Parenting stress and Psychological Distress among mothers of children with neuro developmental disorder: Role of emotion regulation and spousal support

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ABSTRACT

This study aimed to assess the impact of parenting stress on psychological distress in mothers of children with neurodevelopmental disorder (NDD) from Rawalpindi and Islamabad along with the mediating role of emotion dysregulation and moderating role of spousal support between them. In this cross sectional study, purposive sampling technique was used to select 180 mothers whose children diagnosed with neurodevelopment disorder with age ranged between 23-60 years (M= 35.54, SD= 7.11). parenting stress scale (Berry, & Jones,1995), DASS 21 (Aslam, 2024), Difficulties in emotion regulation scale (Gratz, & Roemer,2004) and recipient of spousal support scale (Dorio, 2008), were used to measure study variables. The collected data was analyzed using SPSS-21 and process macro 4. Results of the study show significant association between parenting stress and psychological distress in mothers of children with neurodevelopmental disorder. In addition, emotion dysregulation is significant mediator while spousal support acts as a moderator between parenting stress and psychological distress, depression. Furthermore, it was observed that mothers of children with autism have high parenting stress and psychological distress than other groups. Besides, mothers having male child with NDD has more parenting stress and psychological distress than mothers of female child. The study also revealed that mother with middle socio economic status has less parenting stress and psychological distress than mother of lower socio economic status. There was no difference among mother's education on parenting stress and psychological distress. By understanding the adverse effects of parenting stress on maternal wellbeing highlights the need for workshops teaching effective strategies. Emotion dysregulation's mediating role enriches family systems and stress theories, while spousal support's moderating role underscores social relationships' protective effects, reinforcing the value of social support in managing psychological distress.

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LIST OF ABBREVIATIONS

NDD	Neurodevelopmental disorder
ASD	Autism spectrum disorder
ADHD	Attention deficit hyper activity disorder
ID	Intellectual disability
DERS	Difficulty in emotion regulation

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Appendix A: Demographics Sheet

Appendix B: Parenting Stress Scale

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Appendix D: DASS

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Dedication

I dedicate this thesis to myself and to all the mothers who participated in this research.

Chapter 1

1. INTRODUCTION

1.1. Context of the Study

Parenthood is a positive life experience, however, it becomes challenging for some parents and leads to parenting stress. Parenting responsibilities are not as simple as providing physical needs (e.g., food and clothes), but also include psychological, social interactional, and educational needs (Soenens *et al*., 2017). There should be a balance between parents' perception of the demands of their role and access to resources required to meet these demands. When there is an imbalance between these aspects it causes parenting stress. The process of raising children can be overwhelming, requiring parents to modify their lifestyle and assume increased responsibilities (Park & Lee, 2022). In particular, mothers are often the main caregivers and the first teachers in their children's lives. They play a pivotal role in shaping their children's development across various domains such as cognition, communication, and social interactions. Mothers should understand how to address the various needs of their children as Children at different ages needs different things. Everything that happens to a child affects how mothers feel, act, and think. When a child has issues like disabilities or health problems, a mother often feels worried (Koch *et al.*, 2021).

Parental stress may impact the way parents act, potentially leading to harmful parenting methods. Parenting stress is a type of stress that parents feel when they think they do not have enough resources to handle the challenges of being a parent (Abidin, 1992). Parenting stress is the feeling of pressure that comes from raising children. This includes feelings of worry, fear,

tiredness, and other negative emotions (Dong *et al.,* 2022). Research consistently shows that parents of children with neurodevelopmental disorders (NDDs) experience higher levels of stress compared to those raising typically developing children (Craig et al., 2016). Neurodevelopmental disorders (NDD) encompass a range of conditions that typically arise during early development, often in childhood. They are characterized by delays or issues that hinder an individual's capacity to manage aspects of their personal life, social relationships, education, or employment. (De Felice *et al.*, 2015). NDD encompasses a range of disorders affecting brain development, leading to functional limitations in areas such as cognition, motor skills, and behavior (Jeste, 2015).

Research has consistently shows that parents of NDD child have elevated level of parenting stress as compare to normally developing children (Craig *et al.,* 2016). Parenting a child with a NDD can be challenging, especially in low income countries where poverty, inadequate healthcare and lack of support can exacerbate the difficulties. It is estimated that millions of children worldwide have disabilities, with many living in low-income countries (Rosenbaum & Novak-Pavlic, 2021). Risk factors for NDD are more prevalent in low income countries, such as poor maternal and child healthcare, nutritional deficiencies, and neonatal infections (Bitta *et al.,* 2018). Additionally, the financial burden of therapies and special education for children with ASD often intensifies the stress on families (Khiari Millan, 2022). Researches indicate that caregivers of children with NDD experience increased stress, anxiety, depression, and physical health issues, often sacrificing employment, leisure time, and social interactions (Cristina *et al* , 2023). These emotional strains not only affect the individual caregivers but also disrupt family dynamics, leading to reduced interaction and engagement with their children (Crnic & Greenberg, 1990).

Psychological distress is mainly described as a feeling of emotional pain shown by signs of depression (like losing interest, feeling sad or hopeless) and anxiety (like being restless or tense)

(LAbate, 2012). The prevalent signs of psychological distress are depression, anxiety, and stress, which, despite having distinct definitions and traits, frequently manifest together. Aversion to activity and a depressed mood are symptoms of depression. It could cause a range of psychological and physical issues as well as impair functioning. Anxiety is a normal reaction to stress and appears as fear, or nervousness about the future or the present. Stress is the body's reaction to any kind of pressure or danger. Each of these three symptoms needs to be assessed separately, and there can be several contributing reasons for each. The intersection of these emotional states plays a significant role in shaping the mental health of parents and can create a vicious cycle of emotional distress that impacts their caregiving abilities (WANG *et al.,* 2022). When a child has issues like disabilities or health problems, the mother may get worried, feel anxious, and might even become sick. The health of a mother was associated with her child experiencing problems such as hyperactivity and difficulties adhering to rules (Leis *et al.,* 2013). It is also connected to how well children do in school. If their school work is not as good as their friends' or if they do not finish their homework, mothers might feel angry, upset, or disappointed. Some of them might even look for professional help to improve their children's performance (Ramirez, 2003).

Also, mother of children with NDD are more likely to feel depressed, anxious, and stressed. Parenting can be overwhelming and may lead to mental health challenges due to various stressors. Factors such as a child's intelligence, communication skills, social interactions, challenges with self-regulation and choices, the severity of their issues, behavioral difficulties, parent-child interactions, parenting approaches, time dedicated to the child, additional responsibilities for caregivers, and concerns about the child's future are all included. All of these factors can lead to stress and anxiety for parents (Alsaad *et al.,* 2023). Effectively managing emotions in this context is crucial, as emotion regulation plays a central role in how parents cope with stress and, in turn,

how they engage with and support their children. Emotion regulation is about how we manage our feelings. It is a complex process that involves being aware of, accepting, and controlling emotions despite experiencing negative feelings (Hu et al., 2019). This also involves aligning your actions with your own objectives, despite experiencing negative feelings, while controlling your impulses (Koole & Rothermund, 2011). Managing emotions is very important for both physical and mental health. Using good ways to manage emotions can help protect people from feeling bad and can assist them in dealing with tough times. However, not being able to manage emotions well is linked to many physical and mental health issues. These include feeling very stressed, anxiety, depression, post-traumatic stress disorder, borderline personality disorder, and trouble sleeping (Hu *et al.,* 2019). In the context of parenting, poor emotion regulation can exacerbate stress and negatively impact the parent-child relationship, particularly when parents feel overwhelmed by their caregiving responsibilities.

Managing emotions can be more difficult for parents of children who have disabilities. This can lead to them behaving poorly towards their children, which can also impact how their children behave and feel. The demands of caregiving, combined with societal and familial pressures, can hinder effective emotional control, leading to negative parenting behaviors that may further stress the child and the mother (Woolfson, 2004). The ability to manage emotions in parenting is crucial not only for the parent’s well-being but also for the child's developmental outcomes. The way parents regulate their emotions is believed to play a crucial role in their children's development. When parents manage their emotions effectively, they are better equipped to care for their children and foster a healthy relationship with them (Bariola *et al.*, 2011). For instance, how parents manage their emotions in the family is very important. This is because the family is where children first learn the rules about showing feelings and understanding how other people feel (Hajal & Paley,

2020). Previous research involving families with typically developing children has indicated a link between the stress experienced by parents in their parenting roles and their emotion regulation abilities. First, it has been shown that problems with regulating emotions are linked to stress in both psychological and physical ways. Parents who have difficulty managing their emotions often see parenting tasks as more stressful compared to those who handle their emotions better (María Priego-Ojeda & Rusu, 2023). This is particularly applicable to parents of children with ASD, as managing the challenges of raising them can be quite overwhelming. Many believe that stress constitutes a particular type of emotional experience. Parenting stress frequently manifests as negative emotions directed at both a partner and the children. Therefore, controlling emotions may play a crucial role in dealing with the challenges and stressors of being a parent (Deater-Deckard, 1998).

Spousal support, is one of the primary types of support, is described as the support, guidance, and understanding that one spouse gives to the other spouse. It covers 4 domains of support: emotional, instrumental, Informational, and appraisal. While emotional spousal support encompasses listening, empathetic communication, affection, and concern for the partner's wellbeing, instrumental spousal support is the practical help given by one spouse to the other to solve problem and take on additional responsibilities for the spouse, primarily in the areas of child care and housework (Bayhan Karapinar *et al*., 2019). Informational support refers to giving advice related to daily life problems whereas appraisal support includes recognizing your partner's effort (Theses & Dorio, 2008).

It is crucial for mothers of children with neurodevelopmental disorders to have support from family and friends, as this can significantly lessen their stress. In communities where rules about gender limit women's ability to move forward in life, having support from a partner is very

important. The pressures of parenting can negatively impact mothers and affect the entire family unit. Past studies have shown that having a supportive partner is very important in helping mothers deal with parenting stress (Kanter & Proulx, 2019).

1.2. Rationale

Parenting is often described as one of life's most rewarding experiences, but it also comes with its fair share of challenges. Parents could struggle with pressures that might cause psychological pain even in the middle of happiness and contentment. The intense stress experienced by parents can adversely influence their behavior and also affect the overall well-being of other family members. Raising a child with a neurodevelopmental disorder presents a variety of difficulties (Cristina *et al.,* 2023; Nelson *et al*., 2014). This encompasses managing various physical and mental health challenges, including the burden of expensive treatments, reduced work hours, and experiencing feelings of shame or self-blame as a parent. So, it's understandable that parents of children with developmental disorders often feel more stress when it comes to parenting.

NDD, like autism and attention-deficit/hyperactivity disorder (ADHD), are being diagnosed more often in Pakistan. Over the past few decades, there has been a steady increase in the number of individuals diagnosed with ASD. In the 1970s, people thought ASD was a rare condition, affecting about 2 out of 10,000 children. At the end of the 20th century, the number of children with ASD started to rise. By 2006, it reached 116.1 out of every 10,000 children in the United Kingdom. The latest estimate in the United States shows that 1 in 59 children have ASD (Boat *et al*., 2015). A 2019 report from WHO and UNICEF stated that 317 million children and young people had health issues that led to developmental disabilities. Many of them face unfair judgment, negative attitudes, and being left out by society. They also face difficulties in getting

health care and receive lower quality care compared to others (World, 2023). The Pakistan Autism Society estimates that around 350,000 children in Pakistan have autism. Pakistan has one of the highest numbers of children with intellectual disabilities in the world. The number of people affected by serious intellectual disability (ID) is about 19. 1 out of every 1,000, while for mild ID, it is about 65 out of every 1,000 (Mirza *et al*., 2009).

Caring for a child with a neurodevelopmental disorder poses numerous challenges for parents, particularly for mothers who often assume the primary caregiver role. Parenting stress and psychological distress are commonly observed among mothers of children with NDD. These mothers face unique challenges related to caregiving responsibilities, navigating healthcare systems, and managing daily life with heightened demands (Chen *et al.,* 2013; Lach *et al.,* 2009; Samiei *et al.,* 2015). Parenting stress is a prevalent and critical aspect of the parental experience, impacting both parents' well-being and the overall family dynamics.

This research will address a significant gap in the existing literature by exploring moderating role of spousal support and mediating role of emotion dysregulation specifically in Pakistani cultural setting, remain largely unexplored (Kausar *et al.,* 2021; María Priego-Ojeda & Rusu, 2023).This study will contribute to the literature by focusing on the unique cultural dynamics of Pakistani families, providing a culturally relevant framework for understanding the stressors faced by mothers raising children with NDD. Transactional model of stress (Lazarus & Folkman, 1984), which posits that stress is a result of an individual's appraisal of a situation as threatening, coupled with their perceived ability to cope with it. This model emphasizes the role of cognitive and emotional processes in shaping an individual's stress response. By applying this framework, the study will explore how parenting stress is appraised by mothers of children with NDD, how

emotion dysregulation influences this process, and how spousal support may act as a buffer, ultimately informing the development of interventions tailored to the needs of these mothers.

The present study aims to explore the complex relationship between parenting stress and maternal psychological distress among mothers of children with NDD in Pakistan. A significant body of research indicates that these mothers are at an elevated risk for anxiety, depression, and other psychological difficulties. The ongoing stress can have a profound impact on the mothers' overall quality of life, often affecting their ability to maintain social relationships, pursue careers, and engage in self-care. This study will examine the mediating role of emotion dysregulation in this relationship, offering a more nuanced understanding of how difficulties in managing emotions might amplify the negative effects of parenting stress on psychological distress. By exploring the role of emotional regulation, this study seeks to inform targeted interventions and support systems for parents, with the goal of fostering healthier family dynamics. In addition to emotion dysregulation, the study will also investigate the moderating role of spousal support. Spousal support has been identified as a protective factor against stress and its associated negative outcomes. The potential moderating role of spousal support in buffering the effects of parenting stress on psychological distress could provide critical insights into how supportive relationships can mitigate the impact of caregiving challenges.

1.3.Problem Statement

The research examines the relationship between parenting stress and psychological distress in mothers of children with NDD, with its focus on mediating role of emotion dysregulation. It also focuses on how support from spouse can moderate this relationship.

1.4. Objectives

1. To explore the relationship between parenting stress and Psychological Distress among mothers of children with neurodevelopmental disorder.
2. To explore the mediating role of emotion dyregulation between parenting stress and psychological distress among mothers of children with neurodevelopmental disorder.
3. To explore the moderating role of spousal support in relationship between parenting stress and psychological distress.
4. To explore the effect of mother demographic variables (education, socio economic status) on parenting stress, and psychological distress.
5. To explore the effect of child demographic variables (Disorder category, gender) on parenting stress, and psychological distress.

1.5. Hypothesis

H1: There is a positive relationship between parenting stress and psychological distress

H1a: There is a positive relationship between parenting stress and depression

H1b: There is a positive relationship between parenting stress and anxiety

H1c: There is a positive relationship between parenting stress and stress

H2: There is a positive relationship between parenting stress and emotion dysregulation

H3: There is a positive relationship between emotion dysregulation and psychological distress

H4: Emotion dysregulation mediate the relationship between parenting stress and psychological distress

H4a: Emotion dysregulation mediate the relationship between parenting stress and depression

H4b: Emotion dysregulation mediate the relationship between parenting stress and anxiety

H4c: Emotion dysregulation mediate the relationship between parenting stress and stress

H5: spousal support moderate the relationship between parenting stress and psychological distress

H5a: Spousal Support moderates the relationship between parenting stress and depression.

H5b: spousal support moderate the relationship between parenting stress and Anxiety

H5c: spousal support moderate the relationship between parenting stress and Stress

H6: Mothers of children with autism have more parenting stress than mother of other neurodevelopmental disorder.

H7: Mother of male child with neurodevelopmental disorder have more parenting stress, as compared to female child

H8: Mother with high education have less parenting stress and psychological distress as compare to mother with low education.

H9: Middle class mother have less parenting stress and psychological distress as compare to middle class mothers.

H10: mothers who have more children with neurodevelopmental disorder have more parenting stress and psychological distress as compare to mothers who have one child with neurodevelopmental disorder.

1.6. Conceptual Framework

Children with NDD pose a great challenge for mothers. The unique circumstances associated with each disability place much great demands on these mothers' compare to mothers of normal developing children. As a result, factors such as Parenting stress have a more pronounced impact on mothers' lives. Given the importance of effective emotion regulation to navigate stressful situation especially when a mother must deal with the challenges of raising a child with a disability, this study aims to analyze the mediating role of emotion dysregulation in the relationship between of parenting stress and psychological distress in mothers of children with developmental disorders. Spousal support acts as a moderator between parenting stress and psychological distress. Previous literature indicates that mothers who receive support from their spouse are less likely to experience psychological distress.

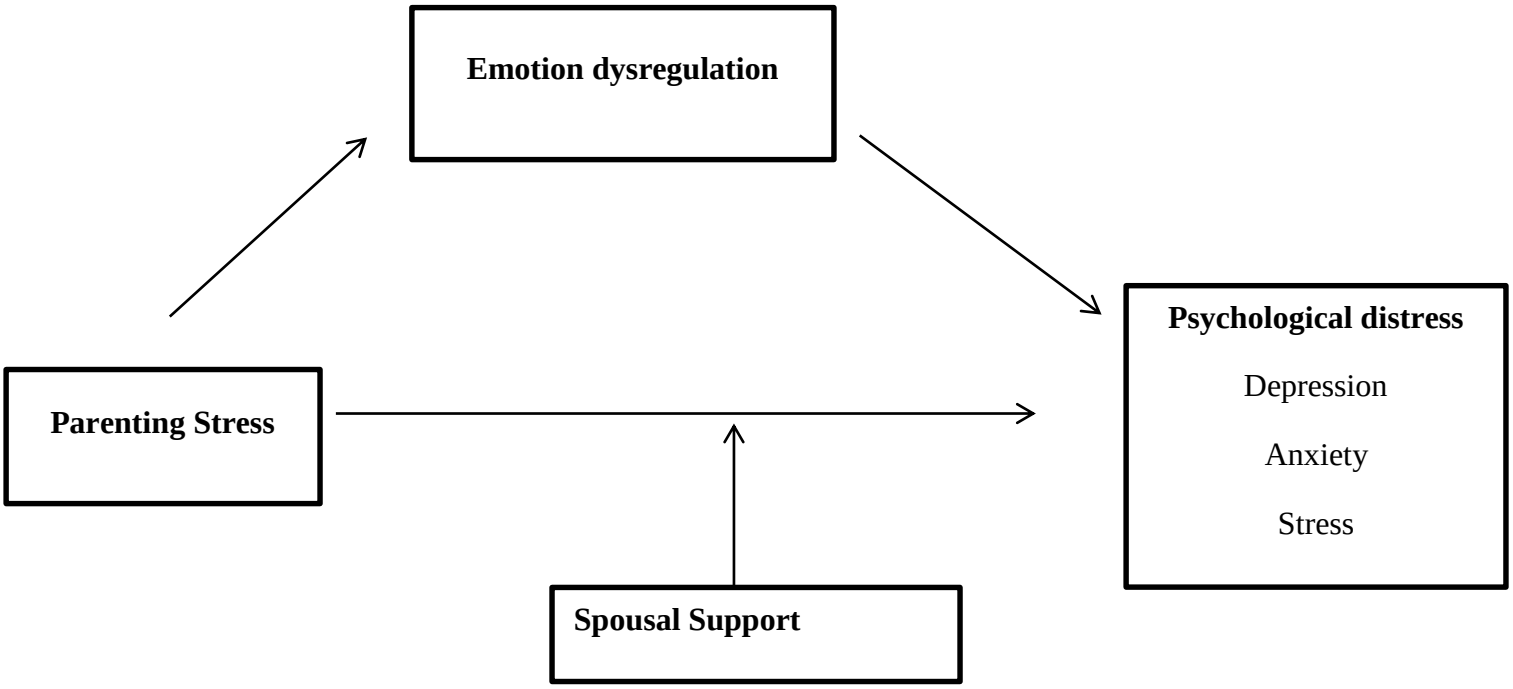


Figure 1.1: Conceptual Framework of the Study

particularly examining the mediating role of emotion dysregulation and the moderating role of spousal support, holds significant implications:

Mothers of children with NDD often experience heightened levels of stress and psychological distress due to the unique challenges they face in caregiving. Understanding the specific factors that exacerbate or mitigate these stressors can help tailor support services and interventions to meet their needs effectively. By identifying emotion dysregulation as a potential mediator, researchers can elucidate the pathways through which parenting stress contributes to psychological distress. This understanding enables the development of targeted interventions that focus on enhancing emotional regulation skills in mothers. Effective management of emotion dysregulation can potentially alleviate psychological distress and improve overall well-being. Spousal support plays a critical role in buffering the impact of stress on maternal mental health. Research into how spousal support moderates the relationship between parenting stress and psychological distress can inform strategies to strengthen family cohesion and support networks. This includes interventions that promote effective communication, shared caregiving responsibilities, and mutual emotional support within the family unit.

Maternal mental health has a direct impact on child development and well-being, particularly in families with children with NDD. Addressing parenting stress and psychological distress through targeted interventions can potentially improve maternal caregiving capabilities and promote a positive caregiving environment, which in turn can enhance child outcomes and

family functioning. Findings from this research can inform policies and community support systems aimed at providing comprehensive care for families of children with NDD. This includes advocating for accessible mental health services, respite care options, and educational resources that support both maternal and child well-being.

Research on parenting stress, psychological distress, emotion dysregulation, and spousal support in mothers of children with NDD contributes to the broader scientific understanding of family dynamics and mental health within specific caregiving contexts. It fills gaps in knowledge regarding the unique challenges faced by these families and provides insights that can guide future research directions and clinical practices.

