CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD

Role of Parental Stress and Coping Strategies in Quality of Life among Parents of Children with Neurodevelopmental Disorders

by

Nadia

A thesis submitted in partial fulfillment for the degree of Master of Science

in the

Faculty of Management & Social Sciences
Department of Psychology

2025

This thesis is dedicated to my parents for their unwavering support, encouragement, and to my supervisor Miss Sadaf Zeb for her invaluable guidance and mentorship.

CERTIFICATE OF APPROVAL

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Nadia

(MSP231018)

THESIS EXAMINING COMMITTEE

S. No.	Examiner	Name	Organization
(a)	External Examiner	Dr. Iram Gul	FJWU, Rawalpindi
(b)	Internal Examiner	Dr. Uzma Rani	CUST, Islamabad
(c)	Supervisor	Ms. Sadaf Zeb	CUST, Islamabad

Ms. Sadaf Zeb
Thesis Supervisor
May, 2025

Dr. Sabahat Haqqani
Head
Department of Psychology
May, 2025

Dr. Arshad Hassan
Dean
Faculty of Management & Social Sci.
May, 2025

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Acknowledgement

I want to express my gratitude to Ms. Sadaf Zeb, my supervisor, for all of their help and support during this research project. My family's unfailing love, tolerance, and support laid the groundwork for my achievement, for which I am also incredibly thankful.

(Nadia)

Abstract

Raising child with neurodevelopmental disorders (NDDs) such as Autism Spectrum Disorder (ASD), attention deficit hyperactivity disorder (ADHD), and Intellectual Disability (ID) is demanding for parents, often causing increased stress that can reduce their quality of life (QoL).Study aimed were to explored how parental stress and coping strategies impact on overall quality of life. The study utilized standardized scales for assessment, such as the Parental Stress Scale, Brief COPE, and WHOQoL-BREF, which assessed parenting stress, coping strategies, and quality of life .Using s cross-sectional co-relational design to asses association between variables and data was collected from the parents of children with neurodevelopment disorder from special education centers across Islamabad and Rawalpindi. Data was analyzed in SPSS, ordinal logistic regression was applied to examined how parental stress , coping strategies impact on quality of life among parents of children with NDDs. . Results indicated that parents who use problem focused coping strategies have a higher quality of life, even when dealing with high stress levels, while those who use avoidant coping strategies have a lower quality of life. Effective intervention to encourage parents to utilized problem focused coping and social network support to manage parental stress and enhance quality of life.

Keywords: Parental Stress, Neurodevelopmental Disorders, Quality of Life, Coping Strategies.

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Abbreviations

ADHD	Attention Deficits Hyperactivity Disorder
ASD	Autism Spectrum Disorder
EFC	Emotion Focused Coping
ID	Intellectual Disability
PFC	Problem Focused Coping
PSS	Parental Stress Scale
QOL	Quality of Life

Chapter 1

Introduction

1.1 Background of the Study

A class of illnesses known as neurodevelopmental disorders (NDDs) affects how the central nervous system develops. Among these are developing brain dysfunction, which might show up as neuropsychiatric issues or as impairments with learning, language, motor function, or nonverbal communication. NDDs including disorders, like intellectual disability (Intellectual Developmental Disorder), autism spectrum disorder, attention deficits hyper activity disorder (Javed and Zahid, 2021). According to WHO, 15% of global population which equates to 95 million individuals suffer from NDDs. These individuals includes children and adolescent aged 0 - 17 years (Dereje et al., 2024). In Pakistan prevalence of NDDs is also growing concern with study estimated that developmental disorder in rural Pakistan is around 0.5 to 7% (Jafri et al., 2023). The significant burden of NDDs in paediatric populations, with autism spectrum disorder (ASD) being the most common diagnosis 27.16%, followed by attention-deficit hyperactivity disorder (ADHD) 22.84% and specific learning difficulties 20.26% (Khan et al., 2023).

1.1.1 Neurodevelopmental Disorders According to DSM-5-TR

Neurodevelopmental disorders encompass a range of conditions that emerge in early childhood, marked by developmental impairments that impact personal, social, academic, and professional functioning. These disorders involve impairments in cognitive, communicative, motor, or behavioral functions, and their symptoms typically manifest before school age. The DSM-5-TR (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision) provides detailed diagnostic criteria for various neurodevelopmental disorders, including Autism Spectrum Disorder (ASD), Attention-Deficit/Hyperactivity Disorder (ADHD), and Intellectual Disability (ID) (American Psychiatric Association, 2022).

1.1.2 Autism Spectrum Disorder (ASD)

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition defined by ongoing challenges in social interaction and communication, coupled with repetitive and restricted behaviors, interests, or activities. While symptoms appear during early development, they may not be fully noticeable until social demands surpass the individual's abilities (Lord et al., 2018).

1.1.2.1 Persistent Deficits in Social Communication and Interaction

Individuals with ASD have difficulty with social-emotional reciprocity, such as engaging in conversations, sharing emotions, and initiating or responding to social interactions. They also exhibit deficits in nonverbal communicative behaviors, such as poor eye contact, limited use of gestures, and reduced facial expressions. Additionally, they struggle with understanding and maintaining relationships, such as adjusting behavior to different social contexts or making friends.

1.1.2.2 Restricted, Repetitive Patterns of Behavior

ASD is marked by repetitive behaviors, adherence to strict routines, highly focused interests, and unusual responses to sensory input. This may include repetitive motor movements (e.g., hand-flapping, rocking), insistence on sameness (e.g., extreme distress at small changes), intense interests (e.g., fascination with a specific object or topic), and heightened or diminished responses to sensory stimuli (e.g., sensitivity to sounds or textures).

1.1.2.3 Early Developmental Onset

ymptoms must appear in early childhood, although they may not be fully noticeable until later stages of development when social demands become more pronounced.

1.1.2.4 Clinically Significant Impairment

The symptoms of ASD must significantly interfere with daily functioning, including academic, occupational, or social domains.

1.1.2.5 Exclusion of Other Conditions

The social communication difficulties in ASD are not solely attributable to intellectual disability or general developmental delay. While ASD frequently coexists with intellectual impairment, the social deficits must be disproportionate to the level of cognitive functioning (Lord et al., 2020).

1.1.3 Attention-Deficit/Hyperactivity Disorder (ADHD)

Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurodevelopmental condition marked by consistent patterns of inattention and/or hyperactivity-impulsivity, which disrupt daily activities and functioning. Symptoms must be present in multiple settings and be developmentally inappropriate for the individual's age (Furman, 2005).

1.1.3.1 Inattention

Individuals with ADHD often struggle with sustaining attention, making careless mistakes, failing to complete tasks, and becoming easily distracted. They may have trouble following instructions, organizing activities, and remembering daily responsibilities.

1.1.3.2 Hyperactivity and Impulsivity

Hyperactive behaviors include excessive fidgeting, difficulty staying seated, running or climbing in inappropriate situations, and an inability to engage in quiet activities. Impulsivity involves behaviors such as blurting out answers, interrupting conversations, and struggling with turn-taking.

1.1.3.3 Onset and Duration

Symptoms must manifest before the age of 12 and persist for a minimum of six months. They should be present in at least two different settings, such as home, school, or work, and significantly impact daily functioning.

1.1.3.4 Clinically Significant Impairment

The symptoms must lead to significant difficulties in academic, occupational, or social functioning.

1.1.3.5 Exclusion of Other Conditions

ADHD symptoms should not be better explained by other mental health disorders, such as anxiety, mood, or personality disorders. Furthermore, they must not be limited to episodes of schizophrenia or other psychotic conditions.

1.1.4 Intellectual Disability (ID)

Intellectual Disability (ID) is a neurodevelopmental condition marked by impairments in intellectual abilities and adaptive behavior, emerging during the developmental stage (Bertelli et al., 2022). Diagnosis relies on clinical evaluation alongside standardized intelligence testing.

1.1.4.1 Deficits in Intellectual Functioning

Individuals with ID exhibit difficulties in reasoning, judgment, abstract thinking, problem-solving, and academic learning. These impairments are typically identified by an IQ score below 70.

1.1.4.2 Deficits in Adaptive Functioning

Adaptive functioning refers to an individual's capacity to achieve age-appropriate levels of independence and social responsibility. Deficits may occur in communication, social participation, and daily life skills such as money management and self-care (Paolo et al., 2023).

1.1.4.3 Onset During the Developmental Period

The condition must be present from childhood, typically before age 18, distinguishing it from conditions acquired later in life.

1.1.4.4 Severity Levels

ID is categorized into four levels—mild, moderate, severe, and profound—according to the extent of impairment in conceptual, social, and practical areas.

1.1.4.5 Exclusion of Other Conditions

The deficits in intellectual and adaptive functioning should not be better explained by other medical conditions, sensory impairments, or environmental factors, such as lack of access to education.

1.1.5 Comprehensive Diagnostic Process DSM-5-TR

The DSM-5-TR (Diagnostic and Statistical Manual of Mental Disorders, 5th Edition, Text Revision) provides a structured framework for diagnosing neurodevelopmental and psychiatric disorders. A comprehensive diagnostic process is essential for accurate identification, ensuring that symptoms are evaluated systematically. This process involves multiple stages, including clinical interviews, behavioral observations, standardized psychological assessments, and differential diagnosis. By integrating multiple sources of information, clinicians can distinguish between overlapping symptoms, rule out alternative explanations, and formulate precise diagnoses. This structured approach is particularly significant in research settings, where diagnostic accuracy directly impacts study outcomes and intervention efficacy (American Psychiatric Association, 2022).

1.1.5.1 Clinical Interview and Developmental History

The diagnostic process begins with a thorough clinical interview, which serves as the foundation for gathering essential information about an individual's symptoms, developmental history, and psychosocial background. During this stage, clinicians assess the onset, duration, and severity of symptoms. Developmental history is particularly crucial in neurodevelopmental disorders, as early childhood milestones, prenatal and perinatal factors, and family history of psychiatric conditions provide critical insights.

Additionally, social and environmental stressors, such as family dynamics, trauma, or academic difficulties, are evaluated to understand their potential influence on symptom presentation. Alongside verbal reports, behavioral observations play a key role in assessing nonverbal communication, eye contact, speech patterns, and motor activity, which are particularly relevant for disorders like Autism Spectrum Disorder (ASD).

