

## PSYCHOSOCIAL DETERMINANTS OF MATERNAL MENTAL HEALTH IN THE CONTEXT OF CHILDHOOD NEURODEVELOPMENTAL DISORDERS

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### Abstract

**Purpose:** The psychosocial factors play a crucial role in determining the mental health of mothers who care for children with Attention Deficit Hyperactivity Disorder (ADHD) and Intellectual Disability (ID). This study aims to explore the moderating effect of social connectedness and the mediating role of social support in the relationship between maternal stress and mental health problems.

**Design/Methodology/Approach:** Correlational design with a purposive sampling was used to collect the data from mothers of ADHD and Intellectual disability diagnosed children. Standardized psychometric scales were employed for quantifying maternal stress, social support, social connectedness, and mental health.

**Findings:** There is a significant association between maternal stress and mental health problems. Social support acts as a mediator and social connectedness acts as moderators in maternal stress and mental health problems.

**Research Limitations/Implications:** The study establishes the significance of psychosocial predictors in playing a crucial role in preventing stress in mothers with children who have special needs. Findings and implications highlight the requirement to implement community-based interventions that provide enabling support networks to mothers as well as build social connectedness. Longitudinal approaches and other specific contextual factors including socio-economic status and cultural influences must be considered in future studies.

**Keywords:** Maternal Stress, Social Support, Social Connectedness, Mental Health, ADHD, Intellectual Disability

### Background

It is frightening and stressful when the family dynamic changes with the birth of a child. First time parents often worry about feedings, bathing practice, and other parenting duties. Conversely, the child born with special needs can have impact on the family that goes beyond the basics and is often overlooked. The difficulties that come with a child's diagnosis can cause a great deal of psychological and physical stress in parents (Spratt et al., 2007). Each diagnosis is unique and can cause distinct stress factors on the mothers (McLennan et al., 2012). A child is considered as differentially different when his/her developmental milestones (walking, speech etc) are delayed, as with the cases of Attention Deficit Hyperactivity Disorder (ADHD), Intellectual Disability (ID), or other developmental problems (American Psychiatric Association [APA], 2013). A disability refers to a physical or mental deficiency that has a diverse and long-term harmful consequence on child's capacity to bring out every day routine activities (WHO, 2011). Researches have shown that all disabilities require extensive effort, time and resource to manage the child daily functioning like Children suffering from ADHD are said to have a long-lasting disorder (Hallahan et al., 2015). ADHD is a neuropsychological disorder with brain and neurological roots is one of the most prevalent conditions affecting school-age children and young people (Mahone et al., 2011).

In the previous few years, a number of researches have looked at the connection between child-rearing stressors in mothers having children with ADHD besides the children themselves. ADHD can be extremely disruptive and negatively impacts many aspects of a child's psychosocial functioning. ADHD is defined as having three subtypes: predominantly inattentive, predominately hyperactive-impulsive, and combined type. Predominately

inattentive type is defined as having trouble sustaining attention for a period of time and is diverted easily. Predominantly hyperactive-impulsive type is defined as high levels of fidgeting, diverting others, disturbing, and difficulty staying in one place. Combined type is a grouping of the two types (Hallahan et al., 2015). Mothers of children with ADHD, for example, were shown to be less acknowledge, reduce physical mobility, and more commanding than mothers of normal children (Mash & Johnston, 2001). Finding of the previous studies on ADHD is the very elevated stress level reported by child's mother with the disorder (Baker et al., 2003).

Researches intended to study the parent's responsibility of special children. According to Bishop (2012) mothers having children with ADHD knowledge high intensities of strain due to psychosocial factors related to their parental responsibilities.

On the other side, Intellectual disability is a condition marked by impairments in both cognitive and adaptive functioning Diagnostic and Statistical Manual (DSM 5-TR). A child with ID for example, might experience delayed language and speech development, motor skill issues, and cognitive impairments that interfere with their ability to learn at the same rate as their classmates (Schalock et al., 2010). It also describes a specific functioning state that starts at the birth or diagnosed before age of 18 years and is marked by notable deficits in both adaptive behavior and intellectual functioning (American Association of Mental Retardation, 2002). About 50% of person with mild ID and 70% of people with severe ID have a biological or genetic root for their difficulty (Simonoff, 2015).

Mothers having children with intellectual disability expressed emotions of shame because they felt responsible for their child's disabilities and social isolation, which resulted in low self-esteem, helplessness and nervousness (Gona, 2016). Due to ongoing care required for children with disabilities, many mothers are unable to participate in social gathering. Multidimensional reaction to physical, psychological, emotional, social, and financial stressors usually related with the practice of loving" is the definition of parental stress (Taylor et al., 2004).