1.8. Operational Definitions

1.8.1. Parental Stress

Parenting Stress relates to stressors that are a function of being in and executing the parenting role and is a construct that relates to both psychological phenomena and the human body's physiological state as a parent (Abidin, 1992). Parenting stress scale Berry, & Jones, (1995), was used to measure parenting stress.it consist of 18 items, range from 18-90. High score indicates high parenting stress and low score indicate low parenting stress.

1.8.2. Emotion Dysregulation

Emotion dysregulation is the inability to control one's emotions. It can show itself in several different things, like having erratic outbursts, feeling overwhelmed by seemingly insignificant things, or having trouble controlling impulsive behaviors (Chan & Neece, 2018). A difficulty in Emotional Regulation Gratz, & Roemer, (2004), was used to measure emotion dysregulation. It has 6 subscales: Non acceptance of Emotional responses, Difficulties Engaging in Goal- direct

behavior, Impulse control behavior, Lack of emotional awareness, limited access to emotion regulation strategies, and Lack of emotional clarity. It consists of 36 items, range from 36 to 180. High score indicates high emotion dysregulation.

1.8.3. Psychological Distress

The American Psychological Association defines psychological distress as a combination of painful psychological and physical experiences that people may encounter during normal mood fluctuations. Experiencing intense feelings of distress may indicate that an individual is beginning to encounter significant problems such as depression, anxiety, and stress or other mental health concerns (American Psychological Association, 2018). Dass-21 was used to measure psychological distress.it consists of 21 items each subscale has 7 items each. High score indicates high psychological distress.

1.8.4. Spousal Support

Spousal support is defined as a resource in the forms of help, advice, and understanding that each spouse provides for the other spouse (Bayhan Karapinar *et al*., 2019). The recipient of the spousal support scale Dorio (2008) was used to measure spousal support. It assesses 4 dimensions of spousal support: Emotional Support, Instrumental Support, Informational Support, and Appraisal Support. It consists of 20 items, ranging from 20-200. High score indicate high spousal support.

Chapter 2

2. LITERATURE REVIEW

2.1. Neurodevelopmental Disorder (NDD)

NDDs are complicated conditions characterized by damage in apprehension, communication, way of behaving and/or motor abilities resulting from irregular brain development. ASD, attention deficit hyperactivity disorder (ADHD) and Down syndrome and ID etc., drop beneath the umbrella of NDD (Mullin *et al*., 2013). Children with ASD often have trouble interacting and communicating with others, and they may show limited and repetitive behaviors (Leekam *et al*., 2011; Stratis & Lecavalier, 2013). Children with intellectual disabilities struggle with cognitive abilities such as thinking, problem-solving, planning, grasping abstract concepts, decision-making, and acquiring knowledge both in academic settings and from life experiences (Bouck *et al*., 2017; Root *et al*., 2022). Children with ADHD often have trouble paying attention, staying organized, and may be overly active or act without thinking (Livingston & Happé, 2017). Down's syndrome happens because of a problem with chromosomes, which means there is extra genetic material. This change in chromosomes leads to a group of physical traits and some level of intellectual disability in the person affected (Hanson, 1981).

Criterion A of the DSM-5 is about problems with back-and-forth communication and interacting with others in different situations. The indicators of ASD typically vary depending on an individual's age, communication abilities, cognitive skills, and distinct personality characteristics. Other factors like the support they get and their past treatment experiences can also make a difference. Many people with ASD have trouble with language. They might not talk at all, start talking later than usual, or have very few meaningful words to say. People who can speak

well and use proper words and grammar might still have trouble communicating. For example, children with ASD usually do not interact much with others; have trouble talking back and forth in conversations, and show few emotions or hand signals. In the same way, kids with ASD often don't make much eye contact or might not look at you at all. Criterion B of the DSM-5 diagnosis for ASD states that a person with ASD must show limited and repeated behaviors, interests, or activities. For example, the child might show repeated movements, like moving their fingers or hands in the same way, lining up toys, or repeating words or phrases that don't have any meaning. People with ASD often have a hard time with change and like to stick to routines. They may get very upset with even small changes, prefer to eat the same food every day, and struggle with moving from one activity to another. People with ASD often have strong interests, like bus schedules (Evers *et al*., 2020; American Psychiatric Association, 2022)

Also, children with ASD may react too much or not enough to sensory experiences. They might have unusual interests in things they see, hear, or touch. For example, they might not like certain textures or sounds, may smell, lick, or touch objects in strange ways, only eat foods that aren't solid, or be fascinated by lights (Kirby *et al.*, 2014; Black & Grant, 2014). To diagnose ASD, there are extra requirements. These include showing symptoms from early childhood that continue throughout life and having these symptoms cause serious problems in different areas of life. The age at which children get a diagnosis can be very different for each child because the signs of communication problems show up at different times. Although we can see signs of problems in a child's growth, the use of help, tools, and support can hide some challenges they face as they grow up (Lord *et al.*, 2020).

The DSM-5 says that people with ADHD have trouble paying attention or are very active and impulsive. This makes it hard for them to do everyday tasks. Signs of not paying attention

include: making silly mistakes or not focusing on details in school or work, having trouble staying focused on tasks, not seeming to listen when someone talks to them, not following instructions well and not finishing schoolwork, chores, or job tasks because they get distracted, and having difficulty organizing what needs to be done (American Psychiatric Association, 2022). Doesn't like or tries to avoid starting tasks that take a lot of mental effort for a long time, like school projects or homework, loses essential items such as school materials, a wallet, keys, or documents is a sign of ADHD. Often forgets things in everyday life. Signs of being hyperactive and impulsive include moving around a lot in their seat, getting up when they should stay seated, and feeling restless (or, for kids, running or climbing around). When it's not the right time, they can't play quietly and often seem restless and busy. Talks a lot and interrupts by answering before a question is fully asked. Has a hard time waiting for their turn and often interrupts or jumps into conversations or games (Colomer *et al*., 2017).

In diagnosing ID in DSM-5, it's essential to examine issues related to cognitive functioning and obstacles in everyday activities. Issues with cognitive skills may manifest as challenges in reasoning, problem-solving, planning, comprehending concepts, making sound decisions, and acquiring knowledge in educational settings or through life experiences. Deficiencies in daily life skills encompass the necessary abilities for independent living and accountability (Bouck *et al*., 2017). Not having enough skills in these areas makes it hard to behave like someone your age should. Without these skills, a person needs extra help to do well in school, work, or living on their own. These skills include talking and listening, getting along with others, and being able to take care of oneself at home, in the community, and at school or work (Root *et al*., 2022). These conditions frequently begin in childhood but have the potential to persist throughout a person's lifetime (Thapar *et al.,* 2017) Children with developmental disorders need extra care from their

parents. Since mothers usually take on the main caregiving role, they often feel more stressed about parenting. Many studies show that mothers of children with NDD feel much stressed about parenting (Lach *et al.,* 2009).

2.2. Parenting Stress

Parenting related stress is perceived as a combination of persistent and substantial challenges that accompany the responsibility of parenting, which is regarded as one of the most critical roles for caregivers i.e., looking after their child. Although there is plenty of research on parental stress related to children with disabilities, the exact interpretation of stress in this scenario remains disputed (Pisula, n.d). Due to traditional beliefs about gender roles, women are typically anticipated to dedicate more time to childcare and handle the majority of household tasks compared to men. Assuming that parenting comes naturally to women and is simple for them can increase stress levels among mothers (Cerrato & Cifre, 2018). The approach to childcare varies between men and women, as fathers tend to have distinct expectations and duties compared to mothers. Consequently, women may experience greater parenting-related stress than men throughout the journey to parenthood. This could imply that the pressures associated with motherhood weigh more heavily on women (Jolly *et al*., 2014).

2.3.Parenting Style and Parenting Stress

One important part of the relationship between a parent and child is the way the parent raises the child. Study of Delvecchio et al., (2020) looked at how different parenting styles like authoritative and authoritarian affected the behavior of typical children. The researchers also took into account the stress levels of parents and their perceptions of their child's behavior as "challenging." An authoritative parenting approach was associated with fewer behavioral problems in children, whereas an authoritarian style was related to parents perceiving their child

as more challenging. Both parents reacted in similar ways, but mothers were much more affected by how they thought of their child as being difficult. So, when both mother and father were authoritative, they said they felt much less stress from having a difficult child (Hutchison *et al*., 2016). A different pattern was seen when they used strict parenting. Also, the more stressed parents felt about thinking they had a difficult child, the more behavioral problems they said their child had. These relationships were partly explained by parents thinking their child was hard to handle, which was partly due to how parenting style combined with the child's behavior issues. The perspectives of parents regarding raising a challenging child influenced the child's behavior problems, and various parenting styles also played a role (Delvecchio *et al.,* 2020; Hutchison *et al.*, 2016).

Many studies supported these results, showing that strict parenting could lead to negative behaviors in both typical children (Ueda *et al*., 2020) and those with attention deficit/hyperactivity disorder and autism (Hutchison *et al.*, 2016) similarly; parental stress was significantly associated with both authoritarian and permissive parenting approaches for parents of children with ASD as well as those with neuro typical children. So, how parents see their child's behavior affects how they feel about the challenges of parenting. This perception influences how they view their child's problems, the way they choose to parent, and how their child acts in public (Östberg & Hagekull, 2000)

2.4. Parenting Stress and Neurodevelopmental Disorder

Parents of normally developing children often experience stress related to their parenting roles. Having a child with a neurodevelopmental disorder can make parenting and family life more challenging and stressful. Parents may find this stress difficult to manage (Amireh, 2018).Parents raising children with developmental disabilities often struggle with psychological problems,

including stress, depression, and challenges in their relationships. These challenges usually intensify when a child's difficult behaviors become more pronounced (Irshad *et al*., 2023; Leis *et al*., 2013; Pisula, n.d).

Studies indicate that parenting a child with a neurodevelopmental disorder impacts various aspects of a parent's life. Parents of children with NDD face unique challenges that are not experienced by those with normally developing children or those with different types of disorders (Safe *et al*., 2012). There is a strong link among parenting related stress and child behavior issues, particularly in children with ASD/DD. This association is stronger than internalizing issues, especially in male-dominated samples. It underscores the need for regular assessment of parenting stress in behavioral interventions (Barroso *et al.,* 2017). Parents may experience heightened anxiety when their child has trouble dealing with routine tasks. Raising children with constrained daily living skills often places extra demands on their parents. For instance, kids struggling with daily activities require additional assistance with fundamental tasks such as putting on clothes, bathing, and using the bathroom. Parents may experience greater levels of stress or concern due to these elevated expectations (Emily & Grace, 2015).

Managing the needs of a child with ASD is difficult. This is attributed not only to the primary characteristics of ASD but also to various accompanying behavioral and health issues. Additionally, this situation can lead to significant financial strain and considerable stress (Chandrasekhar & Sikichb, 2015). When a child receives an ASD diagnosis, families must invest significant time, effort, and resources to ensure proper care and treatment for their child. This situation is particularly pronounced in low-income countries, which often lack the comprehensive social well-being systems seen in several Western nations. In Pakistan, numerous children with ASD face significant challenges in accessing professional assistance. As a result, parents

frequently find themselves solely responsible for educating and nurturing their children, leading to heightened stress levels (Minhas *et al.,* 2015). Parents of children with ADHD or Autism and those in the comparison group, reported feeling more stressed than parents of children who are developing typically. This stress especially relates to their children's behavior. The parents of children with NDD experienced higher levels of stress because they felt that their duty as parents limited their independence, were frustrated with the difficulty of keeping their identities, and were under constant control of their children's wants and demands (Miranda *et al.,* 2015; Padden & James, 2017). Parents of autistic child are beginning to consider new challenges that may hinder their ability to be the best possible caregivers. By confronting their own sadness over their child's disability, parents can develop a clearer understanding of their child's emotions. This comprehension fosters a sense of safety and acceptance for children with ASD, facilitating their growth and development. The stress levels among parents of autistic child have greater than those of parents whose children are developing typically (Keenan *et al*., 2016).

There are three key aspects contributing to the increased stress in parents of children with NDD. Firstly, children's characteristics, particularly the behavioral issues associated with disorders. Secondly, insufficient assistance from professionals, along with poor collaboration between parents and specialists since the disorder's diagnosis, results in limited availability of medical and educational services for the child. Thirdly, society's view of those with disorders is frequently shaped by a lack of comprehension regarding the challenges experienced by them and their families (Craig *et al*., 2016).

Mothers face unique difficulties due to their children being diagnosed with ASDs. Unlike other developmental disabilities, autism hinders individuals' ability to engage with others, leading to emotional challenges for their mothers. A significant number of children affected by ASD

display unusual forms of communication, including the repetition of words or phrases and distinct speech styles. They might exhibit atypical habits and routines. These behaviors can pose difficulties for mothers while they are out in public with their kids. This is particularly relevant when individuals who are not familiar with the circumstances may misunderstand or misinterpret the child's actions (Dieleman *et al.*, 2018; Krieger *et al.*, 2018). The study on parenting in ASD revealed significant correlations between various parenting aspects for mothers and fathers, indicating non independence in dyads. The study reveals optimal parenting and parental overprotection as outcome variables are linked to children's skills, academic performance, and parental education level, enhancing understanding of ASD parenting dynamics (Hu *et al.*, 2019).

Consequently, the traits of child with autism may cause increased stress for their mother. In contrast, the heightened stress that mothers of autistic children face might not solely result from the distinctive obstacles related to having an autistic child. Child diagnosed with ASD often display more problematic behaviors and encounter greater difficulties in managing everyday activities compared to child with other developmental disorders. Higher levels of shared characteristics in children, rather than characteristics solely linked to autism, might be the source of great stress for mother of ASD child (Operto *et al*., 2021; Falk *et al.*, 2014). Recent research indicates that parents with extremely low or high incomes might experience greater levels of stress compared to those in the middle-income range. Nonetheless, the factors contributing to this stress may vary among different groups. Models highlighting the role of financial resources in children's growth suggest that a lack of money can lead to difficulties in family relationships including parenting stress. Research indicates that individuals who are less financially stable and have limited education frequently encounter higher levels of parenting stress (Parkes *et al.*, 2015).

The study of Craig *et al.* (2016) compared parenting related stress levels between parents of normal developed children and parents of children with NDDs. According to the finding of this study Parents of children with NDDs reported higher parenting related stress than parents of normally developing children. Mothers of children with ADHD reported higher distress compared to other groups. Parental stress correlated with child emotional/behavioral problems and IQ levels, with cognitive dysfunction significantly associated with parental stress. Mother whose child diagnosed with sensory-motor mental and chronic physical challenges experience high stress as compared to mothers whose child diagnosed with mental health issues. Mothers of children facing psychological disorders experienced less stress compared to the other two groups. There was a notable distinction in the ratings of negative interactions between mothers of kids with long-lasting physical ailments and those of children dealing with mental health difficulties. There was a significant variation in stress levels among mothers of children with sensory-motor mental challenges, depending on the number of children they had. Mothers of children with chronic physical issues experience varying degrees of parenting stress based on their educational backgrounds (Feizi *et al.,* 2014; Najmi et al., 2018).

The stress that comes with parenting also affects mothers' quality of life. The investigation focused on family cooperation, the pressure that parents feel and the parents' quality of life. The study involved parents of children with ASD as well as parents of typically developing children. Parents raising children with autism indicated that they encountered greater difficulties in family life and experienced more parental stress than those with children who develop normally. Mothers of autistic children reported feeling greater stress in their personal circumstances. Researchers found connections between family collaboration, parental stress, and the overall quality of life in couples (Pisula & Porębowicz-Dörsmann, 2017). Parenting related stress is significantly linked

with the degree of functional impairment in children diagnosed with NDD, the educational level of parents, and the presence of an illness or disease in the parents (Almogbel *et al.,* 2017). High stress experienced by parents of children with NDD adversely effects their marital satisfaction (Irshad *et al.,* 2023). Rather than the severity of ASD, parenting stress is more linked to behavioral issues in children. It seems that parenting stress is a far better indicator of future behavioral issues in children than behavioral issues in children are of subsequently increased parenting stress levels (Osborne & Reed, 2009).

Rather than the severity of ASD, parenting stress is more linked to behavioral issues in children. It seems that parenting stress is a far better indicator of future behavioral issues in children than behavioral issues in children are of subsequently increased parenting stress levels (Osborne & Reed, 2009). Social support primarily serves to shield individuals from the adverse effects of stress, which can influence their parenting practices (Respler-Herman *et al.,* 2011). Parenting stress is high in highly and less educated mothers compared to those with intermediate education. The impact of support deficits on parenting stress, showing that less frequent grandparent contact contributes to higher stress levels among both high- and low-educated mothers (Parkes *et al.,* 2015). The investigation focused on the relationships children develop with their caregivers, the anxiety faced by caregivers, the demands of parenting, and the ways children relate to others. It analyzed the differences between children with ASD and normal developing children. Children diagnosed with ASD experienced similar levels of attachment security as normally developing children. Caregivers of children with autism expressed higher levels of stress and concern regarding parenting, yet their attachment anxiety was comparable to that of others. While caregiver stress and attachment style influenced child safety, this correlation was observed only in pairs with typical development, not in those involving ASD. The study demonstrates a strong

relationship between children's perceptions of safety and the effectiveness of their caregivers in supporting them, specifically when both are engaged in caring for a child with ASD during middle childhood (Keenan *et al.,* 2016; Pinquart, 2017).

Barroso *et al.* (2017) emphasize the need to study the connection between parenting stress and child externalizes and internalizes behavior problems. The article indicates a clear association between the stress parents face and the emergence of behavior issues in their children, such as aggression and acting out. A moderate correlation was identified between parenting stress and issues related to children's emotional well-being and behavior. Parenting stress had a much stronger relationship with external behavioral issues, like acting out, compared to its link with internal behavior problems, such as experiencing sadness or anxiety.

2.5. Challenges experienced by Mothers of Child/children with Neurodevelopmental Disorders

Care for children with NDD is typically provided at home, and this caregiving role has an impact on all members of the family in diverse ways. Parents invest considerable time and energy into comprehending and addressing their child's challenges (Puka *et al*., 2020). They alter their living arrangements and way of life to assist each family member in managing stress and establishing a support system. Research indicates that caregiving can be highly demanding and often results in increased stress levels. Numerous mothers struggle with frustration, anxiety, sleeplessness, and sense of losing control on their lives (De Clercq *et al*., 2021). According to parents, they frequently faced challenges with services, and their caregiving roles often caused them to be concerned about others' perceptions, leading to a decrease in social engagement. Parents sometimes found themselves dangerously close to being overwhelmed by their emotions (Courtney *et al.,* 2018).

According to traditional parenting role, mother is the primary care giver of children, so she is responsible for all the care provided to children. These responsibilities affect mothers in many ways. Managing child's behavior, emotions and responsibilities can be overwhelming and exhausting for mothers (CELIK, 2019). Mothers may struggle to balance their child's needs with those of other family members; they put their own needs, interests, and careers on hold to care for their child. They may feel responsible for their child's condition or blame themselves for not doing enough. Caregiving responsibilities can limit social interactions and relationships. They feel isolated or unsupported by family, friends, or professionals. The stress of caregiving can affect relationships with partners, other children, and friends (Penning & Wu, 2015).

2.6. Parental Liabilities

Parental burden can be viewed through four key perspectives: financial concerns, time constraints, developmental, and emotional experiences. Financial burden means the money needed to take care of a family, including a child with special needs. This includes paying for healthcare, therapies, education, and job options for when the child becomes an adult. It's common for parents, especially mothers, of children with developmental issues to have to quit their jobs, miss chances to get better jobs or education, change their careers, and work fewer hours to take care of their child. This can lead to them earning less money (Ozdemir & Koç, 2022). A study by (Patel *et al.*, 2022) found that the biggest problem for parents caring for children with ASD was money worries. This was followed by challenges related to the child's development, needing to spend time taking care of them, and emotional stress.

The time dependence domain is about how parents feel stressed because they have to take care of their child for a long time, even into adulthood. This can make it hard for them to manage their time (Marsack-Topolewski & Church, 2019). Parents of children with ASD, especially

mothers, often spend a lot of time taking care of their child and bringing them to different therapies. This can reduce the time they have for work, household chores, and relaxing (Cidav *et al.*, 2017). The developmental burden means that parents feel like they are at a different stage in life compared to other parents their age. Developmental burden refers to the increased caregiving responsibilities and the pressure of external judgment from others (Marsack-Topolewski & Church, 2019). Studies has repeatedly shown that parents of kids with disabilities often feel like they are not experiencing a normal life. This can lead to feelings of loneliness and being left out from family and friends. So, the stress of growing up can lead to feeling that there's not enough help or understanding from their community (Khiari Millan, 2022). Parents who feel a lot of emotional stress may go through feelings like sadness, confusion, worry, blame, and guilt (Marsack-Topolewski & Church, 2019). Research shows that having a child with developmental disabilities can cause a lot of emotional stress for the family. Likewise, parents of children with autism are more likely to be depressed than parents of kids without autism or other disabilities. (Scherer *et al*., 2019)

Burden can be understood in two ways: objective burden and subjective burden. Objective burden involves practical problems. Subjective burden describes the emotional impact that raising a child with special needs has on parents, including feelings of sadness, anxiety, or embarrassment. Subjective burden is often looked at by examining parenting stress, which is the emotional pain that comes from the demands and responsibilities of being a parent (Liu *et al*., 2020).

2.7. Family Stress

Families that include children with NDD typically experience higher stress as compared to those with normal developing children. According to (Khiari Millan, 2022), mothers of children with autism find their parenting experience more challenging than mothers of children without disabilities. According to family systems theory, emotions and actions in one relationship can

influence other relationships within the family. This idea is called the spillover hypothesis (Boss, 2023). Negative emotions within a marriage can impact the dynamic between parents and their children, and this influence can go both ways. Parents might not be as emotionally available to their kids after having a bad argument with their partner. They might find it hard to understand what their child needs and to provide emotional support if they are having problems in their marriage. Cowan *et al.,* 2019) discovered that, long-lasting arguments between parents can lead to them being less caring and attentive to their kids. This lack of support can result in children having insecure attachments.