1.1.5.2 Application of DSM-5-TR Diagnostic Criteria

After gathering clinical history, the next step involves systematically applying DSM-5-TR diagnostic criteria to identify core symptom clusters. Each disorder

has specific criteria that must be met for a formal diagnosis:

- **ASD** is defined by ongoing challenges in social communication along with repetitive and restricted patterns of behavior.
- **ADHD** is marked by inattention, hyperactivity, and impulsivity across multiple settings.
- **Intellectual Disability (ID)** is divided into impairments in both intellectual and adaptive functioning, which are validated through clinical evaluation and standardized intelligence tests.

In all cases, functional impairment is a key diagnostic criterion, as symptoms must interfere with academic, occupational, or social functioning. Symptoms should not be solely attributable to situational stressors, medical conditions, or substance use.

1.1.5.3 Standardized Psychological Assessments

To enhance diagnostic reliability, standardized psychological assessments provide objective data on cognitive, emotional, and behavioral functioning.

- Neurodevelopmental disorders often require intelligence testing (e.g., Wechsler Intelligence Scale for Children (WISC-V)) to assess cognitive functioning and rule out ID.
- Adaptive behavior scales (e.g., Vineland Adaptive Behavior Scales (VABS-3)) measure daily living skills, socialization, and communication abilities.
- For ASD, structured observational tools like the Autism Diagnostic Observation Schedule-2 (ADOS-2) assess social interaction and restrictive behaviors.
- ADHD assessment involves executive and attention functioning tests, such as the Continuous Performance Test (CPT-3).
- Mood and anxiety disorders are measured using tools like the Beck Depression Inventory (BDI-II) and Generalized Anxiety Disorder-7 (GAD-7) to quantify symptom severity.

These assessments help confirm clinical impressions and differentiate between disorders with similar symptom presentations.

1.1.5.4 Differential Diagnosis and Comorbidity Assessment

Given the high prevalence of comorbid conditions, differential diagnosis is a critical step in ensuring diagnostic accuracy. Many disorders share overlapping symptoms, making it essential to rule out alternative explanations systematically. For example:

- ASD and ADHD both involve executive functioning deficits, but ASD is primarily characterized by social-communication impairments, whereas ADHD is marked by impulsivity and inattention.
- Bipolar Disorder and ADHD may both involve mood instability and hyperactivity, but bipolar symptoms are episodic, while ADHD symptoms are persistent.
- Medical conditions, such as thyroid disorders or nutritional deficiencies, must also be considered, as they can mimic psychiatric symptoms.
- Substance use screening is crucial to rule out behavioral changes influenced by external factors.

By thoroughly assessing these variables, clinicians can ensure an accurate primary diagnosis and identify any coexisting conditions that require intervention.

1.1.5.5 Multidisciplinary Evaluation and Final Diagnosis

A comprehensive diagnosis often requires collaboration among multiple professionals, including clinical psychologists, psychiatrists, neurologists, and educators. This multidisciplinary approach ensures that all aspects of an individual's functioning are considered.
For children with neurodevelopmental disorders, input from teachers and caregivers provides valuable insights into behavior across different settings. In adults,

workplace performance and social interactions are considered to assess functional impairment. The final diagnosis integrates all available data, balancing DSM-5-TR criteria, clinical observations, standardized assessments, and collateral information from multiple sources. This structured process enhances diagnostic precision and ensures that individuals receive appropriate interventions based on their specific needs (American Psychiatric Association, 2022).

1.1.6 Parental Stress, Coping Strategies and Quality of Life in Parents of Children with Neurodevelopmental Disorders

Parenting a child with neurodevelopmental difficulties demands significant effort to meet children's needs and parental stress intensifies when the responsibilities of raising a child exceed a parent's ability to cope, it potentially impacting overall quality of life of primary caregivers (Ward and Lee, 2020). Being a parent of NDDs they experienced increased tiredness and higher level of parental stress, to overcome feeling of unwellness and emotional strain they utilized emotion focused coping. Additionally, caregivers were almost three times more inclined to experience poor quality of life compared to those with normally developing children (Faden et al., 2023). Contributing factors to parental stress include financial pressures, such as difficulty meeting basic needs, and overwhelming childcare responsibilities like feeding and supervising children without adequate support (Craig and Churchill, 2018). Balancing work and family life adds to the stress, especially when parents feel inadequate in both roles. Managing child behavioral issues like aggression can be mentally draining, and the lack of a support network further amplifies stress, leading to isolation and a sense of being overburdened (Cheng and Lai, 2023).

Parental stress can lead to emotional exhaustion, leaving parents overwhelmed and unable to cope, which affects their care giving abilities. It is associated with decreased mental well-being, including anxiety, depression, and low self-efficacy. Physically, stress can cause fatigue and headaches and weaken the immune system, increasing health risks (Cousineau et al., 2019). It can also strain relationships with

partners, friends, and family due to a lack of time or energy for social connections. Overall, high parental stress reduces quality of life, hindering engagement in leisure activities and diminishing life satisfaction and well-being (Neece et al., 2012).

Parents of child with special needs, along with chronic illnesses and behavioral and/or mood disorders, are said to have elevated levels of parenting stress (Romero et al., 2021). Parenting a child with special needs affects parental life quality as it is challenging, more demanding, and more effortful. It comes with more difficulties, resulting in an adverse quality of life across all aspects, along with elevated stress levels (Vasilopoulou and Nisbet, 2016).

The way in which parents cope with stress can significantly impact their overall quality of life. Three type of coping strategies , problem focused and emotion focused coping strategies may decrease stress and improve well-being, while avoidance coping strategies can exacerbate stress and negatively impact a parent's mental health and daily functioning (Brown et al., 2020). Parents experiencing high levels of stress may turn to avoidant coping mechanisms, such as substance abuse, overeating, or other self-destructive behaviors, as a way to self-soothe. Although these measures offer temporary relief , they result in long-term health problems, perpetuating a cycle of stress and negatively impacting both physical and mental well-being. When parents withdraw socially as a response to stress, they miss out on crucial social support, which is often a protective factor against stress (Amaro et al., 2021). Social withdrawal may lead to isolation and feelings of loneliness, reducing opportunities for emotional venting and practical help from friends or family. Continually thinking about distressing situations or negative feelings, which leads to heightened anxiety and depressive symptoms. For parents dealing with stress, especially when it comes to parenting a child with additional needs, rumination prevents problem-solving and creates a sense of helplessness. Repeated negative thinking exacerbates stress levels, limits the ability to cope with parenting challenges adaptively, and lowers the overall quality of life due to increased psychological distress (Brandt et al., 2022). Parents effectively cope in managing the challenges of raising a child with neurodevelopmental disabilities when they receive support from relatives or friends, healthcare professionals, awareness of treatment options, positive connections with fellow parents, and time for hobbies

and spiritual activities, all of which can enhance their selfefficacy and confidence (Haque et al., 2024).

Quality of life is not only confined to the biological aspect of life but also to the other aspects of life, including psychological, environmental, and social aspects of life (Teoli and Bhardwaj, 2025). Physically, care giving demands can lead to fatigue and neglect of their health. Mentally, ongoing challenges contribute to increased stress, anxiety, and depression. Socially, limited opportunities for interaction can result in isolation and a lack of support, while emotionally, constant stress and grief over unmet expectations can lead to exhaustion. These factors collectively affect overall life satisfaction, as parents may find their personal growth, career, and leisure opportunities restricted, leading to a reduced life quality (Alenezi et al., 2024; Faden et al., 2023; Mahjoob et al., 2024).

The current study aims to examine the impact of parental stress and coping strategies role, shedding light on the ways in which coping mechanisms can either alleviate or intensify the challenges faced by these parents.

1.2 Gap Analysis

Parents of children with conditions like Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, and Intellectual Disability often encounter significant challenges and overwhelming responsibilities, resulting in heightened stress and a diminished quality of life (van der Lubbe et al., 2024). These negative effects not only cause effect on quality of life of parents, however influence the children, who rely on their caregivers for both emotional and physical support. Research shows that implementing effective coping strategies can greatly alleviate these stressors, enhancing results for both parents and children (Suen et al., 2021).

One notable gap in the literature is the narrow focus of existing studies, which predominantly examine parents of children with ASD and ADHD, often neglecting other NDDs like ID. For example, ALBusaidi et al. (2022) underscored the necessity for research that spans a wider array of NDDs and co-occurring conditions. Similarly, Faden et al. (2023) pointed out that most studies concentrate

solely on ASD and ADHD, overlooking parents who are dealing with other neurodevelopmental issues like intellectual disability . This limited focus constrains the applicability of findings and diminishes a holistic understanding of the diverse challenges encountered by parents of children with various NDDs.

Another significant shortcoming is the insufficient attention given to child-related factors. Aspects such as the age of child , the severity condition, and duration of the illness often neglected, despite their potential substantial impact on parental stress and coping strategies (Faden et al., 2023). It is vital to consider these factors in order to foster a deeper understanding of how specific child traits influence the caregiving experience.

Moreover, the majority of studies tend to focus excessively on mothers, often neglecting the experiences of fathers. This gap was pointed out by Amin et al. (2024), who advocated for research that encompasses both parents to create a more comprehensive view of family dynamics and the challenges of caregiving.

The present study aims to fill these gaps by exploring the influence of coping strategies, parental stress on QoL among parents of children with NDDs, including ASD, ADHD, and ID. Findings would guide the development of targeted interventions and training programs, empowering parents with effective coping strategies to manage their challenges. Ultimately, this research aspires to enhance parental quality of life, improve outcomes for children, and enrich the academic conversation surrounding care giving for children with neurodevelopment difficulties.

1.2.1 Model

Lazarus (1984) stress and Coping theory and quality of life theory (Verdugo et al., 2005), serve as foundation to understand relationship between parental stress, coping strategies, and quality of life. Lazarus (1984) stress and Coping theory describes stress as a dynamic process that arises as in result of interconnection between individuals and their environment. Stress is experienced when individuals perceive a mismatch between the demands of a situation and their available resources to manage those demands.

Parents who view care giving demands as excessive frequently encounter elevated levels of stress, which can significantly reduce their quality of life. They utilizing coping strategies, which according to the theory, are characterized into problem-focused coping and emotion-focused coping. However, the coping strategies they employ determine whether these effects are lessened or worsened for example, using problem-focused coping techniques, such as acquiring behaviour management skills or obtaining professional help, can ease stress by tackling care giving issues directly. These approaches are likely to enhance quality of life by promoting a sense of control and lessening care giving burdens (Vernhet et al., 2019).