On the other hand, having enough psychosocial resources enable people to manage with stress and adjust to the environment (Shi, 2021). Among these psychosocial resources, social support has been found to play an important role in explaining how people handle with stressful situations or critical life experiences (Burn & Machin, 2013). Nonetheless, social support is necessary for lowering stress and promoting psychological well-being. According to Williams and Galliher (2006) social support is the degree to which a person feels dependent on others for expressive support and other important forms of interpersonal assets. A mothers receiving physical and emotional support from her friends, family, coworkers, and other links is discussed to as social support.

Baumeister and Leary (2017) stated that humans are inherently social beings that yearn to fit in and form lasting relationships. Due to the fact that infants cannot survive on their and are therefore born dependent on others, social connectivity has been demonstrated to be a significant factor in positive mental health. As reported by Haslam et al. (2015) social connection is the emotional bond that people experience in relation to other people and groups, as well as a sense of belonging. This implies that the person must experience both a sense of satisfaction from the relationship and a sense of joining in order to feel socially connected. Feelings of loneliness may arise from a lack of fulfillment in a social interaction or from stress brought on by a variety of intricate biochemical, physical, social, and hereditary variables (Campagne, 2019).

Mental health may be greatly enhanced by a sense of social support and social connectedness. According to Keyes (2012) mental health is a combination of social, mental, and emotional wellbeing (psychological a wellbeing state to operative person functioning,

emotional wellbeing denotes to the recognition of wellbeing, and social wellbeing refers to a person's capability to perform effectively in the community). Swami et al. (2011) explained achieving life pleasure is depending upon a person's mental wellbeing. WHO (2012) described mental health as a situation of happiness whereby an individual can fulfill their potential, cope with daily challenges, work productively and successfully, and give back to their community.

The mothers of children with Intellectual disability and ADHD experience a variety of mental health challenges, consisting of anxiety related symptoms, stress and depression related symptoms. It is essential to comprehend these problems in order to create support networks and solutions that are specific to each individual's requirements. The study emphasizes the intricate association between the responsibilities of providing attention and mental health; underscoring the significance of offering these mother full assistance to enhance their overall wellbeing.

In Pakistani culture, mothers are in charge of taking care and raising children on a daily basis because of cultural influences. Fathers spend most of their time outside the home because they support their families financially. Being a mother of a disabled child requires a massive amount of additional time and care for the child. There is a stigma in society that parents whose children require special needs must deal with. Including all aspects, these stressors have long been thought to increase the possibility of depression related symptoms and anxiety related disorder in mothers of special children.

Chouhan et al. (2016) showed a comparative study to investigate the degree of parental stress among parents having normal children and children having ID. It was found that there is greater parental stress in the parents of ID children as compared to normal children. Social support as a source improves sensations of authority, a feeling of getting, and the desire to provide something back in order to boost well-being and decrease stress (Hobfoll et al., 2012). Siman and Kaniel (2011) found out that social support greatly decreased mother's pressure in a study involving mothers having children with ASD. Mak and Kwok (2010) claim that dealing with the economic, sensitive, somatic, and social challenges of raising children of autisms spectrum disorder is made easier when there is feeling of social support is strong. Larger and more supportive social systems were found near be predictive of mother well-being after 18 months in another longitudinal study (Smith et al., 2012). We think that mother's social support is a resource that both increases the positive and decreases the negative aspects of wellbeing.

Another previous study was conducted to explore effect of parental stress on parents' mental health having children who have developmental disability and finding reported that mothers of children with intellectual disability and ADHD frequently face increased psychological discomfort as a result of the continual responsibilities of parenting and the behavioral difficulties that accompany these disorders (Bishop, 2012). According to Bishop (2012) mothers of children who have developmental disability report greater stress, and there is a clear correlation between increase in anxiety and depressive symptoms.

The social support's protective effect against parental stress and mental health has been shown in numerous studies. Social support offers comfort on an emotional level as well as useful help, which helps lessen the effects of stressors. For example, a longitudinal study executed by McConnell et al. (2014) revealed that over time, parents who received more social support from others had reduced stress levels and improved mental health. Research has revealed that social support vividly lowers the stress associated with parenting (Theule et al., 2011). Taylor et al. (2011) claimed that social support is a psychological asset that will certainly improve parenting techniques. Studies on children's parents with developmental disability have shown a direct correlation among parenting stress and social support (Riany &

Ihsana, 2021). It has been discovered that social support reduces parental stress by improving physical health and the standard of family life (Nurhidayah et al., 2020). Additionally, availability and social support can improve life satisfaction and lessen stress, anxiety, and depression in mothers having children with developmental disability like ASD or ADHD (Meadan et al., 2010).