Research examining siblings' perceptions of their relationship with an autistic brother or sister yields varied findings. According to (Murray, 2023), siblings of children with autism tended to view their relationship less favorably when they faced challenges related to their sibling's condition, perceived parental favoritism, felt neglected by their sibling, or worried about their sibling's future well-being. An investigation by (Guidotti *et al.,* 2020) and his team indicated that siblings of children with (ASD) experienced less closeness in their relationships with their sibling than those who had siblings with other disabilities or typically developing children. Siblings of autistic child tend to have less supportive relationships and demonstrate fewer acts of kindness than those with siblings who have Down syndrome or are typically developing. However, (Ghilain, 2016) discovered positive aspects in sibling relationships. ASD and Down syndrome child siblings exhibited lower levels of conflict and rivalry, along with greater appreciation for one another, compared to siblings of typically developing children. In line with these findings, (Macedo Costa & Pereira, 2019) discovered that brothers and sisters of children with ASD felt proud of their sibling's achievements and abilities.

Research indicates that many siblings of children with ASD experience feelings of confusion and anxiety, envy about the extra attention their sibling receives, increased responsibilities, and challenges when dealing with friends who don't understand their sibling, yet they maintain a positive view of their relationship (Kolber-Jamieson, 2020). In many studies, parents said they are worried about the sibling of their child with autism because they feel that the sibling doesn't get enough attention. Most of the parents' focus is on the child with autism. These lower-quality relationships could make the family weaker (Molinaro *et al*., 2018).

Families with multiple children who have disabilities undergo unique challenges and experiences. Research indicates that siblings of children with autism are at a greater risk of experiencing autism, behavioral challenges, or difficulties in social integration than siblings of children with different disabilities or those without any disabilities. However, other studies suggest that they may not be at a higher risk. Having a child with autism and another child with a disability makes it harder for families and for mothers' mental health (Hastings & Brown, 2002; Moes *et al.*, 1992). Mothers raising multiple children with disabilities, (such as one with autism and another with a different condition), experience higher levels of anxiety and depression, making it more challenging for them to maintain harmony within their families than mothers who have just one child with autism (Moes *et al*., 1992). Families experiencing significant stress may struggle to provide adequate care for all members, which can negatively affect their well-being. Families with children who have ASD find it harder to adjust and get along compared to families with typical children. This means that they are less flexible and less caring, and the family members feel less close to one another (Figley & McCubbin, 2016).

Certain behaviors exhibited by individuals with ASD may distress their family members more than other types of behaviors (Shivers *et al*., 2017). It is common for a child with autism to

exhibit aggressive or harmful behavior towards their family members, such as parents or siblings. This can hurt the emotional and physical health of the parents and siblings (Swaab *et al*., 2021).

2.8. Psychological Distress

Lazarus and Folkman (1984) describe psychological stress as occurring when an individual perceives their circumstances as overwhelming, leading to concerns about potential harm to their well-being. Research on stress indicates a connection between life's challenges and various mental and physical health problems (de Jong *et al*., 1999). Study comparing parenting related stress and psychological distress among mothers of children with autism. It aims to identify factors influencing stress and distress. Results showed higher stress and distress levels in mothers with preschool children. Factors like perceived autism symptoms and spousal relationship influenced distress. The study also found a significant positive correlation between parenting stress and psychological distress among mothers with preschool children (Yeo Kee Jiar & Xi, 2012).

A study examines the impact of different children's developmental disorders on mothers' perceptions of their child's challenging behaviors and their stress levels related to parenting. The study looked at mothers of children with different disorders like intellectual disabilities, ADHD, and autism. The study revealed that the type of disorder influences the level of stress experienced by mothers, with those caring for children with autism reporting higher stress levels (Daulay, 2021). The study looks at how different traits of children affect their mothers' stress and mental health. The focus is on mothers of young children who experience autism and developmental delays. Mothers of children with autism spectrum disorders (ASDs) experienced more stress and emotional challenges than mothers of children with developmental delays. In both groups, parents experienced increased stress and frustration when their children displayed problematic behaviors,

but the impact was more pronounced in the DD group. The research highlighted the significance of addressing negative behaviors in children with developmental disabilities to provide parents with improved assistance (Estes *et al*., 2009).

The pressures of childcare for mothers were associated with a decline in their marital satisfaction. A mother's sense of happiness in her marriage is influenced by the interplay of depression and disagreements, alongside the stress that comes from parenting. Understanding fathers can play a crucial role in easing the depression and marital conflicts that arise from the pressures mothers face in parenting and a decrease in joy within the relationship. Nevertheless, fathers who are particularly sensitive may inadvertently exacerbate these problems (Dong *et al.*, 2022). A study was done to compare the levels of anxiety and burnout in Saudi Arabian parents of children with different developmental disorders, such as ADHD, autism, and intellectual disabilities. It was shown that mothers with autistic children feel more anxious and depressed than mothers of children who develop normally. They tend to rely less on constructive coping strategies such as positive thinking, focusing on the positives, and preparing for what's ahead. Another study found that mothers of autistic child had more anxiety than mothers of children with ID. Parents of children with autism experienced more emotional pain than parents of children who develop normally (Nader Alrahili, 2023).

Minh *et al* (2024) conducted a study examining the stress experienced by parents of children with autism. A study found that parents with more education felt less stressed than those who only finished high school. Parents of firstborn kids with autism feel more stressed than parents of younger kids with autism also study highlight that parents who have just one child said they feel more stressed than parents with more than one child. There was no big difference in stress levels between mothers and fathers. Studies indicate that parents with lower stress levels are more

effective in caring for their children, whereas those who experience higher stress often exhibit less sensitivity towards their kids. This issue could significantly hinder the emotional and social development of children (Carreras *et al*., 2019).

2.9.Emotion Dysregulation

Over time, our emotions transform, influencing both our internal feelings and the way we express those feelings externally. Emotion regulation refers to individuals' efforts to manage the intensity, frequency, and duration of their emotions, whether consciously or unconsciously (Kok, 2020). Emotions develop over time, and we can manage them at different stages. This starts with assessing situations and continues with adjusting our reactions later on. Strategies for handling emotions before they fully manifest can shape initial feelings. On the other hand, response-focused emotion regulation techniques adjust emotions that are already fully developed and happening at that moment (Kelley *et al.,* 2019). Emotion dysregulation refers to experiencing feelings that are difficult to manage and differ from what is typically felt by others. The term "normal" can signify various concepts depending on the context and setting. While psychology has a generally accepted definition, individuals may still interpret it in their own ways (Nerd, 2023).

Study by Zitzmann *et al.* (2023) examined the relationship between emotion regulation in parents with psychopathology and their parenting behaviors. The findings indicate that various mental health issues are associated with difficulties in emotional regulation, which in turn leads to poorer parenting outcomes, including increased negative behaviors and decreased positive parenting. Parents experiencing depression can employ strategies such as managing their emotions and altering their thought patterns to prevent negative parenting behaviors. Parents suffering from anxiety disorders seemed to exhibit poorer parenting behaviors primarily due to their mental health issues rather than their emotional regulation skills (Loechner *et al*., 2019).

Individual who experienced more stressful events often had more difficulty managing their emotions. The battle with their emotions appeared to link the stressful situations they encountered with depression. This shows that using unhealthy ways to manage emotions is a key reason why stressful life events can make depression worse in teenagers. Being able to manage your emotions well seems to help reduce the impact of stressful events on depression (Aune *et al*., 2023). Parents who have trouble managing their emotions often see parenting tasks as more stressful compared to those who handle their emotions better (Deater-Deckard *et al*., 2016). Parents feel more stress depending on the kind of disability their child has. Numerous authors have suggested that mothers of children with autism experience higher levels of stress compared to mothers of children with different developmental challenges. In a study, researchers found that two-thirds of mothers who have children with autism showed high levels of stress. This comparison was made with mothers of children who have special health care needs without developmental problems, as well as those who have typically developing children (Cuzzocrea *et al*., 2015).

The study found that emotion dysregulation (ED) is linked to dysfunctional parenting behaviors in trauma-exposed African American mothers. ED dimensions, such as difficulty with goal-directed behavior and impulse control, were positively associated with overreactivity and laxness, while negatively associated with maternal warmth. However, ED was found to be more significant than specific psychological disorders (Powers *et al.*, 2021). The research indicates that parents must regulate their emotions in order to provide care and support, particularly during times of stress or upset. The research revealed that difficulties in emotional regulation influenced the extent to which parental stress hindered their capacity to show care and sensitivity. Difficulties in handling emotions resulted in less attentive parenting, despite taking stress into account. Surprisingly, there was no connection between a parent's level of caring and their ability to manage

emotions when it came to feelings of stress. It indicates that the effectiveness of one's emotion regulation might be more tied to their approach to parenting than to any psychological difficulties they face (Carreras *et al*., 2019).

Families raising children with disabilities indicated experiencing higher levels of parental stress and more frequent conflicts among themselves compared to typical families. Their level of satisfaction in their relationships was also diminished (Hsiao, 2017). The stress parents feel was linked to lower relationship satisfaction in these families. Effective communication among partners significantly enhanced relationship satisfaction in families with children with disabilities. Enhanced teamwork among parents played a role in lessening the relationship between emotional management challenges and feelings of parenting stress. Families with disabled children found that seeking support collectively enhanced their satisfaction in relationships amidst emotional challenges (María Priego-Ojeda & Rusu, 2023).

2.10. Spousal Support

Social support refers to the assistance you receive from friends, various groups, and the broader community. The US National Cancer Institute describes social support as a group of family, friends, neighbors, and people in the community who can help you when you need it, offering emotional, physical, and financial assistance.

Social support is a coping mechanism that reduces stress while the Parents of a child with neurodevelopmental disorder experience less social support due to stigma related to their children's disorder. Mothers of ASD and ADHD children used inappropriate coping strategies which affected child behavior as well as increased their parental stress. In this situation support from spouse is very important to elevate adverse effect of parenting stress on mother’s well- being. Research

indicates that individuals who have understanding and supportive partners, friends, and family members often experience greater happiness and better health. They also experience less loneliness, fewer feelings of sadness, and better mental clarity (Shin & Park, 2022). The study focused on Chinese parents of children with ASD, exploring the relationship between parenting stress, social support, and life satisfaction. Findings revealed a significant negative correlation between parenting stress and life satisfaction, with social support mediating and moderating this relationship. The study highlighted the importance of social support in reducing parenting stress and enhancing life satisfaction among Chinese parents of children with ASD. However, the study acknowledged limitations such as the cross-sectional design and cultural context specificity, emphasizing the need for future research to address these aspects (Lu *et al*., 2018).

Study on association between parenting stress, and life satisfaction in mothers of children with cerebral palsy (CP) indicates a negative correlation between parenting stress and life satisfaction. While, social support act as a mediator between parenting stress and life satisfaction. Family and friend support are equally important in enhancing life satisfaction for these mothers (Wang et al., 2017). Prolonged stress associated with parenting has been connected to a decreased sense of emotional support and an increase in symptoms of depression and anxiety (Quittner *et al*, 1990b). When parenting stress, social support, and their effect on individual well-being were studied in a sample of kinship caregivers, it was shown that parenting stress is negatively associated with caregiver well-being (Sharda *et al*., 2019). Factors that can lead to stress for parents include having a heavy workload, not enough support from friends or family, thinking of the child as difficult, experiencing negative life events, challenges in taking care of the child, having more kids in the family, being an older mother, and having a child with irregular habits. These factors directly or indirectly contribute to mothers' experienced stress, with social support having a main

effect on stress (Östberg & Hagekull, 2000). Studies by Respler-Herman et al (2011) have shown a strong link between social support and stress. Mothers who received more help from others felt less stress from parenting, while those with less support felt more stress. Also, moms who said they felt more stress as parents were usually older, had many children, had a lot of household duties, thought their child was hard to handle, went through tough life events, and felt they had little support from friends or family.

Mothers reported that getting help and support from other mothers who have children with ASD was very helpful for them, both in practical ways and for their feelings. They mentioned that centering their support group on their child's condition would lead to autism becoming the focal point of their lives. Mothers sought to connect with other parents of children who don't have autism, but those parents often misunderstood autism and kept their distance. This made the mothers feel even more left out and limited the chances for their children to socialize (Safe *et al*., 2012). At that point support from family member like spouse would be beneficent. Having a supportive partner is crucial for the mental health of mothers with autistic children. Mothers who do not receive enough support from their partners could need intervention to enhance their sense of acceptance or to tackle problems they are evading (Jose *et al*., 2021). Support system of family and friends is essential for alleviating the stress faced by mothers with children who have NDD (Currie & Szabo, 2020). In communities where traditional gender roles limit women's opportunities; support from their partners becomes very important. Our study found that when wives don't get much support from their husbands, it can lead to high stress for mothers. Mothers and fathers experienced similar distress levels before and after childbirth, with mothers becoming less distressed during parenthood. Fathers' distress decreased if their partner's distress decreased,

suggesting they function as a dyad. Mothers needed specific support, while fathers needed support from their partner (Gillis *et al*., 2019).

Different studies suggest that how well a person or a couple handles stress depends not just on their personal weaknesses, but also on their relationship with each other. In these ideas, it is believed that both partners rely on each other and that each one is influenced by the pressure and support they get from the other. This connection becomes especially important when the stress and support come from a shared responsibility, like being parents and how they see their relationship as co-parents. This means how parents or parental figures interact with each other while taking care of their children.

2.11. Pakistani Literature

A comparative study was done to compare the parenting stress of parents of children with and without disability. Results highlights that parents of children with disabilities have high parenting stress as compare to mother of typically developing children (Ahmad & Khanam, 2016; Nadeem *et al*., 2016). Another study was done to determine the level of stress experienced and coping strategies used by parents of hearing impaired and autistic children. In this study, having more special children appears to be linked to more stress for parents, while having just one special child leads to less stress. When there are one or two special children, parents usually used problem focused engagement coping strategy. But when there are three to five special children, they used problem focused disengagement coping strategy (Ishtiaq *et al*., 2020).

A study was conducted on parent of children with neurodevelopmental disorders, results shows that parents of children with neurodevelopmental disorders has a negative impact on their marital satisfaction. Both their marriage and parental lives were affected equally. For both fathers

and mothers, resilience can be a useful tool in resolving marital problems (Irshad *et al., 2023*). Research shows that maternal parenting stress are associated with internalizing and externalizing behavior problems in children. parental satisfaction appears to be the most influential aspect of maternal stress on child behavior problems. Insufficient satisfaction with the maternal role contributes to increased behavioral problems in children (Farhana Sajjad Kiani *et al*., 2023). Parents of children with ASD experience significant ASD-specific parental stress, psychological distress and decreased quality of life and wellbeing. These parents frequently present with reduced energy levels and depressive symptoms (Nadeem *et al*., 2024).

Study on parents with ID reveals that Impact on family functioning was positive associated with psychological distress while social support was negatively related to psychological distress in children with ID. Despite the fact that there were no significant gender differences in social support and impact on family functioning, mothers experienced greater psychological discomfort than fathers (Jabeen *et al.,* 2024). Research findings highlighted that parents experienced a high level of stress when they have children with special needs. It was also found that social support improves quality of life and reduces the stress level of parents of children with special needs. Extra social support and provision of needed services will not only be helpful in the stress reduction of parents but also facilitates in improving quality of life of the parents of children with special needs (Kausar *et al.,* 2021).

2.12. Transactional Model

According to Lazarus and Folkman's model, individuals experience stress when the demands placed upon them exceed their ability to cope. This imbalance is like a seesaw where stress and resources are on opposite sides. The model indicates that individuals initially assess

their resources in relation to the stress they are experiencing. In a second review, they look at the ways to handle the situation. Coping strategies involve methods for dealing with challenging situations, along with the resources used to implement them. When feeling stressed, a person may turn to others for assistance in dealing with their feelings. The effectiveness of an individual's stress management relies on the suitability of their chosen techniques to the circumstances they face. This may result in both positive and negative immediate consequences, such as experiencing stress, along with lasting effects over time, Satisfaction in life. If a person is unable to alter a situation, finding ways to distract themselves can alleviate stress and negative emotions. If the circumstances can be easily improved through better planning, then finding distractions is not an effective coping strategy (Lazarus & Folkman, 1987; Wai Kai Hou & Tiffany Junchen Tao, 2023).

A stress appraisal model consists of three components primary appraisal, secondary appraisal, and reappraisal. Finding out if the stressor is dangerous is the first step in the assessment process. The process of secondary appraisal requires evaluating the person's coping mechanisms or available resources to determine how to handle any perceived risks. Reappraisal is a continuous process that entails reevaluating the stressor's characteristics as well as the resources available to address them (Lazarus & Folkman, 1987).

In this research, Stressors would be the demands and challenges associated with parenting a child with a neurodevelopmental disorder. Mother assesses caregiving demand as highly relevant and potentially stressful. Spousal support is a resource that can be assessed during secondary appraisal. The mother may consider whether her spouse provides emotional support, assistance with caregiving tasks, and understanding, which can influence her coping resources. Support from the spouse can affect the selection and efficacy of coping mechanisms.

Chapter 3

3. RESEARCH METHODS

3.1. Introduction

The purpose of this current research was to study the impact of parenting stress on psychological distress of mother also study the role of emotion dysregulation and spousal support. Following assessment tools were used: parenting stress scale, DASS scale to measure psychological distress, DERS scale to measure emotion dysregulation and spousal support scale. The methodology section outlines the framework used to conduct the study. It includes the following parts: the plan for the research, the tools used to gather information, how these tools were checked for accuracy, the method used to select participants, details about how data was collected, information about the group being studied, and the statistical methods used for analysis.

3.2. Research Design

Present research consisted of two phases, pilot study and main study. First phase of the study consists of Translation, Validation and Reliability testing of scales. The Parenting Stress Scale Berry, & Jones, (1995), Emotion Dysregulation Gratz, & Roemer, (2004), Recipient of the spousal support scale Dorio (2008), DASS-21 was used in present research. After pilot testing, main study was carried out to examine the hypotheses of current study. Cross sectional study design was used to test the hypothesis.

3.3. Research Instruments

3.3.1. Demographic Sheet

The demographic Sheet was provided to participant.it composed of detail about mothers and children e.g age, education, socio economic status of mother and age, gender, and name of disorder of children.

3.3.2. Parental Stress Scale (PSS)

The parenting stress scale Berry, & Jones, (1995), was used to measure parenting stress an individual experience. PSS is an 18-item scale used to measure the parental stress of an individual. It's a 5 Point-Likert scale. Ranging from 1= Strongly Disagree to 5= Strongly Agree. Score range from 18 to 90. The reliability of scale in our study is .89.

3.3.3. DASS-21

DASS-21 was used to measure psychological distress. The depression, anxiety and stress scale 21 is short version of DASS developed by Lovibond. The translated version of DASS- 21 was used which is translated by (Aslam, 2024). It comprises of three self-report scales which was formulated to measure the emotional states of anxiety, depression and stress among individuals. It includes three subscales, each having 7 items. DASS is 4 point Likert scale ranging from 0 "did not apply to me at all" to 3 "applied to me very much". The reliability of scale in our study is .92

3.3.4. Difficulty in Emotion Regulation

Difficulty in emotion regulation by Gratz, K. L., & Roemer, L. (2004), was used to measure emotion dysregulation it assesses 6 dimensions: Non acceptance of Emotional responses, Difficulties Engaging in Goal- direct behavior, Impulse control behavior, Lack of emotional awareness, limited access to emotion regulation strategies, Lack of emotional clarity. DERS is a

36-item scale used to measure emotional regulation and dysregulation. DERS is a 5 Likert scale. Ranging from 1= Almost never to 5= Almost Always with a reliability of .92.

3.3.5. Recipient Spousal Support (RSS)

Recipient of the spousal support scale Jay M. Dorio (2008) will be used to measure spousal support individuals receive from their partner. It assesses 4 dimensions of spousal support: Emotional Support, Instrumental Support, Informational Support, and Appraisal Support. SS scale is a 20-item instrument used to measure the level of spousal support an individual receives from a partner. It's a 5 Point-Likert scale. Ranging from 1= Strongly Disagree to 5= Strongly Agree with a reliability of .90. Score range from 20 to 100.

3.4. Phase I: Pilot Study

Pilot study was conducted to check the appropriateness of instrument in the selected sample of mothers. The instruments were translated to make them easily understandable by the population of study. In initial stage, psychometric properties of all the instruments were checked to further use them in the main study.

All 4 scales and their subscales were given to a small sample. The main goal of the first phase (pilot testing) is to make sure that the tools used in the study are reliable, useful, and important for the people being studied.

Step 1: Translation of the Instruments

The first step of the pilot study included the translation of the instruments from the source English language to the target language Urdu. This process was achieved with the help of bilingual experts which had their expertise in psychology alongside the languages as well.

The first step of the translation was forward translation in which the scales were translated word to word keeping in mind not to change the context of any word. The experts thoroughly examined all the items of the scale and translated them keeping in mind the aspects of grammar and word selection that was closest to the original version.

The experts were given these Urdu translated versions. Contrary to the original version the draft was reviewed, compared and evaluated. The final draft was then made with the amendments where necessary. These instruments were then administered on a small sample of 50 participants. The results showed not ambiguity. All instruments were clear and logical for further use.