Likewise, effective emotion-focused coping strategies, such as practicing mindfulness, building social networks, or prioritizing self-care, can aid parents in managing their emotional stability . These methods enable parents to sustain emotional stability and carve out moments of relief, thereby safe guarding their overall well-being in the face of persistent challenges . Conversely, ineffective coping strategies, such as avoidance or withdrawal, can heighten stress and negatively affect quality of life (Andrioni et al., 2022). For instance, a parent who avoids addressing their child's developmental issues may postpone obtaining vital social support, which can lead to increased stress and worse outcomes for both themselves and their child. Such unhelpful responses can also result in chronic emotional stability , strained relationships, and declining physical wellness, all contributing to a diminished quality of life (Vernhet et al., 2019). The QoL theory emphasizes the impact of these coping strategies on overall quality of life (Brown et al., 2020). These highlights coping strategies as the critical element in the relationship between stress and quality of life, it impact on overall quality of life in all aspects physical, psychological, social and Environmental (Hoffman et al., 2009). Demographic factors were incorporated into the study's assumptions to examine their possible impact on the primary variable, even though they were not included as covariates in the regression model. The study's emphasis on the direct connections between parental stress, coping mechanisms, and quality of life led to the decision to eliminate demographic variables as covariates in the ordinal logistic regression. The model sheds light on the independent relationships between these key variables by not accounting for demographic variables. But it's important to recognize

the possible impact of demographic factors. In order to determine their effect on the relationships of interest, these elements were analysed in the hypothesis.

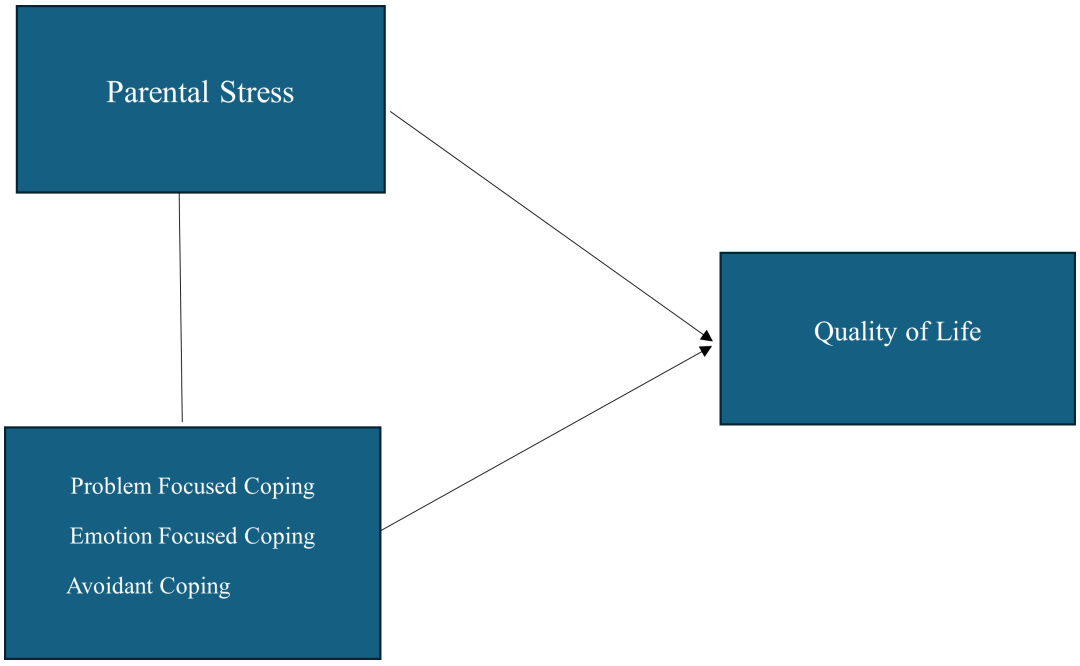

FIGURE 1.1: Conceptual Framework

1.3 Problem Statement

Parenting children with neurodevelopmental difficulties (NDDs) such as Autism Spectrum Disorder (ASD), Attention Deficit Hyperactivity Disorder (ADHD), and Intellectual Disability (ID) poses significant challenges that extend far beyond typical caregiving responsibilities. These parents often face elevated stress levels due to the emotional, behavioural, and physical demands of caregiving, which in turn negatively affects their overall quality of life (QoL) (van der Lubbe et al., 2024). The repercussions of heightened parental stress are not limited to the caregivers themselves but also impact the well-being of the children, who depend heavily on their parents for emotional regulation and day-to-day support.

Although prior research has shown that coping strategies—such as problem-focused, emotion-focused, and avoidant approaches—can mediate the relationship between stress and quality of life (Suen et al., 2021). Several critical gaps remain. First, the current literature is disproportionately centred on ASD and ADHD, often

excluding families of children with intellectual disability and other co-occurring neurodevelopmental conditions (ALBusaidi et al., 2022; Faden et al., 2023). This narrow focus limits the generalizability of findings and fails to capture the diverse experiences of families affected by the full spectrum of NDDs.

Second, important child-related variables such as age, condition severity, and duration of the disorder are frequently overlooked, despite their likely influence on both parental stress levels and coping strategies (Faden et al., 2023). Additionally, there is a gender imbalance in the literature, with most studies disproportionately focusing on mothers, thereby underrepresenting the experiences and coping processes of fathers (Amin et al., 2024).

This research aims to fill existing gaps by exploring how various coping strategies affect the connection between parental stress and quality of life among a diverse group of parents who care for children with ASD, ADHD, and ID. By including a wider array of neurodevelopmental disorders and taking into account both parents' viewpoints, as well as important child-related factors, the research intends to provide a more comprehensive understanding of the challenges faced in caregiving. The results will facilitate the creation of targeted interventions and training programs that equip parents with effective coping strategies, ultimately improving their quality of life and enhancing outcomes for both caregivers and their children.

1.4 Research Questions

This research addresses the following questions:

Research Question 1

How are parental stress, coping strategies, and quality of life related among parents of children with neurodevelopmental disorders (NDDs)

Research Question 2

How do parental stress and coping strategies affect the quality of life for parents of children with NDDs?

Research Question 3

What is the influence and difference in study variables based upon age, gender, socioeconomic status, parents occupation , education , family system, type of disorder of child, severity of condition?

1.5 Research Objectives

The objectives of the study are as follows:

Research Objective 1

To examine the connection between parental stress, coping strategies, and quality of life among parents of children with neurodevelopmental disorders (NDDs), including Autism Spectrum Disorder (ASD), Attention-Deficit/Hyperactivity Disorder (ADHD), and Intellectual Disability (ID).

Research Objective 2

To investigate how parental stress and coping strategies influence the quality of life for parents of children with NDDs.

Research Objective 3

To investigate how demographic variables influence the relationship between parental stress, coping strategies, and quality of life.

1.6 Thesis Organization

This thesis is organized into five chapters, each focusing on essential aspects of the research concerning parental stress, coping strategies, and quality of life among parents of children with NDDs. The structure is outlined as follows:

- **Chapter 1 Introduction** This chapter introduces the research topic by outlining the background and significance of studying parental stress and coping strategies in the context of NDDs. It identifies gaps in existing

literature, presents the problem statement, and establishes three research questions and objectives to guide the study. The conceptual framework, grounded in Lazarus's (1984) Stress and Coping Theory and Quality of Life Theory (Verdugo et al., 2005), is detailed to contextualize the relationships between variables. Additionally, five hypotheses (H1–H5) are formulated to empirically test the interplay between parental stress, coping strategies, and quality of life.

- **Chapter 2 Literature Review** A comprehensive review of existing studies on parental stress, coping strategies, and quality of life is presented. This chapter synthesizes findings from global and local research, highlights theoretical and empirical gaps, and culminates in the formulation of testable hypotheses. Key themes include the prevalence of stress among parents of children with NDDs, the role of adaptive and maladaptive coping strategies, and demographic influences on parental well-being.

- **Chapter 3 Research Methodology** This chapter details the quantitative, cross-sectional correlational design employed in the study. It describes the sample selection criteria (N=200 parents from private-sector centers in Islamabad and Rawalpindi), measurement tools (Parental Stress Scale, Brief COPE, and WHOQOL-BREF), data collection procedures, and statistical analyses (Spearman's correlation, ordinal logistic regression, Mann-Whitney U, and Kruskal-Wallis tests). Ethical considerations and operational definitions of variables are also outlined.

- **Chapter 4 Results** The findings from statistical analyses are presented in this chapter. Descriptive statistics, correlation matrices, and regression results are provided to address the hypotheses. The demographic factors, including parental age, education, occupation, family system, child's disorder, and severity of the disorder, were examined. The findings indicated that parental stress and avoidant coping negatively affect quality of life, whereas emotion-focused coping had no significant effect on the quality of life for parents of children with NDDs.

- **Chapter 5 Discussion and Conclusion** This chapter interprets the results in light of existing literature, discusses theoretical and practical implications, and acknowledges study limitations. Recommendations for future research—such as longitudinal studies and broader sampling—are provided. The conclusion underscores the importance of promoting adaptive coping strategies and social support systems to enhance parental quality of life.

Chapter 2

Literature Review

A growing body of research highlights the significant difficulties encountered by parents of children with neurodevelopmental disorders (NDDs). These parents often face a range of challenges that can profoundly affect their well-being. Recent studies have shown that, in comparison to parents of typically developing children, those raising children with NDDs typically report a much lower quality of life (QoL) and experience much higher levels of parental stress. These stressors are not only emotionally taxing but can also have a long-term impact on their mental health, social relationships, and overall life satisfaction (Faden et al., 2023).A systematic review explored the relationship between parental stress, coping strategies, and quality of life. The results show that avoidant coping methods are associated with worse outcomes, whereas problem-focused coping strategies are linked to enhanced QoL. This suggests that the way parents cope with stress can significantly influence their overall well-being, with active problem-solving approaches having a more positive effect than avoidance-based methods (Suen et al., 2021).