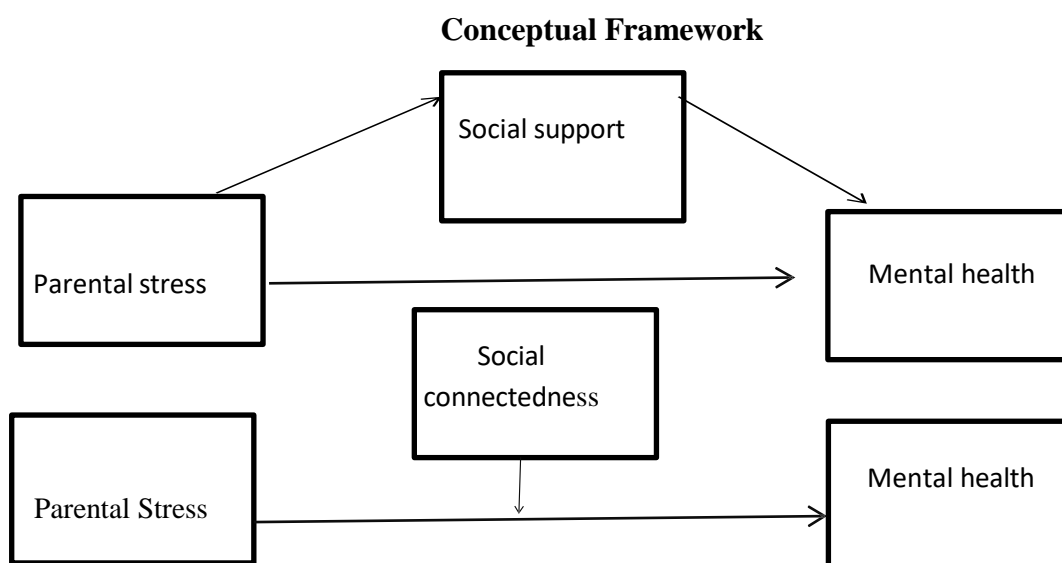
Social support and social connectedness have a significant combined effect on mental health. High-stress parents are greater likelihood to maintain better mental health if they feel socially connected and have access to strong social support networks. This interaction highlights how crucial it is to give parents strong social networks and support systems in order to improve their resilience and general well-being (Hassanein et al., 2021).

In Pakistani context, Malik and Shah (2017) looked into the connection among mothers of children with ID and ADHD and their perceptions of social support and the influence on their mental health. The findings demonstrated that high level perceptions of social support were connected with lower levels of anxiety and depression symptoms. Mental health issues were reported to be less common among mothers who felt supported by their friends, family, and local resources.

Review of previous studies identify that parental stress higher in mothers of special children as compared to normal children and parental stress affect the overall mental health of parents like greater level of depression and anxiety symptoms. Above mention researches also revealed that social support and social connectedness may a vital modulating role to overcome the stress and improve mental health of parents having special children. Mothers who have good social support to their surrounding they cope their mental health problems.

### Hypothesis

- It is hypothesized that there will be a positive relationship between parental stress and mental health problems in mothers of children with ADHD and Intellectual Disability.
- It is hypothesized that there will be a negative relationship between social support and mental health problems in mothers of children with ADHD and Intellectual Disability.
- It is hypothesized that social support mediates and social connectedness moderate the relationship between parental stress and mental health problems in mothers of children diagnosed with ADHD and Intellectual Disability.



## Methodology

The study was conducted on a sample of 250 mothers of children with ADHD (N = 125) and ID (N = 125), aged between 25 to 40 years, selected through purposive sampling from private and government special education institutions in Lahore, Pakistan. A correlational research design was used to explore the relationship between maternal stress and mental health outcomes in these mothers. The key variables were measured with standardized scales: maternal stress scale (Mahmood, 2017), perceived social support scale (Zimet et al., 1988), social connectedness scale (Lee & Robbins, 1998), and the Depression, Anxiety & Stress Scale (Lovibond, 1995).