Step II: Pilot Testing of Translated Scales

All scale was administered to small sample of population to check the reliability and usefulness of scale**.**

Table 3.1

Item-Total Correlation for Parenting stress (N=50)

Items	M	SD	Item Total correlation
PS1	2.26	1.19	.77
PS2	1.76	.68	.40
PS3	4.06	.91	.37
PS4	3.06	1.34	.46
PS5	1.98	1.18	.73
PS6	1.46	.57	.61
PS7	1.48	.54	.27
PS8	2.06	.97	.62
PS9	2.68	1.42	.60
PS10	3.72	1.19	.45
PS11	2.16	1.29	.67
PS12	3.50	1.23	.47
PS13	2.26	1.54	.77
PS14	2.14	1.48	.77
PS15	2.98	1.25	.64
PS16	3.56	1.10	.29
PS17	1.90	1.26	.72
PS18	1.48	.64	.66

Table 3.2

Item-Total Correlation for DASS (N=50)

Items	M	SD	Item Total Correlation
DASS1	1.36	.92	.81
DASS2	1.00	.94	.63
DASS3	1.14	.92	.65
DASS4	1.10	.99	.58
DASS5	1.24	.87	.60
DASS6	1.02	1.03	.72
DASS7	1.04	.98	.70
DASS8	1.64	.98	.68
DASS9	1.28	1.16	.77
DASS10	1.00	1.14	.82
DASS11	1.56	.86	.69
DASS12	1.64	.89	.77
DASS13	1.60	.92	.63
DASS14	1.18	1.15	.66
DASS15	.60	.92	.68
DASS16	.98	.97	.60
DASS17	.66	.87	.77
DASS18	1.74	.85	.58
DASS19	1.36	1.00	.67
DASS20	.90	1.07	.86
DASS21	.80	1.03	.88

Table 3.3

Item-Total Correlation for Spousal Support (N=50)

Items	M	SD	Item Total Correlation
SS1	2.62	1.60	.76
SS2	2.8	1.42	.55
SS3	3.00	1.42	.73
SS4	3.06	1.30	.85
SS5	2.70	1.56	.81
SS6	3.22	1.31	.72
SS7	3.34	1.30	.63
SS8	2.36	1.41	.42
SS9	3.14	1.26	.50
SS10	2.36	1.30	.77
SS11	2.44	1.23	.43
SS12	2.08	1.30	.71
SS13	2.78	1.32	.61
SS14	2.92	1.33	.73
SS15	2.74	1.12	.41
SS16	2.74	1.27	.55
SS17	3.02	1.39	.71
SS18	2.36	1.13	.30
SS19	3.32	2.96	.34
SS20	2.94	1.25	.76

Table 3.4

Item-Total Correlation for DERS (N=50)

Items	M	SD	Item Total Correlation
DERS1	3.18	1.18	.66
DERS2	3.28	1.05	.65
DERS3	2.22	1.23	.59
DERS4	2.24	1.06	.36
DERS5	2.48	1.19	.75
DERS6	3.30	1.09	.63
DERS7	3.14	.98	.64
DERS8	3.18	1.02	.67
DERS9	2.02	1.05	.46
DERS10	3.12	1.04	.71
DERS11	2.24	1.13	.57
DERS12	2.06	1.07	.63
DERS13	3.02	1.05	.66
DERS14	2.08	1.36	.68
DERS15	3.00	1.12	.68
DERS16	3.06	1.03	.62
DERS17	3.28	.94	.55
DERS18	3.08	1.19	.41
DERS19	2.14	1.37	.79
DERS20	3.74	1.15	.41
DERS21	2.08	1.06	.51
DERS22	3.50	1.18	.48
DERS23	3.06	1.05	.68
DERS24	3.52	1.09	.43
DERS25	2.44	1.29	.65

DERS26	2.92	1.17	.51
DERS27	2.42	1.32	.79
DERS28	2.22	1.28	.77
DERS29	2.90	1.05	.68
DERS30	2.44	1.12	.63
DERS31	1.78	.97	.63
DERS32	1.84	1.18	.53
DERS33	2.72	1.06	.62
DERS34	3.50	.88	.46
DERS35	3.18	1.00	.66
DERS36	3.16	1.07	.61

3.5. Sample

A pilot study was done with 50 mothers of children with neurodevelopmental disorders from Rawalpindi and Islamabad. Every participant in the pilot study was asked for their consent by explaining the purpose of the study and assuring them that their identity and information would be kept private.

3.6. Inclusion/Exclusion Criteria

Following inclusion/ exclusion criteria was used for the sample:

1. Mother of neurodevelopmental disorder child with minimum primary level of education was included

2. Mother of normal development child was excluded.

3. Mother who doesn't have primary level education was also excluded.

3.7. Procedure

Data was collected from mothers of children with neurodevelopmental disorders in Rawalpindi and Islamabad, using purposive sampling. A document was designed that included a short description of the research and its objectives, a consent form for participants to sign, a declaration regarding confidentiality, and a commitment to uphold complete privacy when handling and interpreting the data. It took 20 to 25 minutes to fill out the questionnaire, which included a detailed demographic form and all four scales. Data was examined using the SPSS-21 software.

3.8. Statistical Analysis Plan

The research data was analyzed according to the objective and hypothesis of the study through SPSS 21, process macro and AMOS. Pilot study was conducted to check the reliability of the scale. All analysis was carried out through SPSS-21 software and process macro 4.0. A pilot study was conducted to determine the effectiveness of the scale. All the analysis was done using SPSS-21 software and process macro 4. 0 The results of this study were based on different types of analysis includes descriptive, comparison tests, ANOVA, regression, mediation, moderation, and correlation. We used correlation and regression to find out how parenting stress affects psychological distress and their relationship. Mediation was calculated to check the mediating role of emotion dysregulation and similarly Moderation was calculated to check the moderating role of spousal support. CFA analyses were carried out by using Amos.

3.9. Main Study

Main study was carried out to examine the hypothesis of main study.

3.9.1. Sample

Sample of present study consisted of 180 with age range of 23 to 60 years. The sample was selected by the technique of purposive sampling from different schools and clinics. Results of pilot and main study are mentioned in chapter 4.

Chapter 4

4. RESULTS

This research aims to investigate the impact of parenting stress on psychological distress in mother of children with neurodevelopmental disorder also explore the role of emotion dysregulation as mediator and spousal support as moderator. Results are reported below:

Pilot Testing Results

A psychometric property of scales was evaluated by conducting basic statistical analyses to determine the reliability and validity of the scales and their components. The results are shown below:

Table 4.1:

Psychometric properties of study variables (N=50)

Scale	Items	A	M	SD	Range		Skew
					Actual	Potential	
Parenting Stress	18	.90	44.5	12.56	21-75	18-90	.28
DASS	21	.90	24.8	15.23	0-58	0-63	.67
Depression	7	.89	7.42	5.31	0-21	0-21	.87
Anxiety	7	.89	7.28	5.61	0-20	0-21	.57
Stress	7	.80	10.14	5.31	0-21	0-21	.51
Spousal Support	20	.92	18.54	18.54	24-95	20-100	.16
Emotional	6	.89	17.48	7.05	6-30	5-30	.31
Instrumental	6	.77	15.72	5.39	6-28	5-30	.38
Informational	4	.66	11.18	3.59	5-20	5-20	.27
Appraisal	4	.50	11.64	4.67	4-29	5-20	.98
Difficulty in Emotion Regulation	36	.89	99.54	25.19	42-146	36-180	.26
Non acceptance	6	.86	14.78	5.17	6-29	6-30	.59
DEGDB	5	.81	15.48	4.26	5-24	5-25	-.23
ICB	6	.85	14.22	5.7	6-28	6-30	.94
LEA	6	.88	19.66	4.83	6-30	6-30	-.06
LAERS	8	.85	22.34	6.27	9-38	8-40	.32
LEC	5	.76	13.06	3.94	5-23	5-25	.39

Note: Skew = Skewness, DEGDB= difficulty engaging Goal Directed Behavior, ICD= Impulse Control Behavior, LEA= Lack of Emotional Awareness, LAERS= Lack of Emotional Regulation Strategies

Table 4.1 shows the descriptive attribute about the Scales, including their reliability and normality scores. Results indicates that the instrument possess a high degree of reliability. The reliability of parenting stress, DASS, DERS, spousal support, and all their sub scales is above 0. 5 This means that these scales are reliable and their results can be trusted. The skewness value for all the scale ranged from -2 to +2, which is seen as acceptable and shows that the data is normally distributed.

II. Main Study Results

This portion consists on the main study results based on the objectives and hypothesis of the present research.

Table 4.2 (a):

Demographic Characteristics of Mothers (N=180)

Variables	**f (%)**	**Mean(SD)**
Age (23-60Years)		35.54(7.11)
Education		
Primary	25(13.9)	
Matric	27(15)	
Intermediate	45(25)	
Graduation	51(28)	
Post-Graduation	32(17.8)	
Socio Economic Status		
Lower Class	40(22.2)	
Middle Class	140(77.8)	
Family Structure (system)		
Nuclear	124(68.9)	
Joint	56(31.1)	
Working Status		
Working	19(10.6)	
Non-Working	161(89.4)	
No of Children		
1	35(19.4)	
2	61(33.9)	
3	53(29.4)	

4	12(6.7)
5	16(8.9)
7	2(1.1)
8	1(.6)
No of Children with NDD	
1	147(81.7)
2	28(15.6)
3	5(2.8)

f = Frequency, %= percentage

Table 4.2(a) shows frequencies of demographic characteristics which included Age, education, working status, family type and no of children**.**

Table 4.2 (b)

Demographic Characteristics of Children with NDD (N= 180)

Variables	***f (%)***
Age of 1st Child	
2-6	*80(44.4)*
6-12	*65(36.1)*
12-18	*28(15.6)*
18-above	*7(3.9)*
Age of 2nd Child	
2-6	*8(4.4)*
6-12	*16(8.9)*
12-18	*8(4.5)*
Age of 3rd Child	
2-6	*1(.6)*
6-12	*2(1.1)*
12-18	*5(2.8)*
Gender of 1st child	
Male	*102(56.70)*
Female	*78(43.3)*
Gender of 2nd child	
Male	*17(9.4)*
Female	*15(8.3)*
Gender of 3rd child	

Male	*1(6)*
Female	*3(1.7)*
Disorder of 1st child	
Autism	*81(45)*
ADHD	*40(22.22)*
Down syndrome	*24(13.33)*
Intellectual Disability	*35(19.44)*
Disorder of 2nd child	
Autism	*11(6.1)*
ADHD	*6(3.3)*
Down Syndrome	*4(2.2)*
Intellectual Disability	*10(5.6)*
Disorder of 3rd child	
Autism	*2(1.2)*
ADHD	*1(.6)*
Down Syndrome	*1(.6)*
Intellectual Disability	*1(.6)*
Birth order of 1st child	
1	*59(32.8)*
2	*64(35.6)*
3	*28(15.6)*
4	*29(16.1)*
Birth order of 2nd child	

2	*16(8.9)*
3	*16(8.9)*
Birth order of 3rd child	
2	*3(1.7)*

f = Frequency, %= percentage

Table 4.2 (b) show demographic characteristics of children which include their age, gender, disorders and birth ordered

Table 4.3

Psychometric properties of Study Variables *(N=180)*

Scales	No.of items	α	M	SD	Range		Skew
					Actual	Potential	
Parenting stress	18	.89	46.25	11.74	21-75	18-90	.25
DASS	21	.92	23.17	12.78	0-58	0-63	.70
Depression	7	.88	6.97	4.67	0-21	0-21	.90
Anxiety	7	.82	6.95	4.57	0-20	0-21	.53
Stress	7	.85	9.25	4.51	0-21	0-21	.65
Spousal Support	20	.90	58.28	17.98	24-95	20-100	.17
Emotional	6	.91	18.02	7.01	6-30	5-30	.09
Instrumental	6	.78	16.53	5.21	6-28	5-30	.33
Informational	4	.72	11.60	3.57	5-20	5-20	.16
Appraisal	4	.69	12.12	3.94	4-29	5-20	.41
Difficulty in Emotion Regulation	36	.92	97.71	22.64	42-146	36-180	-.01
Non acceptance	6	.86	14.45	5.19	6-29	6-30	.64
DEGDB	5	.76	15.21	3.83	5-24	5-25	-.28
ICB	6	.84	13.74	5.21	6-28	6-30	.89
LEA	6	.87	19.31	5.00	6-30	6-30	-.13
LAERS	8	.82	21.87	5.94	9-38	8-40	.30
LEC	5	.76	12.71	3.78	5-23	5-25	.20

Note: Skew = Skewness, DEGDB= difficulty engaging Goal Directed Behavior, ICD= Impulse Control Behavior, LEA= Lack of Emotional Awareness, LAERS= Lack of Emotional Regulation Strategies

Table 4.3 shows the descriptive attribute about the Scales, including their reliability and normality scores. Results indicates that the instrument possess a high degree of reliability. The reliability of parenting stress, DASS, DERS, spousal support, and all their sub scales is above 0. 5 This means that these scales are reliable and their results can be trusted. The skewness value for all the scale ranged from -2 to +2, which is seen as acceptable and shows that the data is normally distributed.

Table 4.4

Correlation Table of variables (N=180)

No.	Variables	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.
I.	PS	1	.66**	.64**	.60**	.61**	.56**	.48**	.38**	.50**	.28**	.49**	.44**
II.	PD		1	.94**	.91**	.92**	.71**	.60**	.41**	.73**	.26**	.70**	.51**
III.	Depression			1	.79**	.83**	.70**	.54**	.42**	.70**	.30**	.71**	.52**
IV.	Anxiety				1	.75**	.66**	.59**	.34**	.66**	.28**	.63**	.46**
V.	Stress					1	.62**	.55**	.37**	.66**	.15*	.60**	.45**
VI.	DERS						1	.78**	.71**	.80**	.58**	.91**	.81**
VII.	NON A							1	.40**	.66**	.29**	.67**	.53**
VIII.	DEGDB								1	.46**	.31**	.69**	.50**
IX.	ICD									1	.16*	.78**	.53**
X.	LEA										1	.36**	.59**
XI.	LAERS											1	.65**
XII.	LEC												1
	Mean	46.25	23.17	6.97	6.95	9.25	97.31	14.45	15.21	13.74	19.31	21.87	12.71
	S.D	11.74	12.78	4.67	4.57	4.51	22.42	5.19	3.83	5.21	5.00	5.94	3.78

Note: PS= parenting stress, PD= psychological distress, NON A=Non acceptance, DEGDB= Difficulty in Goal Directed Behavior, ICD= Impulse control Difficulty, LEA= Lack of Emotional Awareness, LAERS= Limited access to Emotional regulation Strategies, and LEC= lack of Emotional Clarity

Table 4.4 represents correlation of parenting stress, psychological distress and their component (depression, anxiety, and stress), and difficulties in emotion regulation and their components (Non acceptance, Difficulty in Goal Directed Behavior, Impulse control Difficulty, Lack of Emotional Awareness, Limited access to Emotional Regulation Strategies, and lack of Emotional Clarity). Parenting stress is positively correlated with psychological distress and their component depression, anxiety and stress.it also positively correlated with emotion dyregulation.

Table 4.5

Simple linear Regression Analysis on psychological distress, Emotion dysregulation, depression, Anxiety, Stress by parenting stress. (N=180)

Psychological Distress

Variable	B	SE B	β	t	P	90%CI LL	90%CI UL
Parenting Stress	.72	.06	.67	12.01	.00	.61	.85

$R = .66$, $R^2 = .44$, $(F = 144)$, $p<.001$

Depression

Variable	B	SE B	β	t	P	90%CI LL	90%CI UL
Parenting Stress	.25	.02	.64	11.36	.00	.21	.30

$R = .64$, $R^2 = .42$, $(F = 129.2)$, $p<.001$

Anxiety

Variable	B	SE B	β	t	P	90%CI LL	90%CI UL
Parenting Stress	.23	.02	.60	10.14	.00	.19	.28

$R = .60$, $R^2 = .36$, $(F = 102.9)$, $p<.001$

Stress							
						90%CI	
Variable	B	SE B	B	t	P	LL	UL
Parenting Stress	.23	.02	.61	10.28	.00	.19	.28
$R = .61, R^2 = .37, (F = 105.8), p < .001$							

Emotion Dysregulation							
						90%CI	
Variable	B	SE B	β	t	P	LL	UL
Parenting Stress	1.08	.11	.56	9.15	.00	.84	1.31
$R = .56, R^2 = .32, (F = 83.81), p < .001$							

Table 4.5 depicts the impacts of parenting stress on psychological distress. Result shows that parenting stress accounted for 44% variance in psychological distress of mothers with a significant F ratio ($F = 144$, $p < .001$). Results highlight that the parenting stress is the positively predict mother psychological distress with $B = .72$, $\beta = .67$, $p < .001$, it also shows that with increases in each one unit of parenting stress equivalent to an increase of .72 units in mother psychological distress. For depression, parenting stress collectively explained 42% of variance in mother's depression with a significant F ratio ($F = 129.2$, $p < .001$). Results highlight that parenting stress is the strong positive predictor with $B = .25$, $\beta = .64$, $p < .001$ of depression in

mothers. It shows that with increases in each one unit of parenting stress equivalent to an increase of .25 units in mother depression. For anxiety, parenting stress collectively explained 36% of variance in mother's anxiety with a significant F ratio ($F = 102.9$, $p<.001$). Result indicate that parenting stress as the strong positive predictor of mother anxiety with $B = .23$, $\beta = .60$, $p<.001$. It shows that with increases in each one unit of parenting stress equivalent to an increase of .23 units in mother anxiety. For stress, parenting stress collectively explained 37% of variance in mother's stress with a significant F ratio ($F = 105.8$, $p<.001$). Result indicate that parenting stress as the strong positive predictor of mother stress with $B = .23$, $\beta = .61$, $p<.001$. It shows that with increases in each one unit of parenting stress equivalent to an increase of .23 units in mother stress. For emotion dysregulation, parenting stress collectively explained 32% of variance in mother's emotion dysregulation with a significant F ratio ($F =83.81$, $p<.001$). Result indicate that parenting stress as the strong positive predictor of mother emotion dysregulation with $B = 1.08$, $\beta = .57$, $p<.001$. It shows that with increases in each one unit of parenting stress equivalent to an increase of 1.08 units in mother emotion dysregulation.

Table 4.6

Simple linear Regression Analysis on psychological distress, depression, Anxiety, Stress by emotion dysregulation. (N=180)

Psychological Distress

Variable	B	SE B	β	t	P	90%CI LL	90%CI UL
Emotion Dysregulation	.40	.03	.71	13.65	.00	.34	.46

$R = .71$, $R^2 = .51$, $(F = 186.4)$, $p < .001$

Depression

Variable	B	SE B	β	t	P	90%CI LL	90%CI UL
Emotion Dysregulation	.14	.01	.70	13.38	.00	.12	.17

$R = .70$, $R^2 = .50$, $(F = 179)$, $p < .001$

Anxiety

Variable	B	SE B	β	t	p	90%CI LL	90%CI UL
Emotion Dysregulation	.13	.01	.66	11.84	.00	.11	.15

$R = .66$, $R^2 = .44$, $(F = 140)$, $p < .001$

Stress							
						90%CI	
Variable	B	SE B	β	t	P	LL	UL
Emotion dysregulation	.12	.01	.62	10.53	.00	.10	.14

$R = .62$, $R^2 = .38$, $(F = 111)$, $p < .001$

Results in table 4.6 show the impacts of emotion dysregulation on psychological distress. Findings indicate that emotion dysregulation collectively explained 51% of variance in mother's psychological distress with a significant F ratio (F = 186.4, **p<.001**). Results indicate that emotional dysregulation is the strong positive predictor of psychological distress in mother with B = .40, β = .71, **p<.00**. It shows that with increases in each one unit of emotion dysregulation equivalent to an increase of .40 units in mother emotion dysregulation. For depression, Findings indicate that emotion dysregulation collectively explained 50% of variance in mother's depression with a significant F ratio (F = 179, **p<.001**). Results indicate that emotion dysregulation is the strong positive predictor of depression in mother with B = .14, β = .70, **p<.001**. It shows that with increases in each one unit of emotional dysregulation equivalent to an increase of .14 units in mother depression. For anxiety, Findings indicate that emotion dysregulation collectively explained 44% of variance in mother's anxiety with a significant F ratio (F = 140, **p<.001**). Results indicate that emotion dysregulation is the strong positive predictor of anxiety in mother with B = .13, β = .66, **p<.001**. It shows that with increases in each one unit of emotion dysregulation equivalent to an increase of .14 units in mother anxiety. For stress, Findings indicate that emotion dysregulation collectively explained 38% of variance in

mother's stress with a significant F ratio (F = 111, **p<.001**). Results indicate that emotion dysregulation is the strong positive predictor of stress in mother with B = .12, β = .62, **p<.001**. It shows that with increases in each one unit of emotion dysregulation equivalent to an increase of .12 units in mother stress.

Table 4.7

Simple Mediation of the effect of parenting stress on psychological distress by emotion dysregulation (N =180)

		Psychological Distress		
Predictor	Model 1	Model 2	95% CL	
	B	B	LL	UL
Constant	-10.52 ***	-23.90 ***	-29.55	-18.2
Parenting stress	.72 ***	.42 ***	.30	.54
Emotion Dysregulation		.28 ***	.21	.34
Indirect effect PS → ED → PD		.30	.21	.41
R^2	.44	.61		
ΔR^2		.17		
F	144.4 ***	141.11 ***		
ΔF		3.3		

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

Note. B= Unstandardized coefficients; LL=Lower limit; UL=Upper Limit; PS=parenting stress, ED= emotion dysregulation, PD= psychological distress.