Similarly, another study performed in Saudi Arabia with aim to asses prevalence rate of psychological health of neurodevelopmental disorder child parents, findings Indicates an affected mental health among parents of children with NDDs (Alsaad et al., 2023). Moreover , parents of children with intellectual disabilities encounter numerous stressors that impact various facets of their lives. A study conducted with parents of children who have developmental disabilities found that these parents frequently experience elevated stress levels, which in turn negatively impact

the quality of their sleep. The research, which involved 61 parents of children with developmental impairments, used a descriptive approach to examine the relationship between parental stress and sleep quality, revealing the significant toll stress can take on sleep patterns for these parents. Purposive sampling was used to choose participants, and a demographic questionnaire, the Pittsburgh Sleep Quality Index, and the Parental Stress Scale were used to asses parental stress levels and sleep quality aspect of quality of life , respectively. The findings demonstrated how high stress levels lead to disturbed sleep patterns by showing a substantial positive connection between parental stress and poor sleep quality (Ghosh et al., 2023).

Neurodevelopmental disorders children's parents experienced a significant decrease in quality of life and an increase in parental stress, which is in line with previous studies a systematic review of 45 peers , to examine role of parental stress on quality of life results highlighted the negative effect of parental stress on quality life of parents of children with developmental disabilities (Enea and Rusu, 2020). Furthermore, a research conducted in Saudia Arabia a mixed method approach , quantitative data were collected from 63 parents findings indicates that the degree of parental stress and the decrease in quality of life are closely related to the severity of the child's diagnosis and the intensity of symptoms (Faden et al., 2023). Additionally, previous studies have demonstrated that caregivers of children with neurodevelopmental disorders (NDDs) such as Intellectual Disability (ID), ADHD, and ASD often experience clinically significant levels of anxiety and depression. Other research has also highlighted the negative impact these conditions have on the psychological health of caregivers, further emphasizing the emotional and mental toll of raising children with such disorders (Maridal et al., 2021), And increase in the risk of parental stress and depression in NDDs parents which impact their quality of life observed due various demographic factors (Finless et al., 2024).

Caring for a child with a Neurodevelopmental disability face multiple stresses that elevate parental stress, they places significant physical, financial, and emotional burdens on parents as compared to parents of typically developing children, those with children who have disabilities often indicate lower quality of life and face a higher risk of experiencing physical and mental health issues (Ghosh et al., 2023).

Similarly, another research indicates that caretakers of children with neurodevelopmental problems have difficulties that impair their health-related quality of life, For instance, study employed a cross-sectional, observational, and quantitative methodology to evaluate 25 caregivers' health related quality of life using the Medical Outcomes Study 36-Item Short Form, results showed that vitality and bodily pain had the lowest scores among health related quality of life domains, indicating that caregivers were physically uncomfortable and fatigued (Reis et al., 2020).

Parents of children with NDDs report utilization of coping strategies to cope with parental stress, revelations showed that parents utilizing problem focused coping styles more as compared to avoidance as well as emotional coping styles along with relying on religion which are more often utilized by parents having normal children. The coping strategies are found to be protective against the parenting stress experienced by parents (Bujnowska et al., 2021). However, another finding suggests that children with NDDs can contribute to parental exhaustion, which may lead to the adoption of ineffective coping strategies, resulting in increased stress and anxiety (Antonopoulou et al., 2020).

Parents of children with NDDs use various problem focused coping strategies , focusing on their children's life while accepting the realities of their situation. However, some parents turn to alcohol or antidepressants, while many seek emotional support from others; despite these efforts, only 16.1% manage to integrate coping strategies into their daily lives (Quaid-johar, 2021). Both avoidance coping and emotion-focused coping strategies have been found to negatively affect caregivers' quality of life. Medina-Mora et al. (2019) discovered that families of children with developmental disabilities who frequently rely on avoidance coping report considerably lower quality of life. These studies collectively highlight the negative effects of maladaptive coping strategies, emphasizing their role in exacerbating stress and diminishing overall well-being in families caring for children with developmental and neurodevelopmental disabilities. Similarly, Fairfax et al. (2019) study suggests that families of children with developmental disabilities who often rely on avoidance coping report a significantly lower quality of life. On the other hand, problem-solving and emotion-focused coping strategies are associated with

higher life satisfaction. While active avoidance coping is less commonly used, it is linked to increased levels of negative emotions, anxiety, and depression (Adams et al., 2018).

A study conducted in Taiwan aimed to explore coping strategies and techniques commonly adapted by parents of children with autism. Findings revealed that Taiwanese parents employed both problem-focused strategies (including communication with others, utilizing support from others, and effective management) and emotion-focused strategies (acceptance of the situation and adaptation according to the situation) to tackle and cope with the psychological impacts of parenting a child with autism disorder. The study revealed that these strategies effectively addressed specific situations and enhancing the mental health of parents of children with NDDs (Wei-Chih et al., 2023).

A study conducted in Faisalabad aimed to evaluate the influence of problem-focused and emotion-focused coping strategies on caregivers' stress and life satisfaction for parents of children with neurodevelopmental disorders. The findings highlighted that emotion-focused coping, particularly through support from family, significantly enhances life satisfaction among mothers raising children with these disorders. Additionally, the study found that support from family members and partners plays a crucial role in increasing life satisfaction. Mothers who receive support from their family and spouse consistently report higher satisfaction levels, regardless of the specific neurodevelopmental disorder their child has (Javed and Zahid, 2021)

The study observed that two coping strategies—problem-focused and avoidance-focused—partially affect the relationship between daily parenting challenges and parents' quality of life. Problem-focused coping was found to have a positive influence, while avoidance-focused coping negatively impacted this connection (Saeed and Merza, 2024). Similarly, another study found that problem-focused coping strategies are linked to a higher quality of life, while avoidant coping strategies are associated with a lower quality of life. Problem-focused coping is negatively correlated with a sense of meaningfulness, as parents tend to use it to modify their daily routines in order to motivate themselves to pursue new and evolving life goals (Suen et al., 2021).

Parents of children with ADHD tend to use more ineffective coping strategies compared to parents of TD children. Avoidant coping and seeking social support appear to be the most commonly used strategies among parents of children with ADHD (Craig et al., 2020). Align with previous, another study highlights impact of coping strategies and parental stress, as indicates depressive symptoms of caregivers that when family caregivers use ineffective coping strategies such as behavioral withdrawal, denial, self-distraction, self-blame, substance use, or emotional expression to cope with the frequent and uncontrollable stress associated with parenting, they are more likely to experience higher depressive symptoms (Wen and Chu, 2020).

Parents of ASD utilized more avoidance coping which impact quality of life negatively, whereas problem focused coping protect parental stress and quality of life.. A systematic review followed PRISMA guidelines and examined 11 studies out of 156 identified articles to examine coping strategies, factors influencing these strategies, their interaction with perceived stress, and their impact on parental quality of life (QoL). Additionally, the review found that parents of children with ASD often employ avoidance-based strategies , the variability in selfreported questionnaires used across studies highlights the need for standardized tools to assess coping strategies (Vernhet et al., 2019). Moreover, Children's developmental disabilities indicators of persistent parenting stress over a two-year period. Young single mothers of children with ASD, challenging behaviors, and NDDs who use avoidant coping strategies are at the greatest risk for experiencing high levels of parental stress and poor mental health (Enea and Rusu, 2020).

Emotion focused coping also emerged as a key coping strategy used by these parents , and demographic factors that had an influence were the disorder of the child, socioeconomic status, family size, duration of caregiving, and involvement in training sessions were factors that influenced stress levels in parents (Atos, 2024).

2.1 Summary of Proposed Hypothesis Study

H1 There is significant association between parental stress, coping strategies and quality of life among parents of children with NDDs.

H2 Parental stress has negative and problem focused has positive impact on quality of life among parents of children with NDDs.

H3 Emotion focused coping has positive impact on quality of life among parents of children with NDDs.

H4 Avoidant coping has negative impact on quality of life among parents of children with NDDs.

H5 Demographic characteristics of study variables influence the relationship between parental stress, coping strategies, and quality of life.

Chapter 3

Research Methodology

3.1 Research Design

The study employed a quantitative, cross-sectional correlational research design to investigate the impact of parental stress and coping strategies on the quality of life of parents of children with NDDs, including ASD, ADHD, and ID. This type of design is especially appropriate for determining the relationships and predictive effects of parental stress and coping strategies on quality of life. The data was analyzed using regression-based statistical techniques because they allow for the examination of both the direct and indirect effects of stress and coping strategies on quality of life. By using this design, the study sought to provide empirical evidence on the associations between these variables, contributing to the understanding of parental well-being within the stress-coping framework and quality of life theory.

3.1.1 Population and Sample

The population for this study comprised parents of children with neurodevelopmental disorders. A total of 200 participants were selected using a non-probability purposive sampling technique.

3.1.2 Sampling Procedure

Participants were recruited after obtaining informed consent, ensuring they were fully briefed on the study's purpose and confidentiality measures. After recruitment, standardized assessment scales were distributed among the participants, allowing them sufficient time to complete the assessments.

3.2 Time Horizon

Data for the study was gathered at a particular point in time, following a cross-sectional time horizon. This method made it possible to get a quick overview of the chosen population's stress levels, coping strategies, and quality of life. The time horizon was thoughtfully designed to accommodate the logistical and academic limitations of the study while ensuring sufficient time for data collection, participant recruiting, and resolving any possible issues with institution coordination. The data collection approach was schedule to ensure the participation of parents whose children were actively getting behavioral therapy or educational help.

3.3 Study Setting

The study was carried out at behavioral therapy centers spread throughout the twin cities of Rawalpindi and Islamabad. The accessibility and concentration of private-sector facilities for children with NDDs in these cities led to their selection. A range of therapeutic centers that offer services to children with official diagnoses of ASD, ADHD, or ID between the ages of 3 to 12 years comprised the study environment. The study made sure that participants were actively involved in their child's therapeutic and developmental processes by concentrating on private-sector institutions, which met the inclusion requirements.

The sample size is estimated at 200 comprising of parents (mother or father) based upon the evidence from the literature (Wei-Chih et al., 2023; Atos, 2024; Faden et al., 2023). In order to perform reliable regression analyses and validate the study's assumptions, this sample size was judged adequate.

3.4 Selection Criteria

3.4.1 Inclusion Criteria

Participant of my study were parents of children with neurodevelopmental disorder including ASD, ADHD, and ID), having formal education and belong to middle to higher socioeconomic status (Shiozu et al., 2024). Furthermore, only parents whom children were associate with private sectors. The study included parents of children age ranged 3– 12 years (Reis et al., 2020).