## Result

**Table 1**

*Frequencies and Percentages of Sociodemographic Characteristics of the Participants (N = 250)*

Variables	f %	M(SD)
Child Age		7.10(1.73)
Diagnosis Age		1.28(.45)
Mother Age		35.45(3.43)
No of Child		3(1.14)
Gender		
Boys	132(52.8)	
Girls	118(47.2)	
Disorder		
Intellectual disability	125(50)	
ADHD	125(50)	
Socioeconomic status		
Low	109(43.6)	
Middle	141(56.4)	
Residential Area		
Rural	90(36)	
Urban	160(64)	
Occupation		
Private	190(76)	
Government	60(24)	
Mother Education		
8-10	139(55.6)	
11-12	49(19.6)	
13-14	49(19.6)	
15-16	13(5.2)	

*Note.* f=frequency; %=percentage



**Table 2**  
*Reliability Coefficients of the Study Scales*

Variables	K	(α)	M(SD)	Range	
				Actual	Observed
Parental Stress	21	0.86	38.56(9.38)	0- 63	15- 57
Social Support	12	0.85	46.35(10.37)	12- 84	22-66
Social Connectedness	20	0.91	71.94(16.83)	20- 120	44-102
Depression	14	0.84	20.72(7.68)	0- 42	6-36
Stress	14	0.73	21.26(5.73)	0- 42	9-35
Anxiety	14	0.78	20.22(6.26)	0- 42	9-35

Note. k= total number of items, α= Cronbach alpha, M= Mean, SD=Standard Deviation

**Table 3**  
*Correlation of Demographics with study variables (N =250)*

Variable	1	2	3	4	5	6	7
1 Parental Stress		-.41***	-.51***	.63***	.59***	.58***	.58***
2 Social Support			.77***	-	-.64***	-.67***	-.66***
3 Social Con				.71***	-.70***	-.71***	-.79***
4 Mental Health					.80***	.90***	.92***
5 Stress						.92***	.94***
6 Anxiety							.75***
7 Depression							

Note \*p < .05, \*\*p < .01, \*\*\*p < .001

Table 3 shows that there was a positive correlation between parental stress and mental health. Moreover, there was negative correlation between parental stress and social support. Hence, hypothesis was approved.

**Table 3**

*Mediation Analysis between Parental Stress, Social Support and Mental Health in Mothers having Children with ADHD and ID*

		Consequences																			
		M(SS)			95%CI	Y(MH)			95%CI	Y(S)			95%CI	Y(A)			95%CI	Y(D)			95%CI
Antecedents		B	SE	LL-UL		B	SE	LL-UL		B	SE	LL-UL		B	SE	LL-UL		B	SE	LL-UL	
PS(X)	a	-.34***	.06	-.46, -.23	c	.75***	.08	.59, .91		.23***	.03	.17, .29		.22***	.03	.16, .28		.30***	.04	.22, .37	
SS(M)					b	-.97***	.08	-1.13, -.81		-.28***	.03	-.34, -.22		-.30***	.03	-.36, -.24		-.39***	.04	-.47, -.31	
Constant		55.23	2.97	49.38, 61.09		74.37	5.91	62.72, 86.02		24.37	2.20	19.69, 28.34		24.32	2.17	20.04,28.59		26.04	2.87	20.39, 31.70	
Birth order		-.76	.51	-1.76, .25		.93	.66	-.37, 2.23		.25	.24	-.23, .73		.39	.24	-.09, .87		.29	.32	-.34, .92	
Diagnosis		-1.79	1.09	-3.94, .36		1.13	1.40	-1.64, 3.91		.13	.52	-.90, 1.16		.63	.52	-.39, 1.64		.38	.68	-.96, 1.73	
Mother edu		1.75	.59	.59, 2.91		-.92	.77	-2.43, .59		-.30	.28	-.86, .26		-.23	.28	-.79, .32		-.38	.37	-1.12, .35	
PS→ SS → MH						.33	.06	.22, .46		.09***	.02	.06, .14		.10***	.02	.07, .15		.13***	.03	.09, .19	
Sobel Z						5.13***				5.13***						5.13***				5.13***	
R2		.23***				.64***				.54***						.57***				.56***	

*Note PS= Parental Stress, SS= Social Support, MH= Mental Health, S= Stress, A= Anxiety, D= Depression*

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

**Table 4**

*Moderation Analysis between Parental Stress, Social Connectedness and Mental Health (Anxiety, Depression) in Mothers having Children with ADHD and ID*