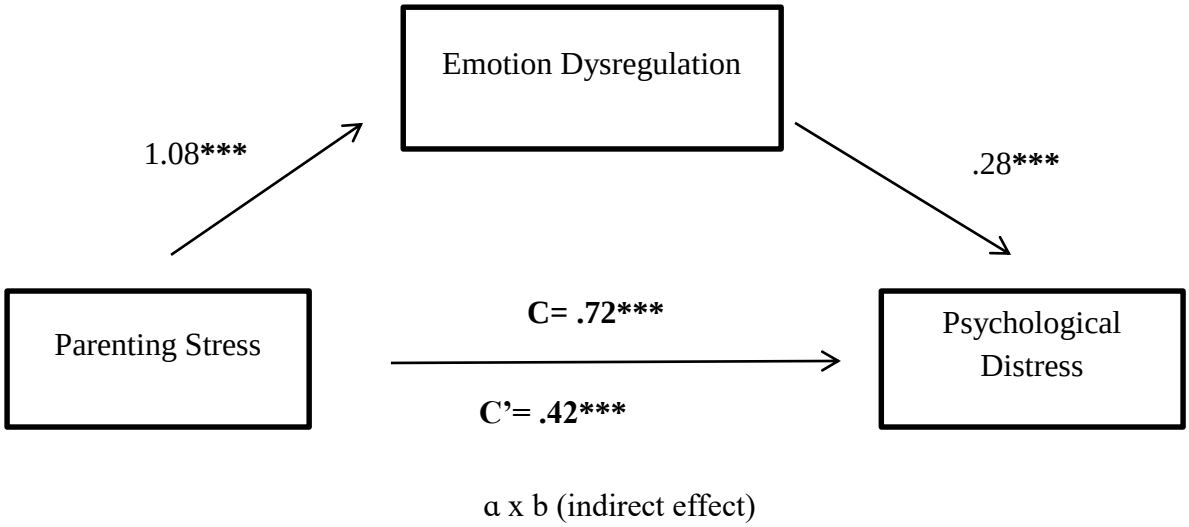


Figure 4.1 Mediation of the effect of parenting stress on psychological distress by emotion dysregulation

In Table 4.7 mediation analyses was done to examine the mediating role of emotion dys-regulation between parenting stress and psychological distress. Overall impact of the model is significant with b=.72, t= 12.01, and CI is [.60, .84], p<. 001.A statistically significant direct effect was observed with b= .42, t= 6.87, and CI is [.30, .54], p<.001. Notable indirect impact was also observed with, b =.30, and CI [.21, .41]. These results indicate that emotion dysregulation mediate the association between parenting stress and psychological distress.

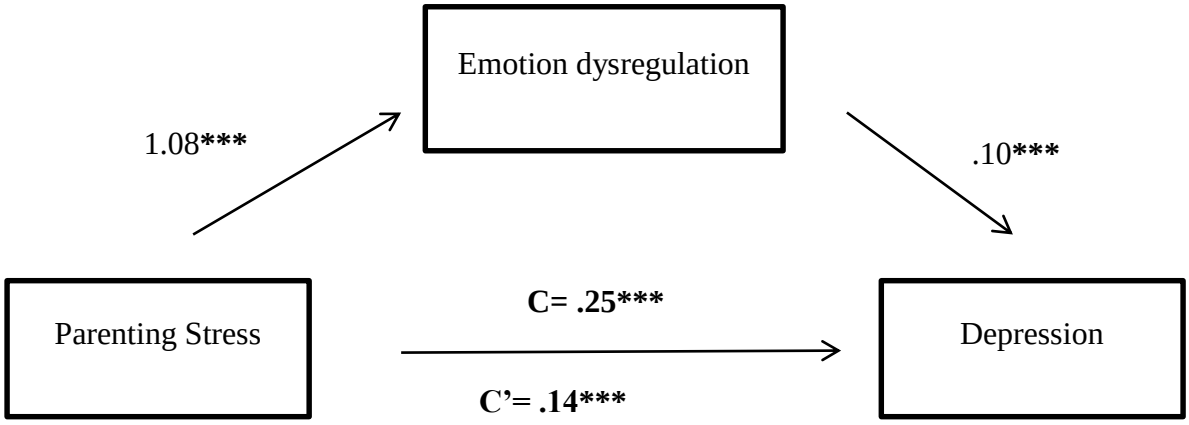
Table 4.8

Simple Mediation of the effect of parenting stress on depression by emotion dysregulation (N =180)

		Depression		
Predictor	Model 1	Model 2	95% CL	
	B	B	LL	UL
Constant	-4.97***	-9.93***	-12.0	-7.80
Parenting stress	.25***	.14***	.09	.19
Emotion Dysregulation		.10***	.08	.12
Indirect effect PS → ED → Dep		.11	.07	.15
R^2	.42	.59		
ΔR^2		.17		
F	129.22***	128.33***		
ΔF		.89		

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

Note. B= Unstandardized coefficients; LL=Lower limit; UL=Upper Limit; PS= Parenting stress, ED= emotional dysregulation, Dep= depression.



α x b (indirect effect)

Figure 4.2 Mediation of the effect of parenting stress on depression by emotion dysregulation

In Table 4.8 mediation analyses was done to examine the mediating role of emotion dysregulation between parenting stress and depression. Overall impact of the model is significant with b=.25, t= 11.36, and CI is [.21, .30], p<. 001.A statistically significant direct effect was observed with b= .14, t= 6.26, and CI is [.09, .19], p<.001. Notable indirect impact was also observed with, b =.11, and CI [.07, .15]. These results indicate that emotion dysregulation mediate the association between parenting stress and depression.

Table 4.9

Simple Mediation of the effect of parenting stress on anxiety by emotion dysregulation (N =180)

		Anxiety		
Predictor	Model 1	Model 2	95% CL	
	B	B	LL	UL
Constant	-3.94***	-8.51***	-10.77	-6.25
Parenting stress	.23***	.13***	.08	.18
Emotion Dysregulation		.09***	.07	.12
Indirect effect PS → ED → anxiety		.10		
R^2	.36	.51		
ΔR^2		.15		
F	102.90***	95.26***		
ΔF		7.64		

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

Note. B= Unstandardized coefficients; LL=Lower limit; UL=Upper Limit; PS= Parenting stress, ED= emotional dysregulation.

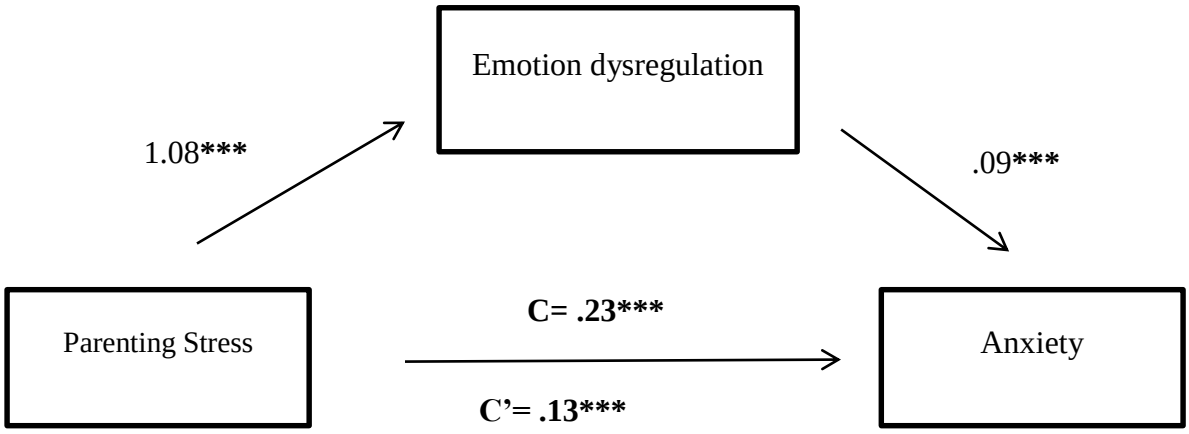


Figure 4.3 Mediation of the effect of parenting stress on anxiety by emotion dysregulation

In Table 4.9 mediation analyses was done to examine the mediating role of emotion dysregulation between parenting stress and Anxiety. Overall impact of the model is significant with b=.23, t= 10.14, and CI is [.18, .28], p<. 001.A statistically significant direct effect was observed with b= .13, t= 5.33, and CI is [.08, .18], p<.001. Notable indirect impact was also observed with, b =.10, and CI [.06, .14]. These results indicate that emotion dysregulation mediate the association between parenting stress and Anxiety.

Table 4.10

Simple Mediation of the effect of parenting stress on stress by emotion dysregulation (N =180)

		Stress		
Predictor	Model 1	Model 2	95% CL	
	B	B	LL	UL
Constant	-1.06***	-5.44***	-7.76	-3.13
Parenting stress	.23***	.14***	.09	.19
Emotion Dysregulation		.08***	.05	.10
Indirect effect PS → ED → stress		.08		
R^2	.37	.48		
ΔR^2		.11		
F	105.85***	82.88***		
ΔF		22.97		

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

Note. B= Unstandardized coefficients; LL=Lower limit; UL=Upper Limit; PS= Parenting stress, ED= emotion dysregulation.

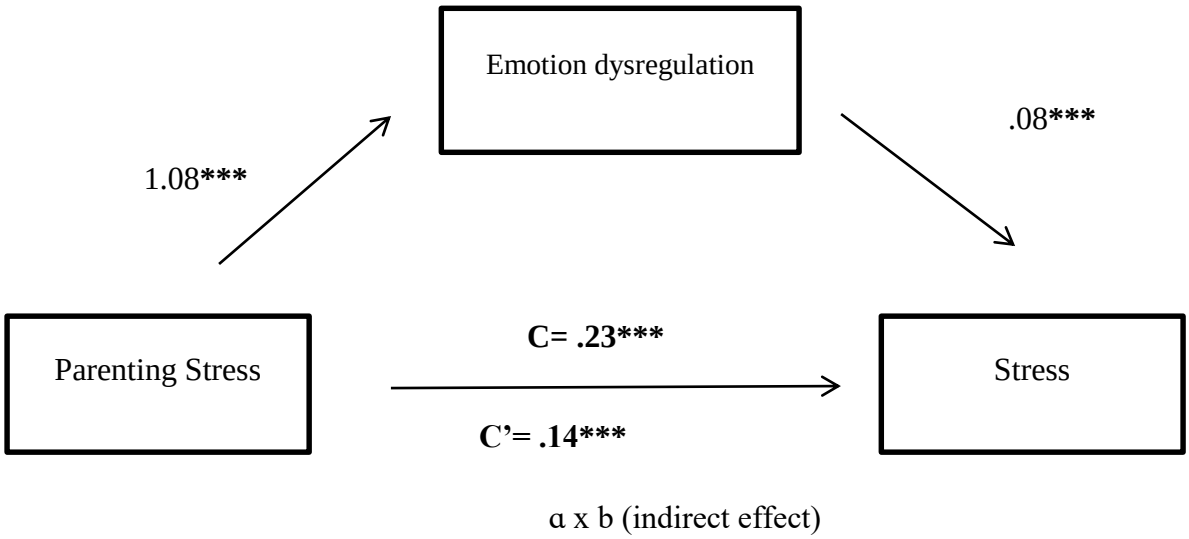


Figure 4.4 Mediation of the effect of parenting stress on stress by emotion dysregulation

In Table 4.10 mediation analyses was done to examine the mediating role of emotion dysregulation between parenting stress and stress. Overall impact of the model is significant with b=.23, t= 10.28, and CI is [.18, .27], p<. 001.A statistically significant direct effect was observed with b= .14, t= 5.83, and CI is [.09, .19], p<.001. Notable indirect impact was also observed with, b =.08, and CI [.54, .12]. These results indicate that emotion dysregulation mediate the association between parenting stress and stress.

Table 4.11

Simple Mediation of the effect of parenting stress on psychological distress by Non Acceptance (N =180)

		Psychological Distress		
Predictor	Model 1	Model 2	95% CL	
	B	B	LL	UL
Constant	-10.52***	-14.58***	-19.89	-9.27
Parenting stress	.72***	.53***	.40	.65
Non acceptance		.91***	.62	1.19
Indirect effect PS → Non A → PD		.19***	.11	.30
R^2	.44	.55		
ΔR^2		.11		
F	144.40***	108.95***		
ΔF		35.45		

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

Note. B= Unstandardized coefficients; LL=Lower limit; UL=Upper Limit; PS= Parenting stress, Non A= non acceptance, PD= psychological Distress

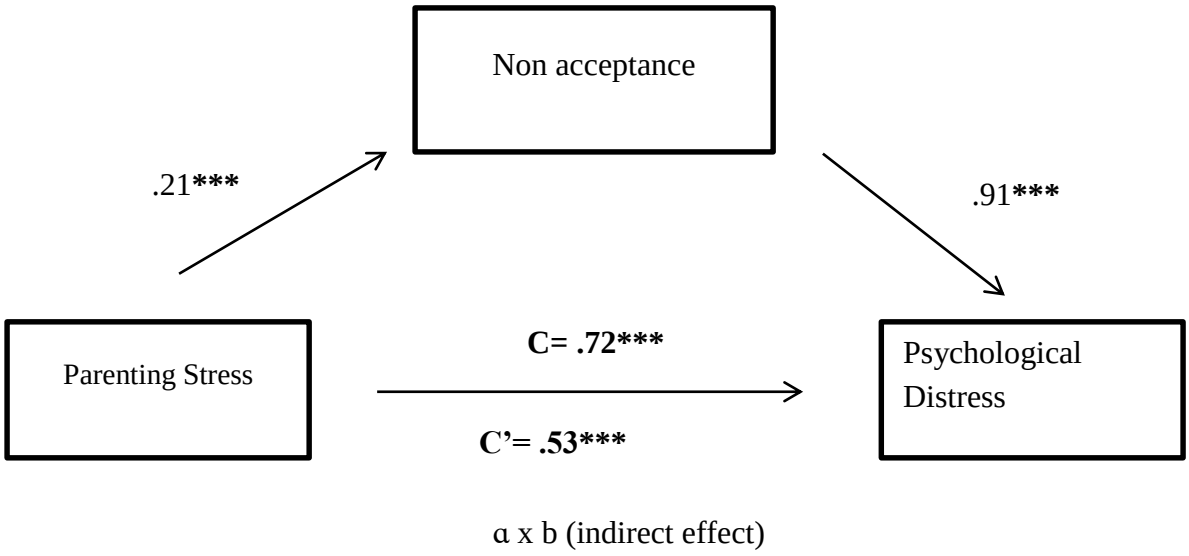


Figure 4.5 Mediation of the effect of Parenting Stress on Psychological Distress by Non-Acceptance

In Table 4.11 mediation analyses was done to examine the mediating role of Non Acceptance between parenting stress and psychological distress. Overall impact of the model is significant with b=.72, t= 12.01, and CI is [.60, .84], p<. 001.A statistically significant direct effect was observed with b= .53, t= 8.47, and CI is [.40, .65], p<.001. Notable indirect impact was also observed with, b =.19, and CI [.11, .30]. These results indicate that Non Acceptance mediate the association between parenting stress and psychological distress.

Table 4.12

Simple Mediation of the effect of parenting stress on psychological distress by difficulty engaging goal directed behavior. (N =180)

		Psychological Distress		
Predictor	Model 1	Model 2	95% CL	
	B	B	LL	UL
Constant	-10.52***	-16.08***	-22.75	-9.42
Parenting stress	.72***	.65***	.52	.78
Non acceptance		.59***	.20	.98
Indirect effect PS → DEGDB → PD		.07***	.01	.14
R^2	.44	.47		
ΔR^2		.03		
F	144.40***	80.03***		
ΔF		64.37		

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

Note. B= Unstandardized coefficients; LL=Lower limit; UL=Upper Limit; PS= Parenting stress, DEGDB=Difficulty in Goal Directed Behavior, PD= psychological Distress

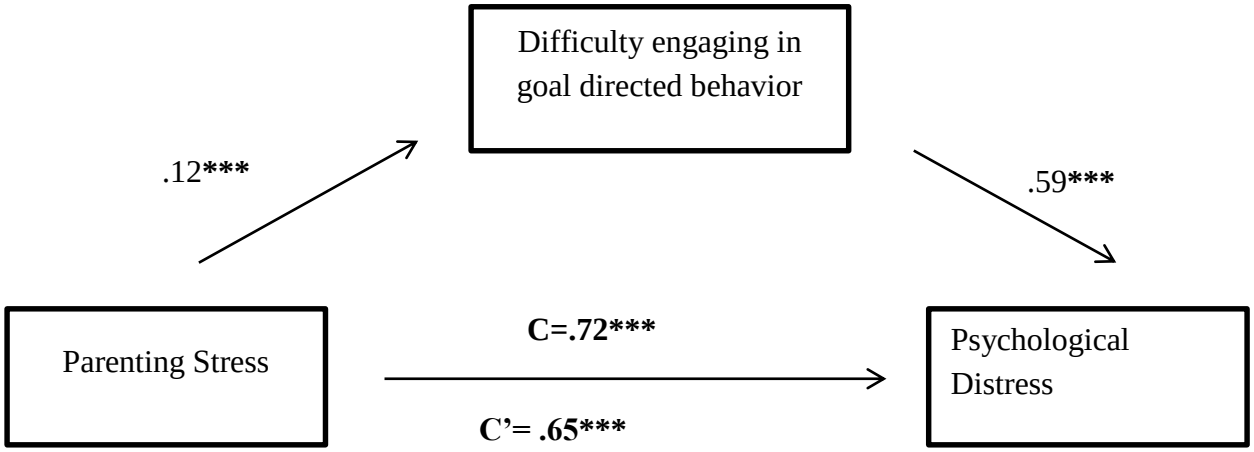


Figure 4.6 Mediation of the effect of Parenting Stress on Psychological Distress by Difficulty Engaging in Goal Directed Behavior

In Table 4.12 mediation analyses was done to examine the mediating role of difficulty engaging goal directed behavior between parenting stress and psychological distress. Overall impact of the model is significant with b=.72, t= 12.01, and CI is [.60, .84], p<. 001.A statistically significant direct effect was observed with b= .65, t= 10.15, and CI is [.52, .78], p<.001. Notable indirect impact was also observed with, b =.07, and CI [.01, .14]. These results indicate that difficulty engaging goal directed behavior mediate the association between parenting stress and psychological distress.

Table 4.13

Simple Mediation of the effect of parenting stress on psychological distress by impulse control behavior (N =180)

		Psychological Distress		
Predictor	Model 1	Model 2	95% CL	
	B	B	LL	UL
Constant	-10.52***	-14.98***	-19.57	-10.40
Parenting stress	.72***	.43***	.32	.54
Impulse control behavior		1.30***	1.05	1.54
Indirect effect PS → ICB → PD		.28***	.19	.38
R^2	.44	.65		
ΔR^2		.21		
F	144.40***	170.06***		
ΔF		25.66		

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

Note. B= Unstandardized coefficients; LL=Lower limit; UL=Upper Limit; PS= Parenting stress, ICB= impulse control behavior, PD= psychological Distress

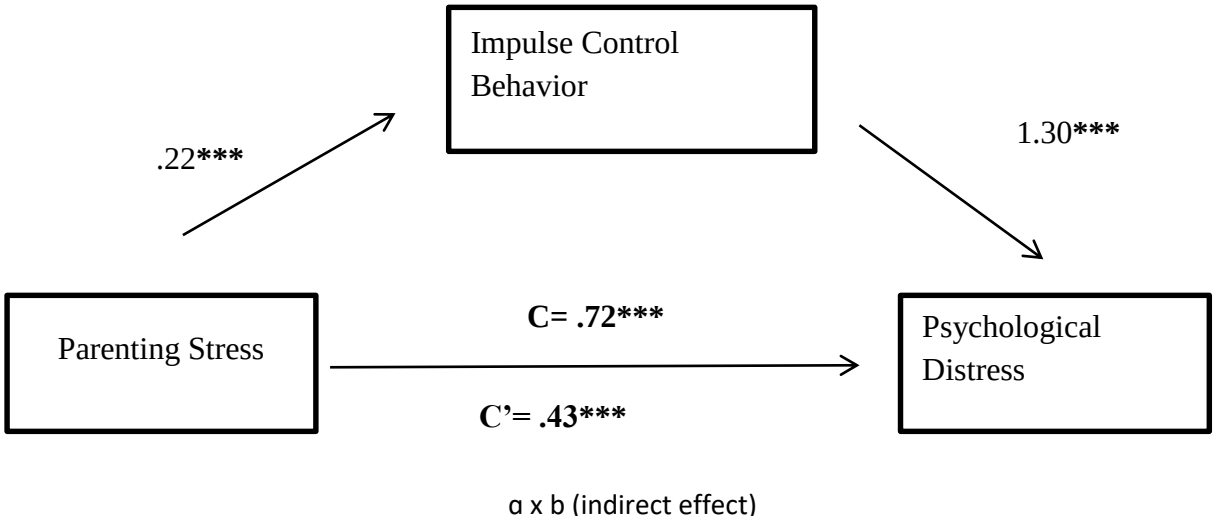


Figure 4.7 Mediation of the effect of parenting stress on psychological distress by Impulse Control Behavior

In Table 4.13 mediation analyses was done to examine the mediating role of impulse control behavior between parenting stress and psychological distress. Overall impact of the model is significant with b=.72, t= 12.01, and CI is [.60, .84], p<. 001.A statistically significant direct effect was observed with b= .43, t= 7.92, and CI is [.32, .54], p<.001. Notable indirect impact was also observed with, b =.28, and CI [.19, .38]. These results indicate that impulse control behavior mediate the association between parenting stress and psychological distress.