3.4.2 Exclusion Criteria

Participant of my study were parents of children with neurodevelopmental disorder including ASD, ADHD, and ID) and parents were excluded who were unwilling. Study excluded parents associate from government sector. Moreover, parents living outside the region of Rawalpindi and Islamabad are excluded from study.

3.5 Measures

3.5.1 Independent Variable

Parental Stress: 18 Items scale developed by (Berry and Jones, 1995). Scale assesses the feelings of parents described by them as their role of being a parent and assesses both positive and negative aspects of parenting . The scale has four subscale parental reward, parental stress, Lack of control and parental satisfaction, on a 5-point scale with options "1 (strongly disagree) to 5 (strongly agree)". The scale has good reliability and validity and is a sound instruments for assessment of parenting stress with reliability value globally reaching up to .92 (Nærde and Sommer Hukkelberg, 2020; Ekizoglou et al., 2022). Parental Stress Scale appropriate tool to measure parental stress among parents of children with developmental disability (Ghosh et al., 2023).

3.5.2 Independent Variable

Coping Strategies: 28 items scale was developed by Carver (2013). It assesses effective and ineffective ways of coping strategies. The scale rated on a 4-point scale with options "1 (not been doing this at all) to 4 (been doing this a lot)". The scale has 3 subscales problem focused coping having 8 items, emotion-Focused coping having 10 items and avoidant coping subscale having 8 items. The scale has good reliability and validity and is a sound instruments for assessment of coping strategies with reliability values ranging up to .90 (Huda et al., 2022; Pavlova et al., 2022).

3.5.3 Dependent Variable

Quality of Life : 26 items scale developed by WHO (1996). This instrument is used to asses quality of life across four broad domains of physical, social, psychological and environmental aspects. Each item is rated on a 5-point Likert scale, where higher scores indicate better quality of life. The scale is a global instrument with wide usage which makes this scale a reliable and valid instrument to be used with its reliability ranging from .80 to .94 (Amir et al., 2000; Almarabheh et al., 2023).

TABLE 3.1: Scale Related Information

Scale Title	Developed by	Scale Recently Used
PSS	(Berry and Jones, 1995)	(Nærde and Sommer Hukkelberg, 2020; Ekizoglou et al., 2022; Faden et al., 2023)
BRIEF COPE	(Carver, 2013)	(Huda et al., 2022; Pavlova et al., 2022; Saeed and Merza, 2024)
WHO Quality of Life	WHO (1996)	(Amir et al., 2000; Almarabheh et al., 2023; Faden et al., 2023)

3.6 Operational Definitions

3.6.1 Parental Stress

The psychological and emotional strain that parents endure as a result of the demands of raising a kid is referred to in this study as parental stress. It covers

the positive and negative aspects of parenting . While role limitations, emotional tiredness, and difficulties relating to child behaviour issues or caring responsibilities are negative aspects of parenting, positive aspects include emotions of joy, fulfillment, and emotional closeness. The Parental Stress Scale (PSS), which assesses both aspects through items that represent the benefits and difficulties of parenting, will be used to quantify parental stress. While lower ratings imply a more satisfying or balanced parenting experience, higher scores indicate higher levels of parental stress (Vasilopoulou and Nisbet, 2016).

3.6.2 Coping Strategies

Coping methods refer to the specific behavioral and cognitive strategies parents use to manage the stress of raising a child with neurodevelopmental disabilities. These coping strategies are assessed using the Brief COPE Scales, which include emotion-focused coping (e.g., seeking emotional support), problem-focused coping (e.g., active problem-solving), and avoidant coping (e.g., denial or disengagement). The extent to which parents use these strategies is reflected in their scores on each subscale. While avoidant coping is expected to negatively impact parental quality of life, the effective use of problem-focused and emotion-focused coping strategies is believed to improve it (Brown et al., 2020).

3.6.3 Quality of Life

Quality of life (QoL) refers to the overall well-being and life satisfaction of parents across physical, psychological, social, and environmental domains. It is examined using a standardized scale, such as the WHOQOL-BREF, which examines physical health, mental well-being, social interactions, and environmental factors. Higher ratings imply greater quality of life, showing favorable health, emotional stability, social support, and life satisfaction. On the other hand, lower scores indicate a power quality of life , which is typified by stress, exhaustion, loneliness, and unfulfilled environmental or personal demands. This definition emphasizes how quality of life is multifaceted and how it relates to parenting difficulties (Teoli and Bhardwaj, 2025).

3.7 Data Collection Procedure

Getting the university's ethical review committee's approval was the first step in the data collection process. By taking this step, the study was ensured to comply with ethical guidelines, which include informed consent, questionnaires and confidentiality. A formal letter from the university was delivered to the administrative leaders of a few chosen behavioral therapy institutions following ethical clearance. The letter requested permission to approach parents for participation and included an explanation of the study's goals, procedures, and purpose.

After receiving institutional approval, parents were approached individually through the centers. Potential parents were informed of the study's significance and goal, with a focus on the fact that participation was entirely voluntary. Parents received assurances that their answers would be kept private and make sure confidentiality. A data collection material was given to participants who indicated an interest in participating in the study. Which included Informed consent form provided participants with information about the study's goals, rights, and confidentiality guarantees. In order to give their consent, parents had to sign this paper.

Demographic Information sheet in this section, participants' age, educational attainment, socioeconomic situation, and the child's diagnosis were gathered. Standardized Scales including Parental stress, coping strategies and quality of life were evaluated using validated assessment instruments. The participants had enough time to finish the questionnaires in a comfortable environment at their home, the therapy center depending on what worked best for them. Throughout the process, researchers were available to answer any questions or concerns, making sure that participants comprehended the questions and gave truthful answers. To reduce the amount of missing data, the completed surveys were gathered and examined for completeness. To ensure confidentiality, each participant was given a unique identifying code, and the information was safely kept. The goal sample size was attained because the data gathering procedure was finished in the allotted time.

3.8 Ethical Consideration

Following ethical approval from the Ethical Committee of Capital University of Science and Technology, data collection was initiated. Informed consent was obtained from the participants parents, ensuring their voluntary participation. The study adhered to ethical principles, maintaining participant confidentiality and the right to withdraw at any stage. All procedures were conducted in accordance with the ethical guidelines of the American Psychological Association (APA).

3.9 Analysis

The relationship between parental stress, coping strategies, and quality of life among parents of children with neurodevelopmental disorders was examined through data analysis using SPSS. Descriptive statistics, including means and standard deviations, were calculated. To analyze the relationships between parental stress, coping strategies, and quality of life, Spearman's correlation was employed. The Mann-Whitney U test was used to compare demographic factors, such as gender, occupation, and family structure, across two groups, as the data did not follow a normal distribution. Additionally, the Kruskal-Wallis test was applied to assess the impact of demographic variables with more than two categories on parental stress, coping strategies, and quality of life.These variables included parental age, education level, child disorder, and severity of the disorder.

Chapter 4

Results

4.1 Demographic Characteristics of the Sample

The sample were included 50% male and 50% female. The respondents were well educated 92% were having bachelor, 90% were masters, 17% had degree of doctorate and only 1 % with other degree among all respondents 95% were married, 3.5 were divorced/ separated and 1.5% were widow in total marital status. 18.5% were unemployed and 81.5% were employed and 55.5 were living in extended family whereas 44.5% were from nuclear family system. 41% had household income 40,000 – 100,000 and 59% were from more than 100,000 household. Respondents were having children that 63% were male child and 37% were female. 26% were having 0 siblings, 26.5% were having only 1 sibling, 31.5 had 2 siblings, 14% had 3 number of siblings and only 2% had 4 number of siblings. 80.5% were first child, 18% respondents of seconds child and 1.5% parents were of third child with having NDDS. Respondents included in my study parents of children in whom 35% had ASD, 35% were with ADHD and 30% had ID disorder respectively. Among all 1% children were with mild, 52.5% were moderate and 46.5% were with severe condition. 1% children were with less than 1 year duration of illness, 26.5% were in 1 –2 years duration, 37% had illness from 3 – 4 years and 35.5% were more than 5 years of duration and all children had treatment / therapy before. Complete details of all demographics is in given Table 4.1.

TABLE 4.1: Demographic and Clinical Characteristics of Respondents and Their Children (N = 200)

Variable	n	%
Gender of Respondents		
Male	100	50
Female	100	50
Marital Status		
Married	190	95
Divorced/Separated	7	3.5
Widow	3	1.5
Education		
Bachelor	92	46
Master's	90	45
Doctorate	17	8.5
Other	1	0.5
Occupation		
Unemployed	37	18.5
Employed	163	81.5
Family System		
Extended Family	111	55.5
Nuclear Family	89	44.5
Household Income (PKR)		
40,000 – 100,000	82	41
More than 100,000	118	59
Child Gender		
Male	126	63
Female	74	37
Number of Siblings		
0	52	26
1	53	26.5
2	63	31.5
3	28	14
4	4	2
Child Birth Order		
First Child	161	80.5
Second Child	36	18
Third Child or Higher	3	1.5
Child's Diagnosis		
Autism Spectrum Disorder (ASD)	70	35
Attention-Deficit/Hyperactivity Disorder (ADHD)	70	35
Intellectual Disability (ID)	60	30
Severity of Condition		
Mild	2	1
Moderate	105	52.5
Severe	93	46.5
Duration of Condition		
Less than 1 year	2	1
1 – 2 years	53	26.5
3 – 4 years	74	37
More than 5 years	71	35.5
Prior Treatment Received		
Yes	200	100

