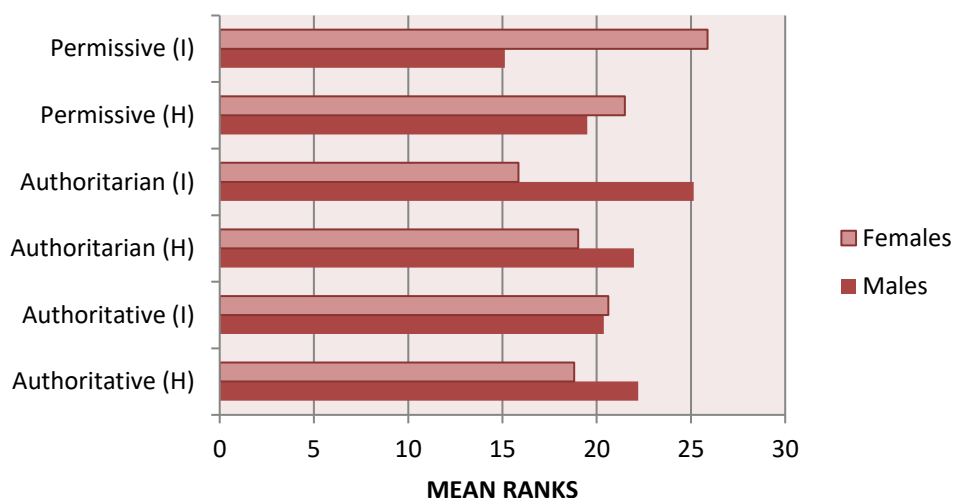
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All scales were almost similar showing that no statistically significant gender differences emerged for measures of comorbid conditions in children with ADHD (all  $p > 0.05$ ) except separation anxiety disorder ( $p < 0.05$ ), showing higher incidence in girls.

**Table 3: A Comparison of gender differentiated parenting style among children with Attention-Deficit Hyperactivity Disorder (ADHD).**

Parenting Practice Questionnaire	Mean Ranks		Mann-Whitney U	p
	Males	Females		
Authoritative (H)	22.20	18.80	166.0	.369
Authoritative (I)	20.38	20.62	197.50	.947
Authoritarian (H)	21.98	19.02	170.50	.429
Authoritarian (I)	25.15	15.85	107.0	<b>.011*</b>
Permissive (H)	19.50	21.50	180.0	.602
Permissive (I)	15.12	25.88	92.50	<b>.003*</b>

All scales were almost similar with no significant differences except that fathers were slightly more authoritarian with boys than with girls and mothers were slightly more permissive with girls.

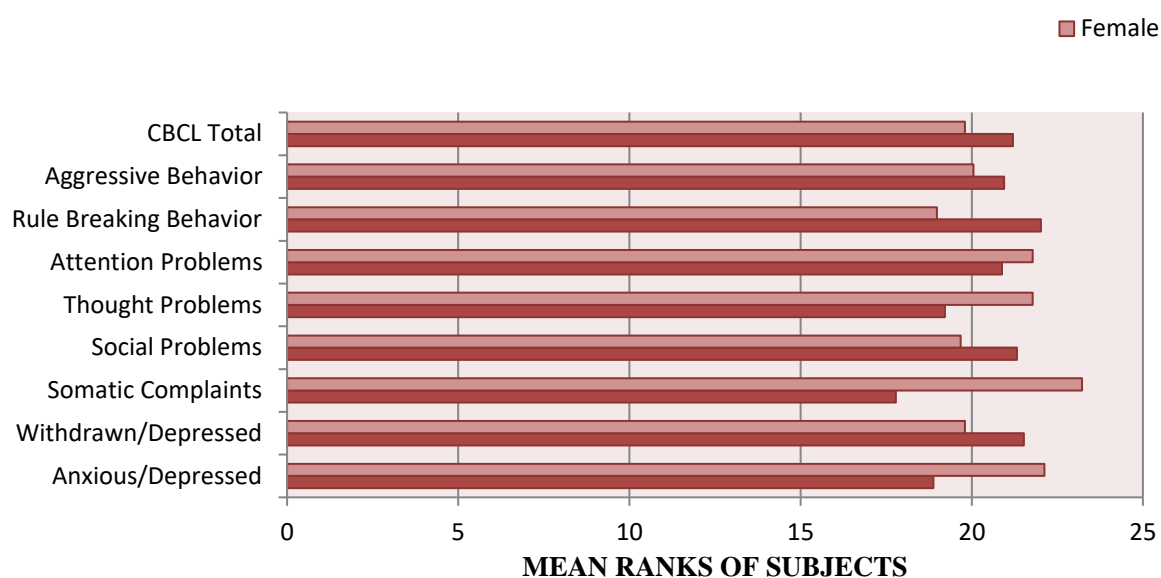


**Table 4: Gender Differences in Behavioral Problems among Children with Attention-Deficit Hyperactivity Disorder (ADHD).**

Variables	Mean Ranks		Mann-Whitney U	p-value
	Males N=20	Females N=20		
Child Behavior Checklist				
Anxious/Depressed	18.88	22.12	167.5	.383
Withdrawn/Depressed	21.52	19.80	179.5	.583
Somatic Complaints	17.78	23.22	145.5	.142
Social Problems	21.32	19.68	183.5	.659
Thought Problems	19.22	21.78	174.5	.495
Attention Problems	20.88	21.78	192.5	.841
Rule Breaking Behavior	22.02	18.98	169.5	.414
Aggressive Behavior	20.95	20.05	191.0	.820
CBCL Total	21.20	19.80	186.0	.718

The scores on all clinical scales of The Child Behavior Checklist do not differ significantly across genders in the ADHD sample (all  $p > 0.05$ ). ADHD females manifested similar externalizing and internalizing problems as ADHD males.

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**Table 7: The Relationship between Behavioral Problems and Parenting Styles among Children with Attention-Deficit/Hyperactivity Disorder.**

Variables	Authoritative (H)	Authoritative (I)	Authoritarian (H)	Authoritarian (I)	Permissive (H)	Permissive (I)
<b>CBCL Total</b>	0.002	0.273	-0.168	0.121	-0.197	0.114
<b>Anxious/Depressed</b>	-0.226	0.133	-0.209	0.075	-0.013	0.291
<b>Withdrawn/Depressed</b>	-0.197	0.206	-0.171	0.257	-0.143	-0.052
<b>Somatic Complaints</b>	-0.141	-0.21	0.109	-0.014	-0.036	0.272
<b>Social Problems</b>	0.016	0.181	-0.207	0.129	-0.14	0.154
<b>Thought Problem</b>	0.118	0.057	-0.163	0.047	0.087	<b>.348*</b>
<b>Attention Problem</b>	0.143	0.274	0.044	-0.01	-0.195	0.074
<b>Rule Breaking Behaviour</b>	0.254	0.224	-0.083	0.108	-0.183	-0.009
<b>Aggressive Behaviour</b>	0.051	0.296	-0.102	0.007	-0.244	-0.06

There is a significant positive correlation between thought problems and permissive mothers. However, no statistically significant correlation was found between other behavioral problems and parenting style.

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