Table 4.14

Simple Mediation of the effect of parenting stress on psychological distress by Lack of emotional Regulation Strategy (N =180)

		Psychological Distress		
Predictor	Model 1	Model 2	95% CL	
	B	B	LL	UL
Constant	-10.52***	-21.43***	-26.63	-16.22
Parenting stress	.72***	.46***	.35	.57
Lack of emotional Regulation Strategy		1.06***	.83	1.28
Indirect effect PS → LERS → PD		.26	.18	.35
R^2	.44	.63		
ΔR^2		.19		
F	144.40***	151.77***		
ΔF		7.37		

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

Note. B= Unstandardized coefficients; LL=Lower limit; UL=Upper Limit; PS= Parenting stress, LERS= Lack of emotional Regulation Strategy, PD= psychological Distress

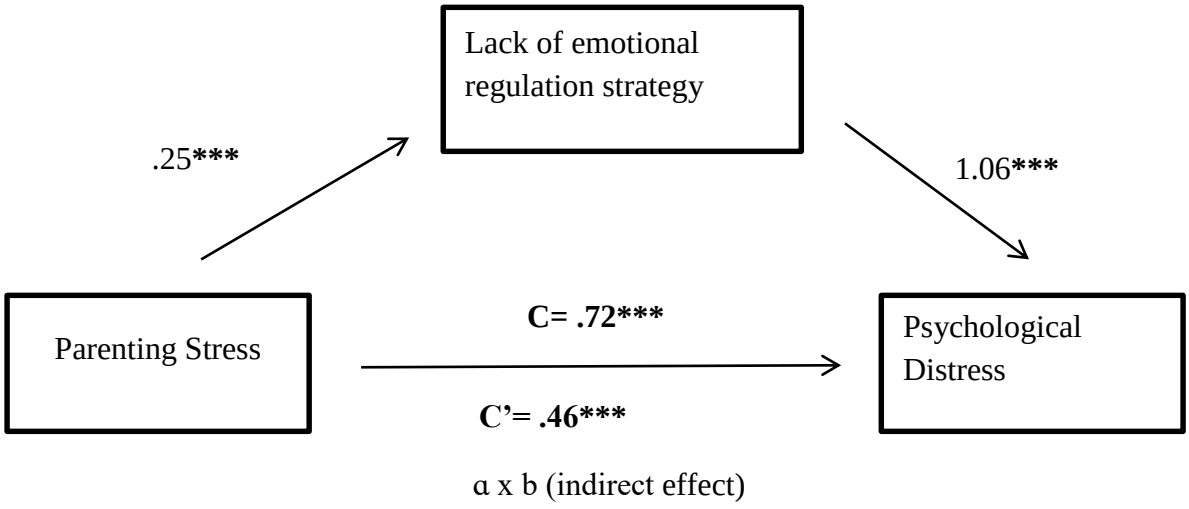


Figure 4.8 Mediation of the effect of parenting stress on psychological distress by Lack of emotional regulation strategy

In Table 4.14 mediation analyses was done to examine the mediating role of lack of emotional regulation strategy between parenting stress and psychological distress. Overall impact of the model is significant with b=.72, t= 12.01, and CI is [.60, .84], p<. 001.A statistically significant direct effect was observed with b= .46, t= 8.10, and CI is [.35, .57], p<.001. Notable indirect impact was also observed with, b =.26, and CI [.18, .35]. These results indicate that lack of emotional regulation strategy mediate the association between parenting stress and psychological distress.

Table 4.15

Simple Mediation of the effect of parenting stress on psychological distress by Lack of emotional Regulation Strategy (N =180)

		Psychological Distress		
Predictor	Model 1	Model 2	95% CL	
	B	B	LL	UL
Constant	-10.52***	-16.23***	-22.14	-10.32
Parenting stress	.72***	.59***	.47	.72
Lack of emotional Clarity		.92***	.53	1.32
Indirect effect PS → LEC → PD		.13***	.06	.21
R^2	.44	.50		
ΔR^2				
F	144.40***	91.62***		
ΔF				

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

Note. B= Unstandardized coefficients; LL=Lower limit; UL=Upper Limit; PS= Parenting stress, LEC= Lack of emotional Clarity, PD= psychological Distress

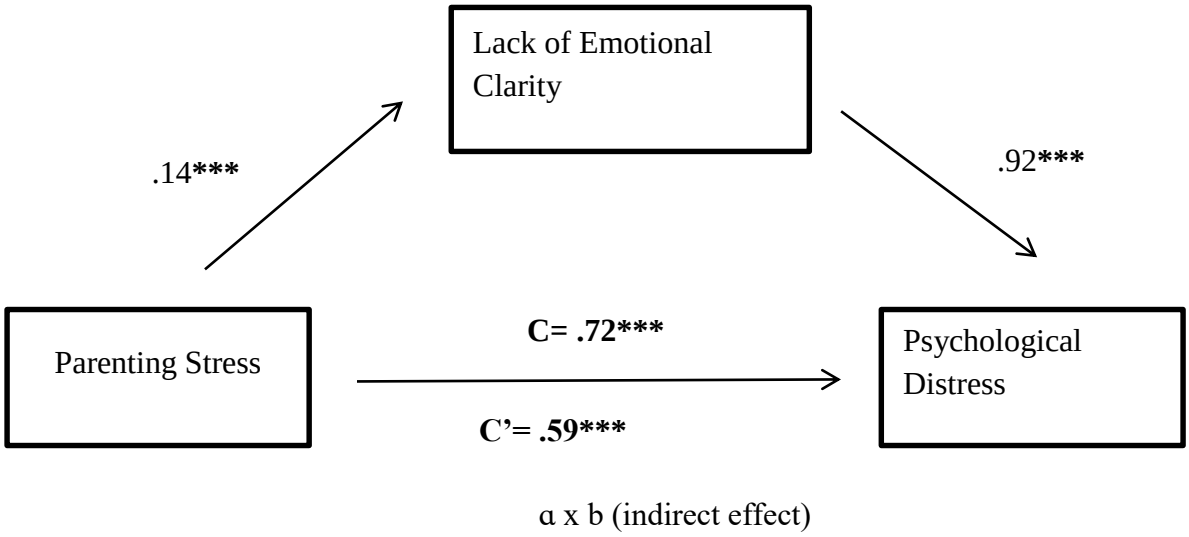


Figure 4.9 Mediation of the effect of parenting stress on psychological distress by Lack of Emotional Clarity

In Table 4.15 mediation analyses was done to examine the mediating role of lack of emotional clarity between parenting stress and psychological distress. Overall impact of the model is significant with b=.72, t= 12.01, and CI is [.60, .84], p<. 001.A statistically significant direct effect was observed with b= .59, t= 9.33, and CI is [.47, .72], p<.001. Notable indirect impact was also observed with, b =.13, and CI [.06, .21]. These results indicate that lack of emotional clarity mediate the association between parenting stress and psychological distress.

Table 4.16

Moderation of the effect of parenting stress on psychological Distress by Spousal Support among mother (180)

Predictor	Psychological Distress			
			95% CI	
	B	T	LL	UL
Constant	22.92	33.83***	21.59	24.26
Parenting Stress	.68	11.78***	.57	.80
Spousal Support (Moderator)	-.19	-4.93***	-.26	.11
Parenting stress x Spousal Support	-.01	-2.11**	-.01	-.00
R^2	.51***			
ΔR^2	.01**			
F	62.99***			
ΔF	4.48**			

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

Note. B= Unstandardized coefficients; LL = Lower limit; UL = Upper Limit

A moderation analyses was performed, with parenting stress as predictor, psychological distress in mother as the dependent and spousal support as a moderator. A significant main effect found between parenting stress and psychological distress, with b = .68, Bca CI [.57, .80], and t= 11.78, p <.001, and significant main effect of spousal support on psychological distress, b= .19, Bca CI [-.26, .11], t= -4.93, p <.001. There was a significant interaction found by spousal support on parenting stress and psychological distress, b= -.00, Bca CI [.01, -.00], t= -2.11, p <.01. Result indicates that effect of parenting stress on psychological distress is moderated by spousal support.

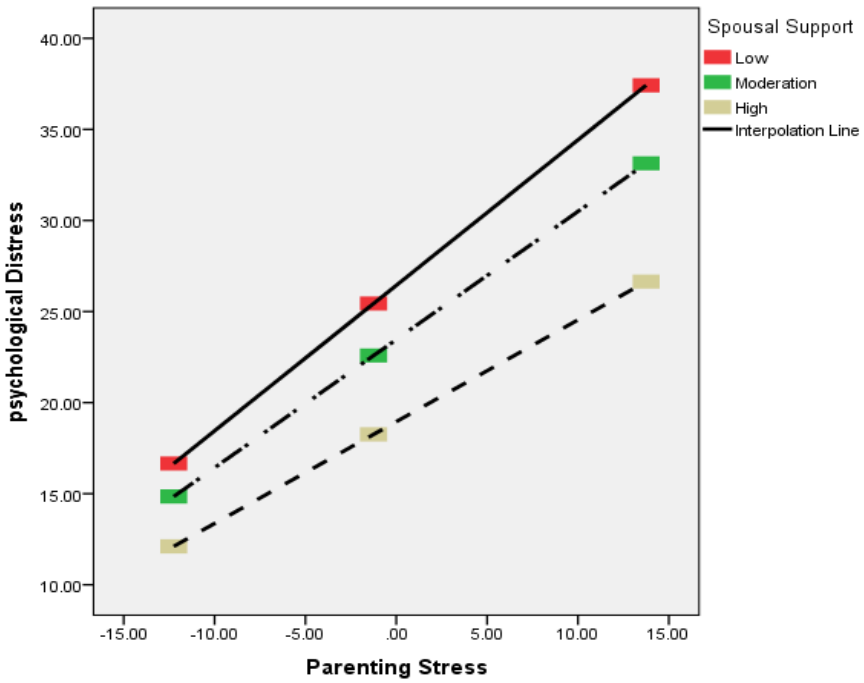


Figure 4.10 Moderation of the effect of parenting stress and psychological distress by spousal support among mothers of neurodevelopmental disorder

In Moderation graph, comparing the slope of three lines. The steepest slope (strong positive association) occurs for mother who experience high spousal support. While, flattest slope occurs (week association) for mother who experience who report low spousal support. Graph shows that spousal support moderate the relationship between parenting stress and psychological distress which means that effect of parenting stress is reduced on psychological distress due to spousal support.

Table 4.17

Moderation of the effect of parenting stress on depression by Spousal Support among mother (180)

Predictor	Depression			
			95% CI	
	B	T	LL	UL
Constant	9.15	35.32***	8.64	9.66
Parenting Stress	.22	9.98***	.17	.26
Spousal support (Moderator)	-.06	-4.14***	-.09	-.03
Parenting stress x spousal Suport	-.00	-2.24*	-.00	-.00
R^2	.43***			
ΔR^2	.01*			
F	45.04***			
ΔF	5.05*			

**** p<.001, **p<.0*

Note. B= Unstandardized coefficients; LL = Lower limit; UL = Upper Limit

A moderation analyses was performed, with parenting stress as predictor, depression in mother as the dependent and spousal support as a moderator. A significant main effect found between parenting stress and depression, with b = .22, Bca CI [.17, 26], and t= 9.98, p <.001 and significant main effect of spousal support on depression, with b= -.06, Bca CI [-.09, -.03], and t= -4.14, p <.001. There was a significant interaction found by in spousal support on parenting stress and depression, b= -.00, Bca CI [.00, -.00], t= -2.24, p <.01. Result indicates that the effect of parenting stress on depression is moderated by spousal support.

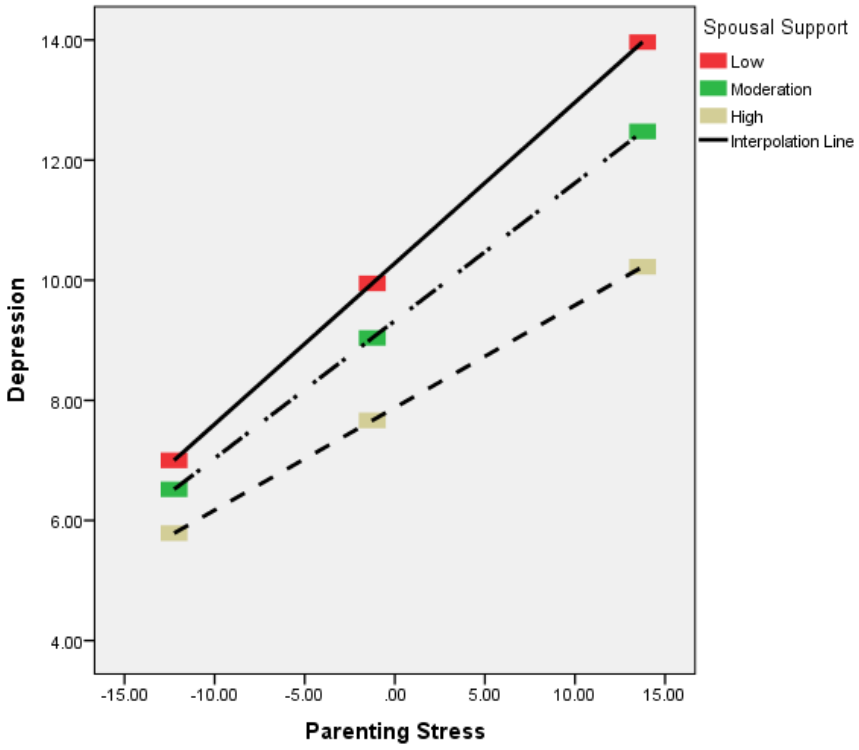


Figure 4.11 Moderation of the effect of parenting stress and depression by spousal support among mothers of neurodevelopmental disorder

In Moderation graph, comparing the slope of three lines. The steepest slope (strong positive association) occurs for mother who experience high spousal support. While, flattest slope occurs (week association) for mother who experience who report low spousal support. Graph shows that spousal support moderate the relationship between parenting stress and depression which means that effect of parenting stress is reduced on depression due to spousal support.

Table 4.18

Moderation of the effect of parenting stress on psychological Distress by emotional Spousal Support among mother (180)

Predictor	Psychological Distress			
			95% CI	
	B	T	LL	UL
Constant	22.79	34.25***	21.48	24.10
Parenting Stress	.67	11.76***	.55	.78
Emotional support (Moderator)	-.57	-5.82***	-.77	-.38
Parenting stress x emotional Support	-.02	-2.79**	-.03	-.00
R^2	.54			
ΔR^2	.02			
F	69.15***			
ΔF	7.81***			

**** p<.001, **p<.0*

Note. B= Unstandardized coefficients; LL = Lower limit; UL = Upper Limit

A moderation analyses was performed, with parenting stress as predictor, psychological distress in mother as the dependent and emotional spousal support as a moderator. A significant main effect found between parenting stress and psychological distress, with b = .67, Bca CI [.55, 78], and t= 11.76, p <.001 and significant main effect of emotional spousal support on psychological distress, with b= -.57, Bca CI [-.77, -.38], and t= -5.82, p <.001. There was a significant interaction found by in emotional spousal support on parenting stress and psychological distress, b= -.02, Bca CI [.03, -.00], t= -2.79, p <.01. Result indicates that the effect of parenting stress on psychological distress is moderated by emotional spousal support.

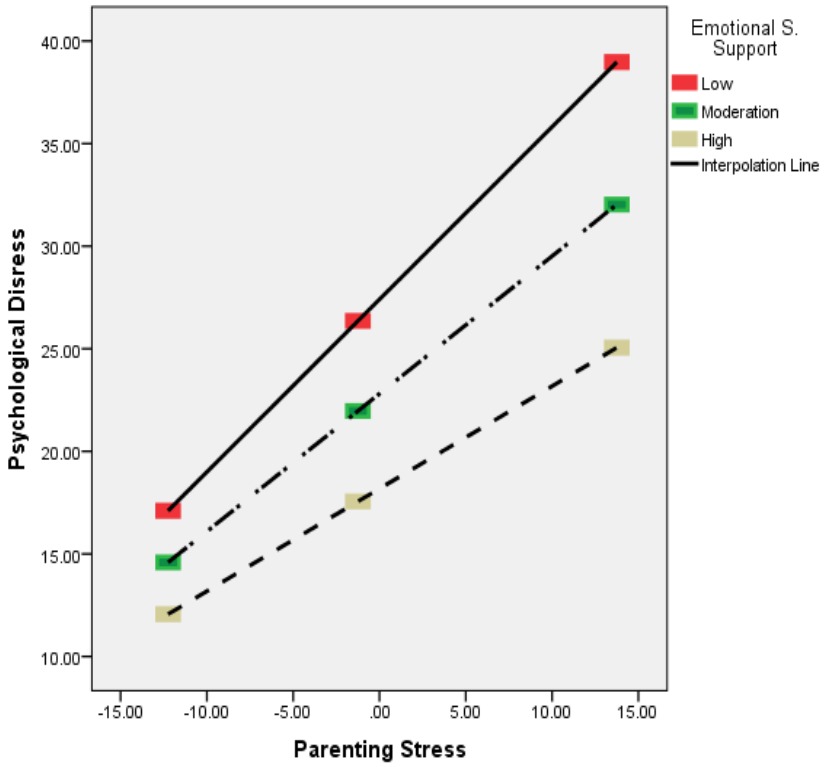


Figure 4.12 Moderation of the effect of parenting stress and psychological distress by emotional spousal support among mothers of neurodevelopmental disorder

In Moderation graph, comparing the slope of three lines. The steepest slope (strong positive association) occurs for mother who experience high spousal support. While, flattest slope occurs (week association) for mother who experience who report low emotional spousal support. Graph shows that emotional spousal support moderate the relationship between parenting stress and psychological distress which means that effect of parenting stress is reduced on psychological distress due to emotional spousal support.

Table 4.19

Difference among child gender groups on study variables (parenting stress, psychological distress and emotional dysregulation) (N=180)

	Male Child (102)		Female Child (78)				95%CL		
Variables	M	SD	M	SD	t(178)	P	LL	UL	Cohens'd
Parenting Stress	48.49	11.64	43.32	11.23	2.99	.003	1.75	8.58	0.45
Psychological Distress	25.56	12.77	20.05	12.18	2.92	.004	1.79	9.23	0.44
Depression	7.65	4.74	6.07	4.46	2.27	.024	.20	2.95	.34
Anxiety	7.86	4.35	5.75	4.60	3.13	.002	.78	3.43	.47
Stress	10.04	4.64	8.21	4.14	2.74	.007	.51	3.14	.41
Emotional dysregulation	100.89	21.44	92.64	22.93	2.48	.01	1.69	14.81	.37

Table shows the difference among male and female child on parenting stress, psychological distress and its subscales (depression, anxiety and stress), and emotional dysregulation. The results show significant difference for parenting stress, psychological distress and emotional dysregulation in mothers of male and female child.

Table 4.20

Difference among socio economic status groups on study variables (N=180)

	Lower Class(40)		Middle class (140)				95%CL		
Variables	M	SD	M	SD	t(178)	P	LL	UL	Cohens'd
Parenting Stress	49.07	11.47	45.44	11.73	1.75	.05	.49	7.76	.31
Psychological Distress	28.35	13.34	21.70	12.27	2.96	.00	2.22	11.07	0.51
Depression	7.85	5.13	6.72	4.52	1.34	.17	-.52	2.78	--
Anxiety	9.32	4.67	6.27	4.32	3.86	.00	1.49	4.61	.67
Stress	11.17	4.69	8.70	4.32	3.12	.00	.90	4.02	.54
ED	103.45	24.13	95.56	21.67	1.97	.05	.01	15.75	.34

Note: ED= emotional Dysregulation

Table shows the difference among socio economic status of mother on parenting stress, psychological distress and its subscales (depression, anxiety and stress), and emotional dysregulation. The results show significant difference for parenting stress, psychological distress and emotional dysregulation in mothers of lower class and middle class.

Table 4.21

Difference among child Disorder on study variable (N=180)

	Autism(81)		ADHD(40)		Intellectual Disability(35)		Down Syndrome(24)				
Variables	M	SD	M	SD	M	SD	M	SD	F	P	ηp2
PS	50.93	10.63	46.32	9.61	41.82	12.58	36.75	9.35	13.54	.00	0.18
PD	26.81	12.53	22.07	10.53	20.57	14.15	16.54	11.70	5.27	.002	0.08
Depression	8.20	4.87	6.32	3.80	6.25	4.63	4.91	4.47	4.17	.007	0.06
Anxiety	8.18	4.32	6.72	3.44	5.74	5.53	4.91	4.49	4.67	.004	0.07
Stress	10.41	4.32	9.02	4.08	8.57	4.90	6.70	4.15	4.95	.003	0.07
ED	102.17	21.03	96.52	21.83	92.28	24.48	89.58	22.20	2.91	.036	0.04

df =3,176 Note: PS=Parenting Stress, PD= Psychological distress, ED= emotional dysregulation,

The study attempted ANOVA in order to compare means of parenting stress in the categories of disorder. ANOVA test shows significant difference in all groups. Parents of Autistic child have highest mean on parenting stress, psychological distress and its subscale (depression, anxiety and stress) and emotional dysregulation as compare to ADHD, ID and Down syndrome.