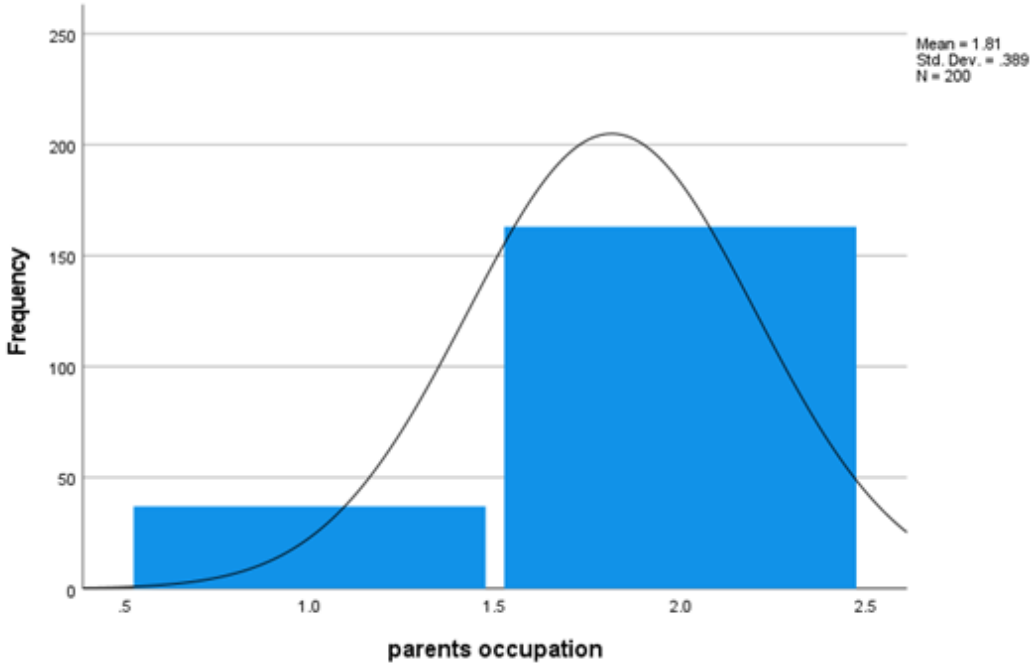

FIGURE 4.1: Parents Occupation

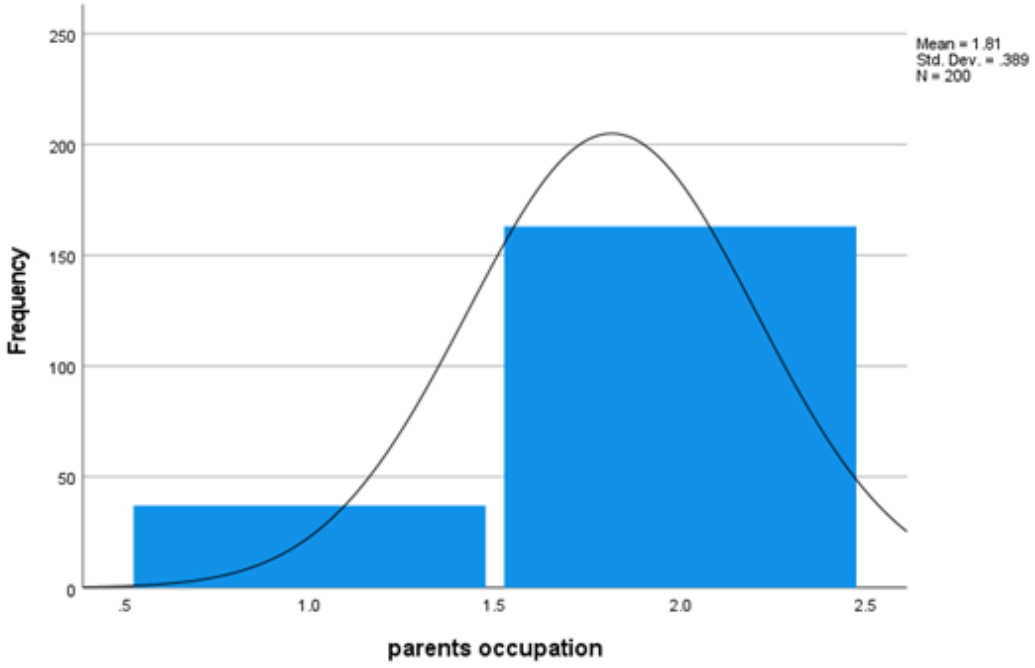

FIGURE 4.2: Parents Education

The employment graph 4.1 indicates that 81.5% of the respondents were employed, while 18.5% were unemployed. Employment plays a crucial role in providing financial stability, which directly affects a family's ability to access medical care, therapy, and support services for their child with NDDs. Unemployed parents may

face additional stress due to financial constraints and limited resources, potentially affecting their mental and emotional well-being.

The education graph 4.2 reveals that 46% of parents held a bachelor's degree, 45% had a master's, 8.5% had a doctorate, and only 0.5% had other educational qualifications. The high proportion of educated respondents suggests that many parents in the study may have access to better information regarding their child's condition and available interventions. Education level can influence how parents manage stress and seek appropriate resources, as higher education is often associated with greater awareness and problem-solving abilities.

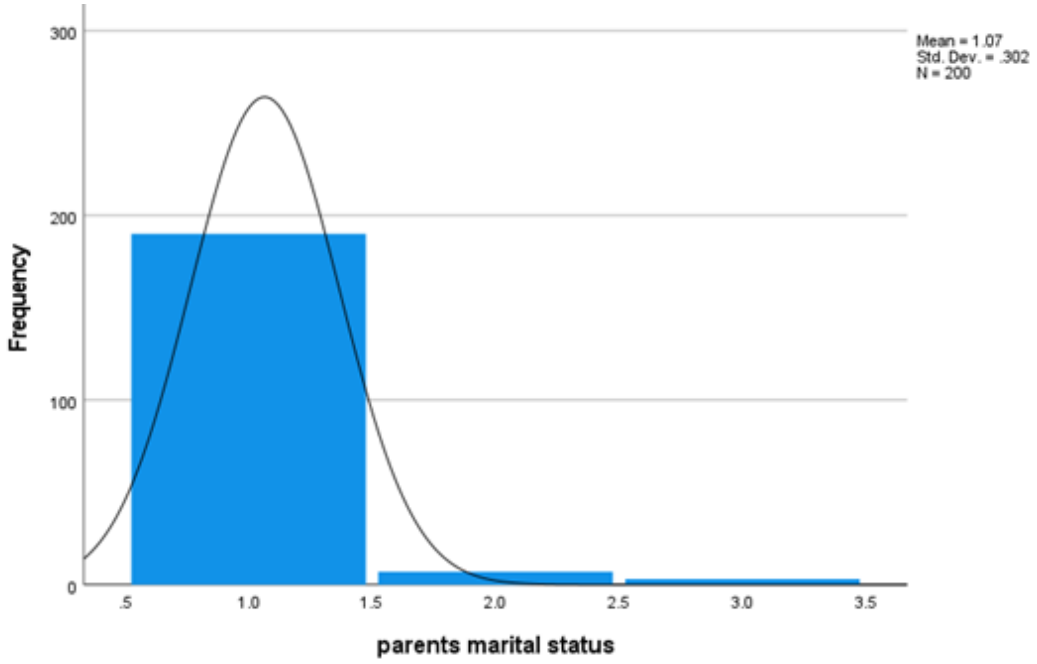

FIGURE 4.3: Parents Marital Status

The graph 4.3 shows that a vast majority (95%) of the respondents were married, while 3.5% were divorced or separated, and 1.5% were widowed. The predominance of married parents suggests that most participants had a potential support system in place. However, the presence of divorced, separated, and widowed parents highlights a subgroup that may face additional challenges, such as reduced emotional or financial support, which could significantly impact their coping strategies and overall well-being.

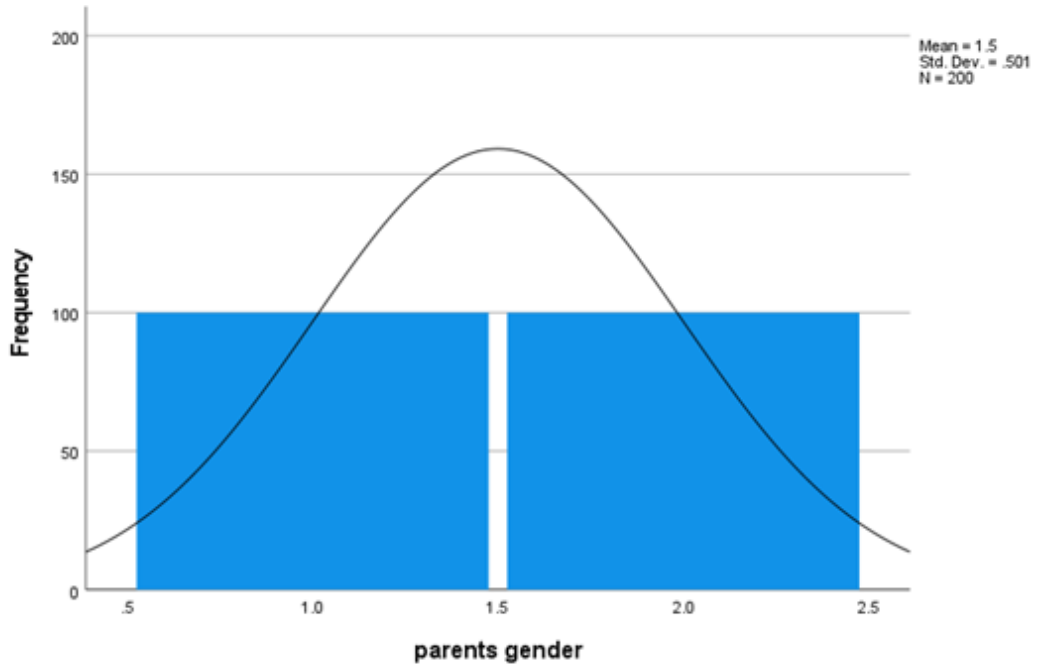

FIGURE 4.4: Parents Gender

The graph 4.4 illustrates that the study sample consisted of an equal number of male and female respondents, with each gender representing 50% of the total participants. This balanced distribution ensures that the findings reflect the perspectives of both fathers and mothers of children with neurodevelopmental disorders (NDDs). It also allows for a comparative analysis of how gender differences may influence parental stress, coping mechanisms, and quality of life.

The income distribution graph 4.5 indicates that 41% of respondents reported a household income between 40,000–100,000 PKR, while 59% earned more than 100,000 PKR. Financial stability plays a critical role in accessing specialized care, therapies, and educational resources for children with NDDs. Families with lower incomes may struggle with affording necessary interventions, potentially increasing parental stress. These findings highlight the importance of financial assistance programs and accessible healthcare services to support families from diverse socioeconomic backgrounds.