Variable	Anxiety			Depression		
	B	SE	LL-UL	B	SE	LL-UL
Constant	17.75***	4.95	[8.00, 27.50]	19.77***	5.77	[8.42, 31.13]
Parental Stress	.39***	.12	[.16, .63]	.55***	.14	[.28, .83]
Social connectedness	-.09	.06	[-.21, .04]	-.13	.07	[-.27, .01]
Interaction Term	-.01*	.00	[-.01, -.00]	-.01**	.00	[-.01, -.00]
Birth Order	.65	.24	[.19, 1.12]	.64*	.27	[.10, 1.18]
Diagnosis	.23	.51	[-.77, 1.23]	-.38	.59	[-1.55, .78]
Mother Education	.09	.28	[-.46, .64]	.27	.33	[-.37, .92]
R <sup>2</sup>	.59***			.67***		
ΔR <sup>2</sup>	.01*			.01***		

Note \* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## DISCUSSION

The aims of the current study to conclude the association among parental stress, social support and mental health in mothers having children with ADHD and ID. It was hypothesized that correlations are significantly positive with one study variable and negatively associated with another variable. For a single variable, the prediction hypothesis holds significance, spirituality significantly predict depression. The outcomes of the current research are discussed in the light of earlier studies, theories and native context.



Parental stress is very strongly positively correlated with mental health, indicating that high levels of stress, anxiety, and depression are linked with high levels of parental stress. Prior researches have also shown that parents of children who require special needs often suffer from greater levels of stress, anxiety, and depression related symptoms (e.g., Dabrowska & Pisula, 2010; Dykens & Lambert, 2013; Estes et al., 2013; ; Falk et al., 2014; Hayes & Watson, 2013; Kuusikko-Gauffin et al., 2013; Stein et al., 2011; Wang et al., 2011; Weiss, 2002). With reference to Pakistan, Ahmed and Batool (2017) also support the first hypothesis. According to the research, mothers having children with ADHD reported high stress and more serious mental health difficulties, even though both groups suffered significant stress. One of the main causes of this elevated stress was found to be the behavioral issues linked to ADHD. Moreover, Phetrasuwan and Shandor (2009) also supported the finding. According to research, behavioral symptoms were the main source of parental stress for mothers. Mothers reporting more stress had more depressive symptoms and lower levels of wellbeing. In short, high levels of parental stress can negatively affect mental and psychological wellbeing, resulting in higher rates of reported anxiety, despair, and exhaustion and lower ratings of wellbeing (Giallo et al., 2013).

Previous researches support the finding that social support is an excellent way to lessen the stress of parenting. A study by McConnell et al. (2014) found that mothers with a strong social support networks have less parental stress, which benefits their mental health. In managing the duties of raising children with ID and ADHD, social networks are crucial, as the aforementioned finding highlights. Social support has a negative correlation with parental stress and mental health, meaning that great levels of parental stress, anxiety, and depression are linked to low levels of social support. According to earlier research, stress, anxiety, and depression are higher when social support is scarce (Yang & Cho, 2019). These findings are in line with those findings.

Stress levels were correlated with the presence of social support (Hayes & Watson, 2013). According to the study, parents having children with developmental disability having greater levels of social support report improved mental health and lower stress levels (Smith et al., 2012). It is often known that social support protects the mental and physical well-being of caregivers. For caregivers of various demographics, including young children, children with impairments, and children with long-term problems like autism or ADHD, it lowers stress and lessens its effects (Hoang, 2018).

Parenting stress can be effectively reduced by social support. According to a McConnell et al. (2014) study, mothers who have a good social support system face less parental stress, which has a positive impact on their mental health. The aforementioned discovery emphasizes the significance of social networks in handling the responsibilities of raising children with ID and ADHD.

Social support and social connectedness have a significant combined effect on mental health. High-stress parents are greater likelihood to maintain better mental health if they feel socially connected and have access to strong social support networks. This interaction highlights how crucial it is to give parents strong social networks and support systems in order to improve their resilience and general well-being (King et al., 2015). To conclude that social support and social connectedness showed the negative correlation with mental health.

### **Conclusion**

According to the study's findings, mothers of children with developmental disabilities experience complicated interactions among social support, social connection, parental stress, and mental health outcomes. It was discovered that parental stress was favorably correlated with mental health problems as stress, anxiety, and depression but adversely linked with

social support and social connectedness. These links exhibit how social support systems can lessen the damaging effects of caregiving stress on mental health.

Moreover, social support mediate the plays an important role as a mediator between parental stress and mental health problems, thereby decreasing the psychological burden of caregiving. This recommends enhancing social support systems can directly decrease stress's damaging effects on mental health outcomes. Lastly, findings concluded that social connected effectively moderate. The moderation analysis also displays that social connectedness works to moderate the link between parental stress and mental health, specifically anxiety and depression. This research highlights the importance of establishing social connections to increase resilience and enhance mental health outcomes for mothers who tolerate a heavy burden of caring responsibilities.

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