Post Hoc

Variables	(I) Name of Disorder	(J) Name of Disorder	M Difference (I-J)	S.E	Sig.	95% CI LL	95% CI UL
PS	ASD	ADHD	1>2	2.06	.027	.54	8.68
		DS	1>3	2.48	.000	9.29	19.08
		ID	1>4	2.15	.000	4.84	13.37
	ADHD	DS	2>3	2.75	.001	4.13	15.01
PD	ASD	ADHD	1>2	2.38	.049	.02	9.45
		DS	1>3	2.87	.000	4.60	15.93
		ID	1>4	2.49	.013	1.31	11.17
ED	ASD	DS	1>3	5.12	.015	2.46	22.71
		ID	1>4	4.46	.028	1.07	18.69
Depression	ASD	ADHD	1>2	.88	.034	.14	3.62
		DS	1>3	1.05	.002	1.20	5.38
		ID	1>4	.92	.036	.13	3.77
Anxiety	ASD	ADHD	1>2	.85	.090	-.23	3.15
		DS	1>3	1.03	.002	1.23	5.30
		ID	1>4	.89	.007	.67	4.21
Stress	ASD	DS	1>3	1.01	.000	1.70	5.71
		ID	1>4	.88	.038	.10	3.59

	ADHD	DS	2>3	1.12	.042	.08	4.54

Note: ASD= Autism Spectrum disorder, ID= intellectual disability, ADHD= Attention deficit hyper activity disorder, DS= Down syndrome, PS= Parenting stress, PD= Psychological Distress, ED = emotional dysregulation

Table 4.22

Difference among mother education groups on study variable (N=180)

	Primary(25)		Matric(27)		Inter (45)		Graduate(51)		P-Graduate(32)				
Variables	M	SD	M	SD	M	SD	M	SD	M	SD	F	p	ηp2
P.S	41.92	9.15	48.18	11.7	46.75	11.72	46.94	13.52	46.18	11.73	1.10	.35	
P.D	22.40	11.58	26.74	12.80	22.74	14.78	22.37	12.80	22.53	10.73	.62	.64	
Depression	6.22	3.41	7.77	4.61	6.91	5.22	7.13	5.34	6.71	3.68	.40	.80	
Anxiety	6.68	4.77	8.44	4.75	7.24	5.00	6.29	4.06	6.53	4.34	1.12	.34	
Stress	9.52	4.26	10.51	4.52	8.68	5.14	8.94	4.36	9.28	4.00	.78	.53	
E.D	96.00	18.06	100.7	21.80	93.44	23.76	100.0	24.42	96.50	20.99	.71	.58	
S.S	52.76	16.72	54.33	15.35	58.82	19.38	62.35	18.38	58.71	17.58	1.60	.17	

df 4,175 Note: P. S= Parenting stress P. D = psychological distress, E. D= emotional dysregulation, S. S= Spousal Support

The study attempted ANOVA in order to compare means of parenting stress, psychological distress (depression anxiety, stress), emotional dysregulation and spousal support with respect to mother educational level. Results indicate that there is no significant difference in parenting stress, psychological distress, emotional dysregulation and spousal support among different educational level of mothers.

Table 4.23

Difference among no of children with neurodevelopmental disorder groups on study variables (N=180)

	1 Child with NDD		2 Childs with NDD		3 Childs with NDD				
Variables	M	SD	M	SD	M	SD	F	P	ηp2
P.S	45.80	11.54	45.64	11.04	62.60	11.92	5.22	.006	0.05
P.D	22.53	12.39	23.28	12.76	41.40	13.44	5.52	.005	0.05
Depression	6.83	4.57	6.75	4.54	12.20	6.41	3.29	.039	0.03
Anxiety	6.76	4.55	6.85	4.21	13.00	3.53	4.69	.010	0.05
Stress	8.93	4.25	9.67	4.94	16.20	4.43	6.81	.001	0.07
E.D	96.14	22.21	100.00	22.31	116.60	23.67	2.28	.105	

df= 2,177 Note: P. S= Parenting stress P. D = psychological distress, E. D= emotional dysregulation,

The study attempted ANOVA in order to compare means of parenting stress, psychological distress (depression anxiety, stress), and emotional dysregulation with respect to number of children with disability. Results show that there is no significant difference in parenting stress, psychological distress, emotional dysregulation and spousal support among mother of one and two children with neurodevelopmental disorder while, there is significant difference among mother who have more than 2 children with neurodevelopmental disorder.

Post hoc

Dependent Variable	(I) no of child with NDD	(J) no of child with NDD	Mean Difference (I-J)	S.E	Sig.	95% CL LL	95% CL UL
Parenting stress	1	3>1	-16.79	5.21	.00	-27.08	-6.49
	2	3>2	-16.95	5.57	.00	-27.95	-5.96
	3	3>1	16.79	5.21	.00	6.49	27.08
		3>2	16.95	5.57	.00	5.96	27.95
Psychological distress	1	3>1	-18.86	5.67	.00	-30.05	-7.66
	2	3>2	-18.11	6.05	.00	-30.06	-6.16
	3	3>1	18.86	5.67	.00	7.66	30.05
		3>2	18.11	6.05	.00	6.16	30.06
Depression	1	3>1	-5.36	2.10	.01	-9.50	-1.21
	2	3>2	-5.45	2.24	.01	-9.87	-1.02
	3	3>1	5.36	2.10	.01	1.21	9.50
		3>2	5.45	2.24	.01	1.02	9.87
Anxiety	1	3>1	-6.23	2.03	.00	-10.25	-2.21
	2	3>2	-6.14	2.17	.00	-10.43	-1.85
	3	3>1	6.23	2.03	.00	2.21	10.25
		3>2	6.14	2.17	.00	1.85	10.43
Stress	1	3>1	-7.26	1.98	.00	-11.18	-3.33
	2	3>2	-6.52	2.12	.00	-10.71	-2.33

	3	3>1	7.26	1.98	.00	3.33	11.18
		3>2	6.52	2.12	.00	2.33	10.71

Chapter 5

5. DISCUSSION

This study was carried out with an aim to examine the impact of parenting stress on psychological distress in mother of children with neurodevelopmental disorder. This research focuses on how parenting related stress in mother leads to psychological distress. Previous studies also show a greater link between parenting stress and psychological distress (Turgeon *et al*., 2023; Estes *et al*., 2009; Estes *et al*., 2013). In addition, the current study focuses on the mediating role of emotional dysregulation and moderating role of spousal support. Furthermore, research aimed to explore the impact of different demographic characteristics of mother and child on study variables. The data was collected from different schools and clinics after the study got approved by NUML BASR. After getting permission from institute data was collected in two months (March-2024 to May- 2024). The people in the sample were between 23 and 60 years old. There were two components of the current investigation: a pilot study and the main study. The pilot study was made to see if the scales are appropriate, translated correctly, and fit well with the Pakistani culture. The pilot test included 50 mothers. The psychometric properties of the measuring scales indicate that the translated version is suitable for use with people in Pakistan. In second phase which consisted of main study hypothesis was tested. For the main study, 180 mothers were selected from different schools and clinics.

Psychometric Properties of the Research Variables

In present study parenting stress scale (berry, 1995), psychological distress scale (DASS-21) (Aslam, 24), Difficulty in emotion regulation (Gratz, 2004) and spousal support scale (Dorio, 2008) along with demographic sheet were used. The alpha coefficient was used to assess the

internal reliability of each scale. Cronbach alpha reliability of all scales as well as subscales was in acceptable range. In order to enable data analysis, descriptive statistics were obtained for the study variable, which includes means and frequencies of the mother's demographic details (age, gender, family system, education, number of children, and working status) and the traits of the child (age, gender, diagnosed disorder, and birth order). In order to investigate the impacts of parenting stress on psychological distress with mediating role of emotion dysregulation and moderating role of spousal support hypothesis were formulated.

Relationship between Variables of the Study

The main objective of the research was to investigate the relationship between parenting stress and psychological distress in mother of children with NDD therefore it was hypothesized that there is a positive correlation between parenting stress and psychological distress using previous literature. This hypothesis was accepted as the significant positive correlation shown between parenting stress and psychological distress (Estes *et al*., 2009; Estes *et al*., 2013). Results showed that high level of parenting stress can leads to psychological distress in mothers. These results are consisted with the previous researches.

This significant connection highlights numerous difficulties encountered by mothers of children with developmental disabilities. Parenting stress encompasses emotional, physical, and social challenges that arise from managing the child's special needs and coping with societal stigma. It can also lead to emotional overload, cognitive fatigue, and decreased self-care, ultimately contributing to psychological distress (depression, anxiety, stress). Parenting stress often exacerbate psychological distress, as mothers are required to manage caregiving

responsibilities with other aspects of their lives, leading to emotional exhaustion and mental health challenges (Nadeem *et al*., 2016; Nadeem *et al*., 2024).

Study also found a significant correlation between parenting stress, depression, anxiety and stress among mothers. This outcome aligns with the research findings of (Phetrasuwan & Shandor Miles, 2009; Yeo Kee Jiar & Xi, 2012). It is reported that mother of children with neurodevelopmental disorder experience elevated level of parenting stress, as with the increase of parenting stress, depression, anxiety and stress also increases (Dong, Dong, & Chen, 2022; Keenan *et al*., 2016). Depression in this context is likely driven by feelings of helplessness, fatigue, and social isolation, as mothers struggle to meet the demands of their child's condition. This finding align with previous studies suggesting that caregiving for children with developmental disorders significantly increases the risk of depressive symptoms among mothers (Mumtaz *et al*., 2022).

The significant association between parenting stress and anxiety reflects the anticipatory nature of caregiving stress. Anxiety in this population may stem from uncertainty about the child's future, and fear of judgment from society. Mothers may also experience hyper-vigilance and worry due to the unpredictable nature of their child's condition. Additionally, financial challenges, limited access to healthcare, and societal stigma surrounding disability in collectivist cultures like Pakistan exacerbate anxiety symptoms. For mothers in collectivist societies, anxiety may also be amplified by cultural expectations to meet familial and societal caregiving norms, increasing the psychological burden (Nadeem *et al*., 2024). The positive relationship between parenting stress and stress confirms that caregiving challenges directly contribute to physiological and emotional stress levels. Parenting stress encompasses both acute and chronic stressors, such as managing daily routines, financial pressures, and advocating for the child's needs within an inadequate healthcare system. This finding is consistent with Lazarus and Folkman's (1984) stress-coping

model, which posits that chronic stress, without adequate coping resources, contributes to psychological distress. Hastings *et al*. (2005) conclude that the families with children who have NDD can be affected by the mother's feelings. Mothers who experienced higher levels of stress related to parenting often reported depression and lower well-being in general. An increased level of parenting stress and psychological distress impact not only mother's health, but it also affects their child and family well-being. These findings concur with earlier research and confirm the adverse effect of taking care of children with disability on mother's mental health (Brekke & Andreea Ioana Alecu, 2023).

Another hypothesis is that there is positive association between parenting stress and emotion dysregulation. This hypothesis is accepted because it has been observed that there is a positive association between parenting stress and emotion dysregulation. Daily parenting duties and adapting to new responsibilities can make it challenging for parents to handle their emotions, particularly when faced with stress and difficult behavior from their children. The constant need for managing difficult behaviors, navigating healthcare systems, and ensuring that their child's developmental needs are met, can overwhelm mothers, leading to emotion dysregulation. This emotion dysregulation manifests as an inability to effectively manage emotions, resulting in more intense emotional reactions to everyday challenges. It is crucial to recognize that parenting stress, when prolonged, may compromise a mother's ability to cope with emotions, and this disruption can negatively impact both her psychological well-being and her relationship with child. (Crandall *et al.*, 2015).

The objective of the study was that there is positive relationship between emotion dysregulation and psychological distress. This hypothesis was also accepted because positive association was found in between emotion dysregulation and psychological distress. Studies show

that in our daily lives, emotion regulation is essential, particularly when it comes to parenting. Previous literature shows that emotion dysregulation not only effect mother physical and psychological health but also effect parenting behavior (Lotto *et al.,* 2024). Effective parenting involves regulating your emotions to support children's needs and teach them self-management skills for the future. Studies show that parents who have a hard time managing their emotions are often less friendly and angrier with their kids. They frequently employ negative parenting techniques and respond to their children's distress in counterproductive manners, such as minimizing their emotions or administering punishments (Barros *et al*., 2015).

Mediating Role of Emotion Dysregulation

The present study examined the hypothesis that "emotion dysregulation mediates the relationship between parenting stress and psychological distress in mothers". Our findings support this hypothesis, suggesting that emotion dysregulation plays a pivotal role in explaining how parenting stress leads to heightened levels of psychological distress. It means even though direct relationship is present between parenting stress and psychological distress, emotion dysregulation adds to the existing relation means parenting stress increase psychological distress in mothers but through emotion dysregulation its influence is more powerful. It was also seen that emotion dysregulation mediates the relationship between parenting stress and dimension of psychological distress like depression, anxiety and stress. Study of Carreras *et al.* (2019) prove this hypothesis as emotion dysregulation lead to distress in mothers. Parenting stress, often characterized by feelings of being overwhelmed or burdened by the demands of caregiving, has long been associated with adverse psychological outcomes. However, our findings underscore the importance of emotion dysregulation as a critical mediator in this relationship. Emotion dysregulation, defined as difficulties in managing and responding to emotional experiences

appropriately, appears to amplify the psychological burden of parenting stress. This suggests that parents who struggle with regulating their emotions may be more vulnerable to the effects of stress, leading to greater psychological distress. These results align with prior research indicating that emotional regulation is a key protective factor against psychological distress (Zitzmann *et al*., 2023). Studies have consistently shown that individuals with effective emotional regulation skills are better equipped to manage stress and maintain psychological well-being. Conversely, poor emotional regulation has been linked to a range of psychological issues, including anxiety, depression, and heightened stress reactivity (Balzarotti *et al.*, 2016). By highlighting the mediating role of emotion dysregulation, our study adds to this growing body of evidence and provides a more nuanced understanding of the processes that contribute to psychological distress in parents. These findings are also aligning with stress and emotion model which shows that emotion dysregulation mediate the relationship between stress and psychological distress (Compare *et al*., 2014). This study also examine the mediating role of dimensions of emotion dysregulation and findings shows that all the dimension mediates the relationship between parenting stress and psychological distress.

Moderating Role of Spousal Support

Study hypothesized that spousal support moderate the connection between parenting stress and psychological distress. Based on previous literature it was hypothesized that spousal support act as a moderator between parenting stress and psychological distress (Shireen *et al.,* 2024). The findings of this study indicate that spousal support plays a significant moderating role in the relationship between parenting stress and psychological distress among mothers of children with NDDs. This aligns with the Buffering Hypothesis of social support, which posits that supportive relationships can mitigate the adverse effects of stress on psychological health (Cohen & Wills,

1985). In the Pakistani context, where traditional family structures often emphasize the husband's role as a primary source of emotional and financial support, the significance of spousal support is magnified. Mothers in Pakistan frequently face substantial caregiving burdens due to limited public awareness and scarce resources for managing NDDs. Spousal support, therefore, acts as a critical factor that alleviates feelings of isolation, inadequacy, and overwhelm, leading to reduced psychological distress. Studies have shown that parents who experience high levels of spousal support typically report experiencing less psychological distress, even in the face of high parenting stress (Plumb, 2011). Moreover, spousal support can also enhance the degree to which parents believe in their own skills and possess self-worth, can aid in lessening the adverse effects of parenting stress on psychological distress. Additionally, a sense of belonging and social connection can be fostered via spousal support, which is critical for mental health and well-being. In contrast, lack of spousal support might intensify the adverse consequences of parenting stress on psychological distress. Parents who lack support from their partners may feel isolated, overwhelmed, and more vulnerable to stress (Jose *et al*., 2021). Results also shows that specifically emotional spousal support moderates the impact of "parenting stress on psychological distress" while the other type of support did not moderate this impact (Pottie *et al*., 2008).

Next hypothesis of the study is that spousal support moderates the relationship between parenting stress and depression. This hypothesis was also accepted; results shows that spousal support effectively reduces depressive symptoms in mothers experiencing parenting stress. The finding also aligns with the Buffering Hypothesis of social support, which emphasizes the role of social support in mitigating stressful life events (Cohen & Wills, 1985; Hartin, 2023). Spousal support in the form of emotional support appears to mitigate feelings of hopelessness often associated with depression. In the Pakistani cultural context, depression in mothers of children

with NDDs may stem from a combination of societal stigma, caregiving demands, and restricted access to mental health services. Spousal support likely offsets these challenges by enhancing the mother's sense of self-efficacy and reducing the burden of caregiving responsibilities. studies conducted previously have demonstrated that women who perceive their spouses as supportive exhibit lower levels of depressive symptoms compared to those who do not (Raikes & Thompson, 2005; Pinto *et al*., 2016).

Another hypothesis of the study is spousal support moderates the relationship between parenting stress and anxiety. Contrary to expectations, this hypothesis was rejected, indicating that spousal support does not significantly moderate the relationship between parenting stress and anxiety and stress in the studied population. This result could be attributed to the nature of anxiety, which is often characterized by excessive worry and hypervigilance about potential threats or uncertainties. In the context of raising a child with NDDs, mothers may experience persistent concerns about their child's future, health, and societal acceptance factors that spousal support alone may not adequately address (Neoh *et al.,* 2022). Additionally, cultural expectations in Pakistan may exacerbate anxiety rather than alleviate it. Mothers are often held primarily accountable for their child's development and well-being, leading to heightened pressure. Spousal support, while valuable, may not fully counteract the deeply ingrained societal attitudes that perpetuate maternal guilt and anxiety. Furthermore, studies have shown that anxiety disorders often require more specialized interventions, such as cognitive-behavioral therapy (CBT), to address the cognitive distortions and physiological arousal associated with anxiety (Curtiss *et al.*, 2021). The rejection of this hypothesis is consistent with some findings in the literature that suggest social support has a more pronounced effect on depression than on anxiety. For instance, Taylor *et al*. (2000) found that while spousal support reduced depressive symptoms, it had a limited

impact on anxiety, as anxiety often stems from broader uncertainties rather than immediate stressors.

The rejection of this hypothesis aligns with findings in the broader literature, which suggest that while social support can buffer some forms of stress, chronic stress rooted in environmental and societal factors requires systemic interventions (Cohen & Wills, 1985). In the Pakistani context, mothers of children with NDDs often face isolation due to stigma, coupled with inadequate governmental and community support systems. Consequently, even if spouses provide emotional support, the broader systemic stressors may persist, diminishing the overall impact of spousal support.

Effect of Child Demographic Characteristics on Study Variables

Next objective of the study is that there is a mean difference among NDD group on study variables. Result shows that mothers of autistic child has significant high parenting stress, psychological distress (depression, anxiety, stress) and emotional dysregulation than ADHD, ID and Down syndrome. This result aligns with the study of Barroso *et al.* (2017) which shows that parent of autistic child has high stress as compared to other groups. The high levels of stress reported by mothers of children with ASD can be attributed to the core features of autism, which include difficulties in social communication, restricted interests, and repetitive behaviors. Children with autism often exhibit challenging behaviors such as aggression, self-injury, or sensory sensitivities, which require constant supervision and management. Moreover, these behaviors are often unpredictable, adding to the emotional and physical exhaustion of caregivers. All disorders have behavioral issues but Autistic children has more behavioral issues than children with other disorders (Ramzan *et al*., 2022).

Another objective is that there is mean difference among child gender groups on study variables. The findings indicate that there is a significant difference exists between mother of male child with NDD and mother of female child with NDD on parenting stress, psychological distress, and emotion dysregulation. Mothers of male children with disabilities often report higher stress levels due to a combination of behavioral challenges, societal pressures, and cultural norms. Male children with disabilities may present with behaviors and developmental patterns that are more demanding for caregivers, leading to greater stress and psychological distress (Goudie *et al*., 2014). Additionally, societal expectations regarding male children and their roles in the family may exacerbate maternal anxiety, particularly in Pakistani cultures where males are seen as future providers or family leaders (Shahzad *et al*., 2020). The finding supports this hypothesis as there is a significant difference present between mother of male child and female child. These findings are supported by study of McBride *et al*. (2002), as it observes that compared to mothers of girls, mothers of boys reported more overall stress from parenting, psychological distress and emotion dysregulation.

Another hypothesis is that "there is significant difference between numbers of children with neurodevelopmental disorder on study variable". There is significant difference found between numbers of children on study variables. It has been noted that mothers of children who has 3 children with neurodevelopmental disorder has more parenting stress, psychological distress (depression, anxiety, stress) than mothers of one or two children with neurodevelopmental disorder. There is no difference found on emotion dysregulation between these groups (Minh *et al*., 2024).

Effect of Mother Demographic Characteristics on Study Variables

Investigating mean differences in mother educations on research variables was also the objective of the study. It was hypothesized that more educated mother has less stress, distress and emotion dysregulation as compare less educated mother. This hypothesis was rejected as there is no significant difference found on study variables between educated mothers and non-educated mothers. One of the justification is that education provides knowledge and awareness but does not necessarily equip mothers with the emotional resilience or practical resources required to manage the caregiving challenges associated with disabilities. Both highly educated and less educated mothers require access to tailored interventions, such as mental health counseling, support groups, and caregiver training, to address their unique stressors and enhance emotional well-being (Okelo *et al*., 2024).

Another objective of study is to explore the mean differences between family socio-economic status on study variables. It was hypothesized that middle class mother have less stress, distress and emotion dysregulation as compared to lower class mothers. This hypothesis was accepted as there is significant difference found on study variables between middle class mothers and lower class mothers. One of the most significant reason is that lower-class mothers has lack of financial resources. Raising a child with a disability often requires significant expenditures on specialized healthcare, therapies, educational support, and adaptive equipment. For mothers in lower-income families, these costs can be overwhelming, resulting in feelings of helplessness and chronic stress. Second, lower-class mothers often have limited access to educational and therapeutic services, support groups, or social welfare programs. The unavailability of these resources contributes to feelings of isolation and inadequacy in managing their child's condition. As it proves with the study of (Okelo *et al.*, 2024; Parkes *et al*., 2015) that mother of lower family economic status has more parenting stress, psychological distress and emotion dysregulation.

5.1. Conclusion

The current investigation sought to determine the relationship between parenting stress and psychological distress, mediating role of emotion dysregulation and moderating role of spousal support. The current research's findings are consistent with prior studies. Results show that, parenting stress leads to psychological distress (depression, anxiety and stress) in mothers of children with neurodevelopmental disorder. Spousal support acts as a moderator between parenting stress and psychological distress. Study further found the mediating role of emotion dysregulation in parents. It was also revealed that mothers of children with ASD have high parenting stress, psychological distress and emotion dysregulation than others groups. Besides, mothers having male child with NDD has more parenting stress and psychological distress than mothers of female child. Study also revealed that mother with middle socio economic status family has less parenting stress and psychological distress than mother of lower socio economic status family. The study also revealed those mothers who have more than one child with disability have high parenting stress and psychological distress. There was no difference between education level on parenting stress and psychological distress. Mother with high education and low education experience same level of parenting stress and psychological distress.