The child gender graph 4.6 reveals that 63% of the children were male, while 37% were female. This distribution aligns with the higher prevalence rates of certain neurodevelopmental disorders, such as autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD), which are more commonly

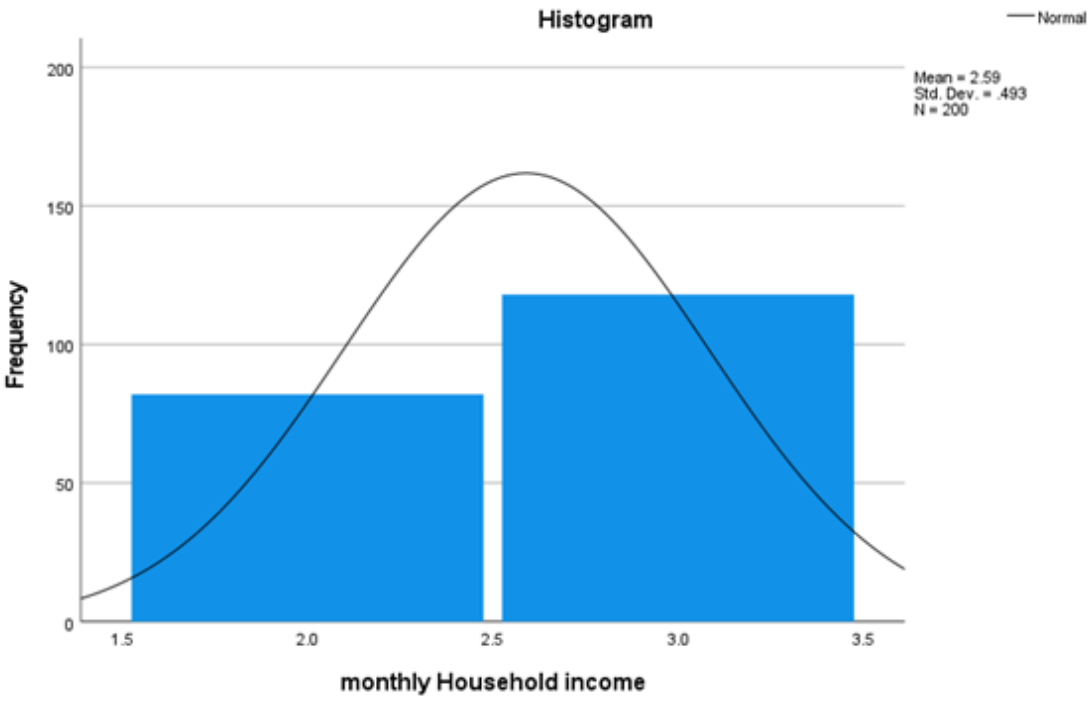

FIGURE 4.5: Monthly Household Income

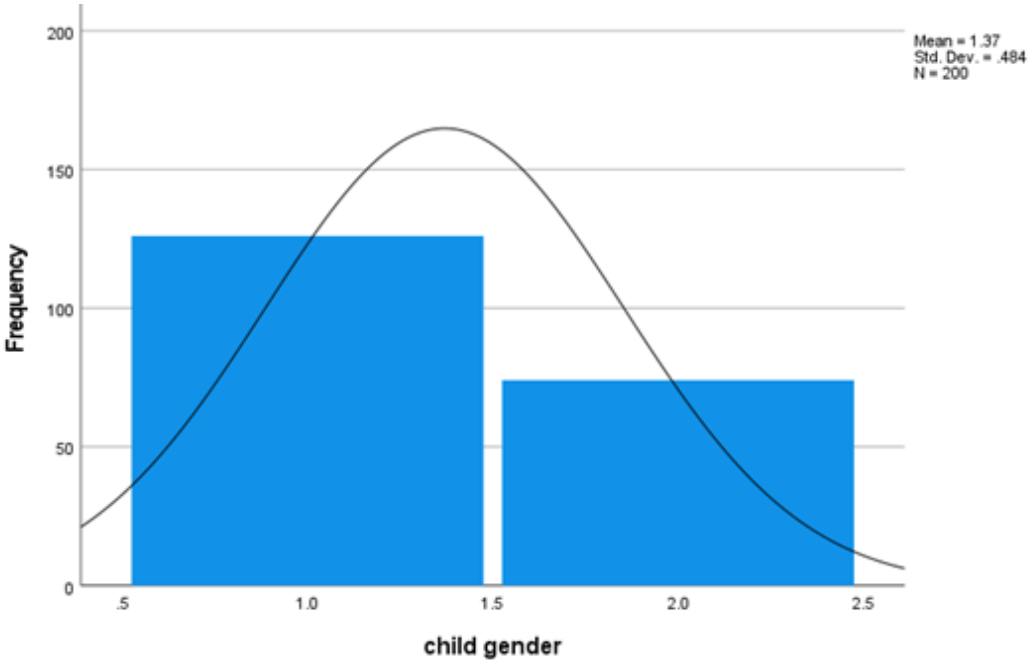

FIGURE 4.6: Child Gender

diagnosed in boys. Understanding gender distribution among children with NDDs helps in identifying patterns and tailoring interventions accordingly.

The graph 4.7 shows that 26% of the children had no siblings, 26.5% had one sibling, 31.5% had two siblings, 14% had three siblings, and only 2% had four or

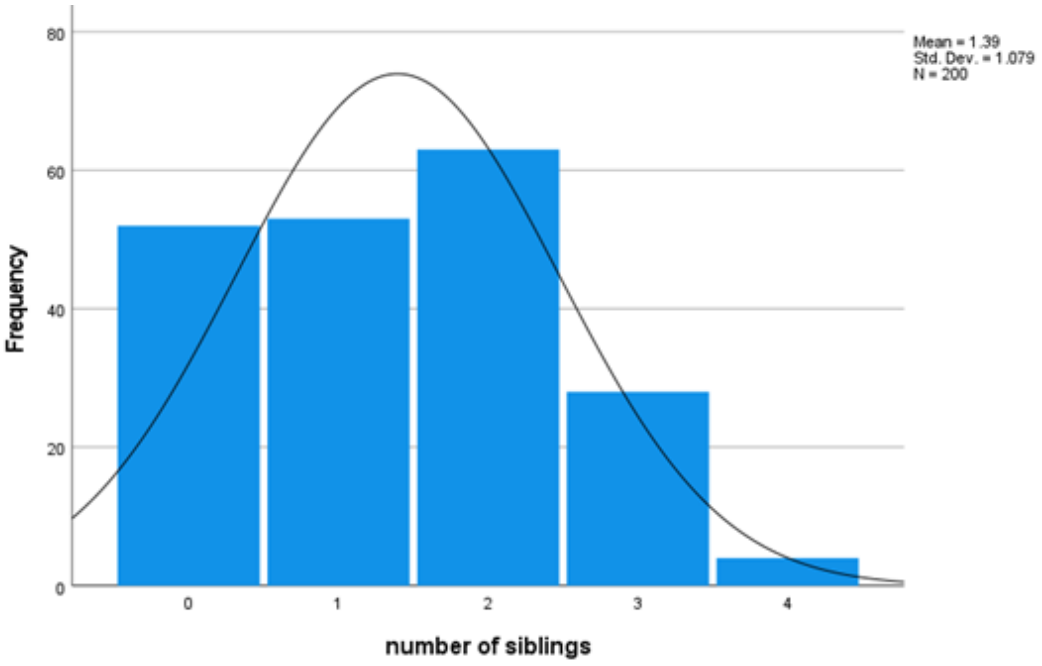

FIGURE 4.7: Number of Siblings

more siblings. The presence of siblings can influence a child's social development and the family's overall stress levels. Parents with multiple children may face additional caregiving challenges, balancing the needs of both their neurotypical and neurodivergent children.

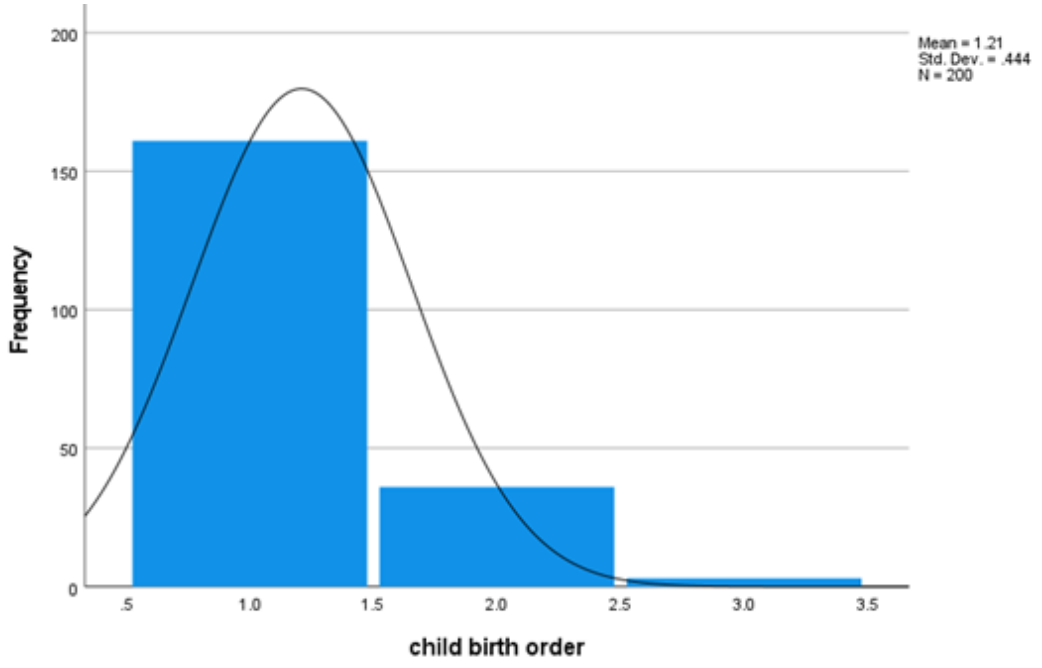

FIGURE 4.8: Child Birth Order

The graph 4.8 indicates that 80.5% of children with NDDs were the firstborn, 18% were the second-born, and only 1.5% were the third or later-born child. A higher prevalence of firstborn children with NDDs may suggest a range of genetic, environmental, or perinatal risk factors. Additionally, birth order may influence parental expectations and caregiving dynamics, as first-time parents may experience greater stress due to a lack of prior caregiving experience.