5.2. Limitations and Future Recommendations

- The investigation was carried out using a sample size of 180 mothers which is comparatively small.
- The sample was drawn from urban cities namely Rawalpindi and Islamabad which may not represent the broader population of mothers with children having neurodevelopmental disorders in rural area of Pakistan. This limitation restricts the generalizability of the study's findings to other populations or cultural contexts.
- In this study, it has not been evaluated if mothers were facing any kind of psychological distress from prior life experiences before getting into motherhood.
- The translation of research instruments from English to Urdu, while necessary for the study's population, introduces potential biases. Despite the careful translation process involving bilingual experts, subtle differences in language, cultural connotations, and contextual meanings could affect the reliability and validity of the scales. Furthermore, the original scales were developed and validated in Western contexts, which may not fully capture the nuances of parenting stress, emotion dysregulation, and spousal support in a South Asian cultural setting. This cultural adaptation challenge may lead to misinterpretation of items or inaccurate measurement of the constructs being studied.
- The present study did not focus on the factors of maternal stress, psychological distress in depth through the qualitative method.
- The study relied on self-report measures to assess parenting stress, psychological distress, emotion dysregulation, and spousal support. While self-report questionnaires are widely used in psychological research, they are prone to a variety of biases, such as response style bias, recall bias, and social desirability bias. It is possible that participants overestimated

or underestimated their stress levels, psychological distress, or the support they receive from their spouses due to social expectations or a desire to present themselves in a more favorable light. These biases could potentially distort the findings and reduce the accuracy of the data.

- The study exclusively focused on mothers, which limits the generalizability of the findings to fathers or other primary caregivers of children with neurodevelopmental disorders. Fathers may experience different levels of parenting stress and psychological distress, and the role of emotional regulation and spousal support may differ in their case. Future studies involving fathers or other caregivers would offer a more comprehensive picture of the difficulties faced by all parents of children with neurodevelopmental disorders.

Future researchers can take following thing into consideration.

- Larger sample sizes should be the focus of future research to increase statistical power and the validity of the results. Larger samples increase the ability to detect smaller effect sizes and reduce the likelihood of errors. Researchers should strive to include participants from different cultural contexts. This diversity will improve the generalizability of the findings across different populations.
- Future researcher need to focus on family system (joint, nuclear), because it can impact the level of parenting stress and psychological distress. Also they can also focus on the role of support from in laws and family member to moderate the effect of parenting stress and psychological distress.
- Incorporating intervention-based studies where changes in parenting stress or psychological distress are monitored before and after specific interventions e.g., stress management training can help in understanding the impact of these variables over time.

Examine the efficacy of initiatives intended to improve spousal support and its impact on parenting stress and psychological distress.

- Future research should include fathers and other primary caregivers, such as grandparents or guardians, to provide a more comprehensive picture of how different caregivers experience and manage psychological distress.
- Future researcher should aim to include a more diverse sample of caregiver, including institutionalized caregivers (special education schools), to gain a more comprehensive understanding of the factors that contribute to stress.

5.3. Future Implications

- The results of this study could help many people, including families, researchers, and clinical settings. Emotional regulation is one of the important coping strategies which help individual to deal with stressful life events. By understanding adverse consequence of parenting stress on emotional regulation in mothers, organizations can conduct different workshops for mothers to teach them about effective emotional regulation strategies.

- It underscores the mediating role of emotional dysregulation and its impact on mental health outcomes, enriching existing theoretical frameworks related to family systems, stress, and coping mechanisms.
- The moderating role of spousal support emphasizes the importance of social and interpersonal relationships in buffering against psychological distress, thereby supporting theories on the protective effects of social support in stress management.
- Study will help to look for those factors which can contribute to wellbeing of mothers. Promoting and instructing husbands to offer emotional support to their spouses can result

in improved mental health results. Providing resources and support to enable mothers to manage their mental health and become advocates for their children's needs.

- Establishing support groups for families affected by NDD can promote social connections and reduce isolation.
- Raising awareness related to challenges mother face, can educate the public about NDD, reduce stigma, and promote early diagnosis and intervention.
- Enhancing the skills of health care professional and psychologist dealing with NDD children can be educated to guide parents in practicing coping strategies to mitigate stress arising from parenting roles.
- By addressing these implications, the study may help mothers and families impacted by NDD have better mental health and overall well-being.

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APPENDIX A

اسلام علیکم!

میں نمل یونیورسٹی اسلام آباد سے منسلک ایم فل کی طالبہ ہوں۔میرا تعلق شعبہ ء نفسیا ت سے ہے۔ایم فل ڈگری کی مطا بقت سے میں ایک ریسرچ منعقد کرنے جا رہی ہوں۔جس کا مقصد ماں کی اچھی صحت کے بچوں کی نشونما پر اثرات ہیں۔اس ریسرچ میں آپ کی شرکت رضا کا رانہ ہےاور آپ کسی بھی وقت چھوڑ سکتے ہیں ۔اس با ت کو یقینی بنایا جا ئے گا کہ آپ سے حاصل کردہ معلومات راز دارانہ انداز میں محظ ریسرچ کے لیے استعمال کیا جائے گا

تعاون کا شکریہ

دستخط----------

ذاتی کوائف

آپ سے متعلق سوالات۔

آپ کی عمر _____

آپ کی تعلیم

آپ کے بچوں کی تعداد

خاندانی نظام 1۔انفرادی خاندانی نظام(شوہر اور بچوں کے ساتھ)

2۔ مشترکہ خاندانی نظام (سسرال والوں کے ساتھ)

گھریلو ماہانہ آمدنی_____

کیا آپ جاب کرتی ہیں_____

بچے سے متعلق سوالات۔

نمبر شمار	بچے کی عمر	بچے کا جنس	بچے کی ذہنی بیماری کا نام	بہن بھائیوں میں بچے کا درجہ
1-				
2-				
3-				
4-				

APPENDIX B

سوال نامہ نمبر 1

ہر ایک سوال کے بارے میں اس لحاظ سے سو چیں کا آ پ کے بچوں کے ساتھ آپ کا رشتہ عام طور پر کیسا ہو تا ہے۔

نمبر شمار	سوالات	ہرگز متفق نہیں	متفق نہیں	نا متفق نا غیر متفق	متفق	بہت متفق
1	میں والدین کے طور پر اپنے کردار سے خوش ہوں	1	2	3	4	5
2	اگرضروری ہوتا تو بہت کم یا کچھ بھی نہیں ہے جو میں اپنے بچوں کے لیے نہیں کروں گا۔	1	2	3	4	5
3	میرے بچے کی دیکھ بھال میں بعض اوقات مجھے دینے سے زیادہ توانائی درکار ہوتی ہے	1	2	3	4	5
4	مجھے کبھی کبھی فکر ہوتی ہے کہ کیا میں اپنےبچوں کے لیے جو کر رہی ہوں وہ کافی ہے	1	2	3	4	5
5	میں اپنے بچے کے قریب محسوس کرتی ہوں۔	1	2	3	4	5
6	مجھے اپنے بچے کے ساتھ وقت گزارنا اچھا لگتا ہے۔	1	2	3	4	5
7	میرے بچے میرے لیے پیار کا ایک اہم ذریعہ ہے۔	1	2	3	4	5
8	بچوں کا ہونا مجھے مستقبل کے لیے زیادہ یقینی اور پر امید نظریہ دیتا ہے۔	1	2	3	4	5
9	میری زندگی میں تناو کا سب سے بڑا ذریعہ میرا بچہ ہے۔	1	2	3	4	5
10	بچوں کا ہونا میری زندگی میں بہت کم وقت اور لچک چھوڑتی ہے۔	1	2	3	4	5
11	بچوں کا ہونا ایک مالی بو جھ رہا ہے۔	1	2	3	4	5
12	میرے بچے کی وجہ سے مختلف ذمہ داریوں میں توازن رکھنا مشکل ہے۔	1	2	3	4	5
13	میرے بچے کا رویہ اکثر میرے لیے شرمناک اور تناو کا باعث ہوتاہے۔	1	2	3	4	5
14	اگر دوبارہ فیصلہ کرنا پڑے تو میں شاید فیصلہ کر وں گا کہ بچہ نہ ہوں۔	1	2	3	4	5
15	میں والدین ہونے کی ذمہ داری سے مغلوب محسوس کرتا ہوں۔	1	2	3	4	5
16	بچہ ہونے کا مطلب ہے کہ اپنی زندگی پر آپ کا بہت کم کنٹرول اور انتخاب ہے۔	1	2	3	4	5
17	میں ایک والدین کے طور پر مطمئن ہوں۔	1	2	3	4	5
18	مجھے اپنا بچہ کا سا تھ اچھا لگتا ہے۔	1	2	3	4	5

APPENDIX C

سوال نامہ نمبر2

اپنے اور اپنے شریک حیات کے تعلق کو مدنظر رکھتے ہوئے درج ذیل سوالات کے جوابات دیں۔

نمبرشمار	سوالات	ہرگز متفق نہیں	متفق نہیں	نا متفق نا غیر متفق	متفق	**بہت متفق**
1	میرا شریک حیات مجھ سے میرے دن کے بارے میں باقاعدگی سے پوچھتا ہے۔	1	2	3	4	5
2	میرا شریک حیات کبھی کبھار میرے مسائل سننا نہیں چاہتا	1	2	3	4	5
3	اگر مجھے کسی معاملے پر بات کرنے کی ضرورت ہو تو میرا شریک حیات/ساتھی میرے لیے وقت نکالتا ہے	1	2	3	4	5
4	جب میں اپنے دن کے بارے میں بات کرتی ہوں تو میرا شریک حیات/ساتھی واقعی نہیں سنتا۔	1	2	3	4	5
5	جب کوئی چیز مجھے پریشان کر رہی ہے، تو میرا شریک حیات/ساتھی ظاہر کرتا ہے کہ وہ سمجھتا ہے کہ میں کیسا محسوس کر رہی ہوں۔	1	2	3	4	5
6	مجھے اپنے شریک حیات/ساتھی کے ساتھ چیزوں پر بات کرنے میں دشواری ہوتی ہے۔	1	2	3	4	5
7	میرا شریک حیات / ساتھی مجھ پر ایسی چیزوں کا بوجھ ڈالتا ہے جو وہ اپنے اوپر سنبھال سکتا تھا۔	1	2	3	4	5
8	میرا شریک حیات/ساتھی گھر کے کاموں کو انجام دینے میں میرے ساتھ تعاون کرتا ہے۔	1	2	3	4	5
9	ایسا لگتا ہے جیسے میرا شریک حیات/ساتھی ہمیشہ مجھ سے اس کے لیے کچھ کرنے کو کہہ رہا ہے۔	1	2	3	4	5
10	مجھے دیر ہونے پر میری مدد کرنے کے لیے اپنے ساتھی پر انحصار کر سکتی ہوں۔	1	2	3	4	5
11	اگر مجھے شہر سے باہر جانا پڑے تو میرے شریک حیات کو گھریلو ذمہ داریاں نبھانے میں مشکل پیش آئے گی۔	1	2	3	4	5

12	جب میرا مشکل ہفتہ ہوتا ہے، تو میرا شریک حیات گھر کا زیادہ سے زیادہ کام کرنے کی کوشش کرتاہے۔	1	2	3	4	5
13	میرا شریک حیات/ساتھی اکثر میرے لیے مسائل کو دیکھنے کا ایک مختلف طریقہ فراہم کرتا ہے۔	1	2	3	4	5
14	میں باقاعدگی سے اپنے شریک حیات/ساتھی سے کسی مسئلے کے بارے میں مشورہ طلب کرتی ہوں۔	1	2	3	4	5
15	میرا شریک حیات بعض اوقات مجھے ان چیزوں سے آگاہ کرنا بھول جاتا ہے جن کو جاننے کی مجھے ضرورت ہے۔	1	2	3	4	5
16	میرا شریک حیات/ساتھی مجھے خبروں یا واقعات کے بارے میں آگاہ کرتا رہتا ہے۔	1	2	3	4	5
17	جب میں اچھا کام کرتی ہوں تو میرا شریک حیات اسے سراہتا ہے۔	1	2	3	4	5
18	جب میں کچھ غلط کرتی ہوں تو میرا شریک حیات/ساتھی مجھ پر تنقید کرتا ہے۔	1	2	3	4	5
19	میرا شریک حیات/ساتھی مجھے مفید رائے دیتا ہے۔	1	2	3	4	5
20	میرا شریک حیات ضرورت پڑنے پر مجھے گھر میں اپنی کارکردگی کو بہتر بنانے کے بارے میں مشورہ دیتا ہے۔	1	2	3	4	5

APPENDIX D

سوال نامہ نمبر3

نوٹ: مندرجہ ذیل بیانات میں سے جو گزشتہ ایک ہفتے کے دوران آپ پر صحیح ثابت ہوے ہوں ان کے سامنے،3،2،1،0 میں سے کسی ایک ہندسہ پر نشان لگائیں۔واضح رہے کہ آپ کے جوابات کو صحیح یا غلط تصور نہیں کیا جائے گا۔کسی بھی بیان پر زیادہ وقت ضائع نہ کریں۔

نمبر شمار	بیانات	کبھی نہیں	کبھی کبار	زیادہ تر وقت	ہر وقت
-1	میرے لیے پرسکون ہونا مشکل ہوتا جا رہا ہے۔	0	1	2	3
-2	مجھے یہ احساس ہوتا رہا ہے جیسے میرا منہ خشک ہو رہا ہے۔	0	1	2	3
-3	مجھے کسی قسم کے مثبت جذبات محسوس نہیں ہوے۔	0	1	2	3
-4	مجھے سانس لینے میں دشواری ہوتی رہی ہے(بغیر کسی جسمانی مشقت والے کام کے)۔	0	1	2	3
-5	مجھے کسی کام کے کرنے کے لیے آغاز کرنا مشکل محسوس ہوتا رہا ہے۔	0	1	2	3
-6	میں نے بعض حالات میں غیر ضروری ردعمل کا اظہار کیا۔	0	1	2	3
-7	مجھے کپکپاہٹ محسوس ہوتی رہی ہے(مثلا ہاتھوں میں)۔	0	1	2	3
-8	میں نے محسوس کیا میں بہت زیادہ ذہنی توانائی استعمال کر رہی/ رہا ہوں۔	0	1	2	3
-9	میں ایسے حالات سے گھبراتی/ گھبراتا جن میں میرے احمق بننے اور میری بے چینی بڑھنے کا خدشہ ہوتا ہے۔	0	1	2	3
-10	میں اپنا مستقبل تاریک محسوس کرتی/کرتا رہا۔	0	1	2	3
-11	مجھے اپنے آپ میں چڑچڑاپن محسوس ہوتا رہا۔	0	1	2	3
-12	میں ذہنی طور پر بے سکونی محسوس کرتی/ کرتا رہا ہوں۔	0	1	2	3
-13	میں اداسی محسوس کرتی/ کرتا رہا۔	0	1	2	3
-14	میرے لیے اس چیز یا شخص کو برداشت کرنا مشکل رہا ہے جو میرے کام میں رکاوٹ پیدا کرے۔	0	1	2	3
-15	مجھے محسوس ہوتا رہا ہے کہ جیسے مجھے دورہ پڑنے لگا ہے۔	0	1	2	3
-16	مجھے کسی بھی کام میں دلچسپی نہیں رہی۔	0	1	2	3
-17	مجھے محسوس ہوتا رہا ہے کہ میں کسی قابل نہیں ہوں۔	0	1	2	3
-18	مجھے محسوس ہوتا رہا ہے کہ میں بہت جذباتی ہو جاتی/ جاتا ہوں۔	0	1	2	3
-19	مجھے بلا وجہ بغیر کسی مشقت کے دل کی دھڑکن تیز محسوس ہوتی رہی ہے۔	0	1	2	3
-20	میں بغیر کسی وجہ کے خوفزدہ ہو جاتی/ جاتا ہوں۔	0	1	2	3
-21	مجھے یہ احساس ہوتا رہا ہے کہ زندگی بے معنی ہے۔	0	1	2	3

APPENDIX E

سوال نامہ نمبر4

اپنے جذبات کو مدنظر رکھتے ہوئے درج ذیل سوالات کے جوابات دیں

نمبر شمار	سوالات	کبھی نہیں	کبھی کبھار	تقریبا آدھا وقت	زیادہ تر وقت	ہر وقت
1	میں اپنے جذبات کے بارے میں واضح ہوں-	1	2	3	4	5
2	میں اس پر توجہ دیتی ہوں کہ میں کیسا محسوس کر رہی -	1	2	3	4	5
3	میں اپنے جذبات کو غالب اور قابو سے باہر محسوس کرتی ہوں-	1	2	3	4	5
4	مجھے اندازہ نہیں ہے کہ میں کیسا محسوس کر رہی ہوں	1	2	3	4	5
5	مجھے اپنے جذبات کو سمجھنے میں دشواری ہوتی ہے-	1	2	3	4	5
6	میں اپنے جذبات کا خیال رکھتی ہوں-	1	2	3	4	5
7	میں بالکل جانتی ہوں کہ میں کیسا محسوس کر رہی ہوں-	1	2	3	4	5
8	مجھے اس بات کی پرواہ ہے کہ میں کیسا محسوس کر رہی ہوں-	1	2	3	4	5
9	میں الجھن میں ہوں کہ میں کیسا محسوس کر رہی ہوں-	1	2	3	4	5
10	جب میں پریشان ہوتی ہوں، میں اپنے جذبات کو تسلیم کر تی ہوں-	1	2	3	4	5
11	جب میں پریشان ہوتی ہوں تو میں اس طرح محسوس کرنے پر اپنے آپ سے ناراض ہو جاتی ہوں -	1	2	3	4	5
12	جب میں پریشان ہوتی ہوں تو میں اس طرح محسوس کرنے پر شرمندہ ہو جاتی ہوں-	1	2	3	4	5
13	جب میں پریشان ہوں، مجھے کام کر نے میں دشواری ہوتی ہے-	1	2	3	4	5
14	جب میں پریشان ہوتی ہوں، میں قابو سے باہر ہو جاتی ہوں-	1	2	3	4	5
15	جب میں پریشان ہوں، مجھے یقین ہے کہ میں طویل عرصے تک اسی طرح رہوں گی-	1	2	3	4	5
16	جب میں پریشان ہوں مجھے یقین ہے کہ میں بہت افسردہ ہوں جنوں گی-	1	2	3	4	5
17	جب میں پریشان ہوں مجھے یقین ہے کہ میرے احساسات ٹھیک اور اہم ہیں	1	2	3	4	5

5	4	3	2	1	جب میں پریشان ہوتی ہوں تو مجھے دوسری چیزوں پر توجہ مرکوز کرنے میں دشواری ہوتی ہے۔	18
5	4	3	2	1	جب میں پریشان ہوتی ہوں، میں قابو سے باہر محسوس کرتی ہوں۔	19
5	4	3	2	1	جب میں پریشان ہوں، تب بھی میں کام کر سکتی ہوں۔	20
5	4	3	2	1	جب میں پریشان ہوتی ہوں تو مجھے اس طرح محسوس کرنے پر اپنے آپ سے شرم آتی ہے۔	21
5	4	3	2	1	جب میں پریشان ہوں میں جا نتی ہوں کہ میں آخرکار بہتر محسوس کرنے کا راستہ تلاش کر سکتی ہوں۔	22
5	4	3	2	1	جب میں پریشان ہوں تو مجھے لگتا ہے کہ میں کمزور ہو ں۔	23
5	4	3	2	1	جب میں پریشان ہوتی ہوں مجھے لگتا ہے کہ میں اپنے طرز عمل پر قابو پا سکتی ہوں۔	24
5	4	3	2	1	جب میں پریشان ہوتی ہوں تو میں اس طرح محسوس کرنے کے لیے مجرم محسوس کر تی ہوں۔	25
5	4	3	2	1	جب میں پریشان ہوتی ہوں تو مجھے توجہ مرکوز کرنے میں دشواری ہوتی ہے۔	26
5	4	3	2	1	جب میں پریشان ہوتی ہوں تو مجھے اپنے رویے پر قابو پانے میں دشواری ہوتی ہے۔	27
5	4	3	2	1	جب میں پریشان ہوں مجھے یقین ہے کہ میں اپنے آپ کو بہتر محسوس کرنے کے لیے کچھ نہیں کر سکتی	28
5	4	3	2	1	جب میں پریشان ہوتی ہوں تو میں اس طرح محسوس کرنے پر اپنے آپ سے چڑ جا تی ہوں۔	29
5	4	3	2	1	جب میں پریشان ہوتی تو میں اپنے بارے میں بڑا محسوس کر نے لگتی ہوں۔	30
5	4	3	2	1	جب میں پریشان ہوتی ہوں، مجھے یقین ہے کہ اس میں ڈوبنا ہی ہے جو میں کر سکتی ہوں۔	31
5	4	3	2	1	جب میں پریشان ہوتی ہوں تو میں اپنے رویوں پر کنٹرول کھو دیتی ہوں۔	32
5	4	3	2	1	جب میں پریشان ہوں تو مجھے کسی اور چیز کے بارے میں سوچنے میں دشواری ہوتی ہے۔	33

5	4	3	2	1	جب میں پریشان ہوں میں یہ جا ننے کے لیے وقت نکالتی ہوں کہ میں واقعی کیا محسوس کر رہی ہوں۔	34
5	4	3	2	1	جب میں پریشان ہوں، تو مجھے بہتر محسوس کرنے میں کافی وقت لگتا ہے۔	35
5	4	3	2	1	جب میں پریشان ہوتی ہوں تو مجھے میرے جذبات بہت زیادہ محسوس ہوتے ہیں۔	36