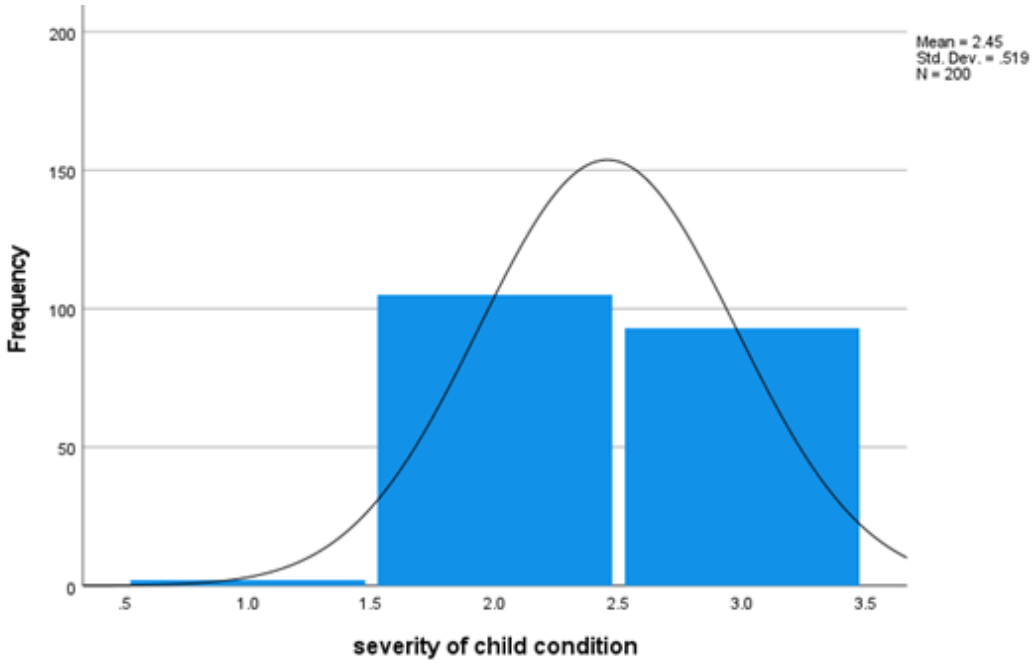

FIGURE 4.9: Severity of Child Condition

The graph 4.9 reveals that 1% of children had a mild condition, 52.5% had a moderate condition, and 46.5% had a severe condition. The severity of the disorder is a significant factor influencing parental stress and coping strategies. Parents of children with severe conditions may experience higher caregiving demands, emotional distress, and financial burdens, making coping mechanisms and quality of life crucial areas of concern.

The graph 4.10 illustrates that 1% of children had been diagnosed for less than a year, 26.5% had been diagnosed for 1–2 years, 37% had been living with the condition for 3–4 years, and 35.5% had been diagnosed for more than 5 years. The duration of illness may impact how parents adapt to their child's condition over time. Long-term caregivers may develop better coping strategies, while newer caregivers may experience heightened stress and uncertainty.

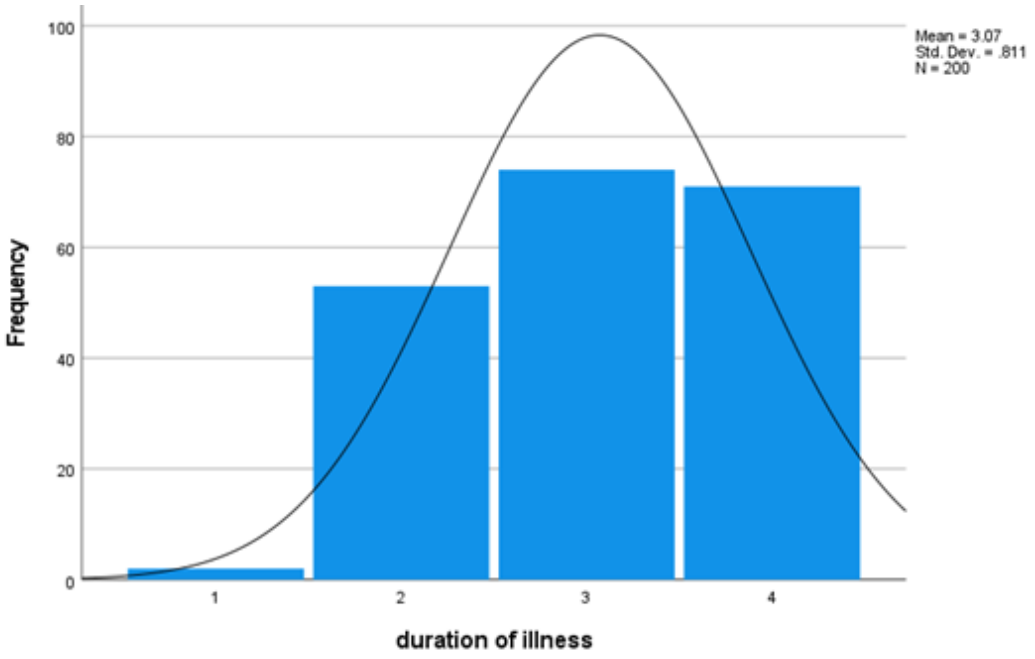

FIGURE 4.10: Duration of Illness

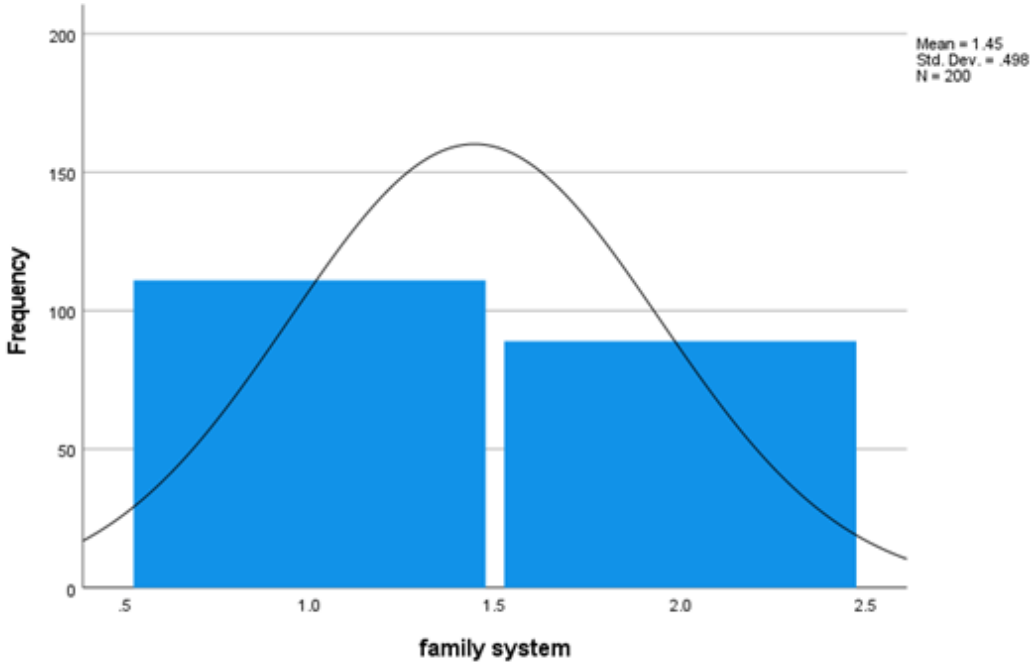

FIGURE 4.11: Family System

The family system graph 4.11 shows that 55.5% of the respondents belonged to an extended family system, while 44.5% lived in a nuclear family structure. Parents in extended families may benefit from additional support from relatives, which can help in managing caregiving responsibilities and reducing stress. In contrast, parents in nuclear families may experience higher caregiving demands, as they rely

solely on their immediate family for support. This dynamic could influence coping strategies and the overall well-being of parents raising children with NDDs.

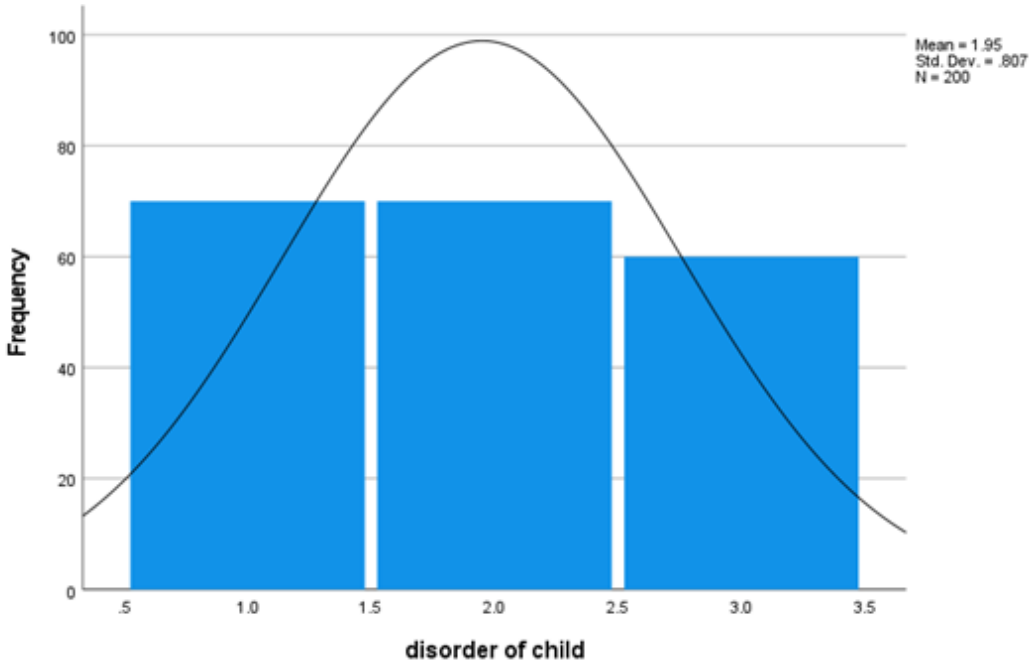

FIGURE 4.12: Disorder of a Child

The disorder graph 4.12 shows that 35% of children were diagnosed with ASD, 35% with ADHD, and 30% with intellectual disability (ID). Understanding the distribution of neurodevelopmental disorders in the sample helps contextualize parental experiences, as different conditions present unique challenges. For instance, ASD may require intensive behavioral interventions, while ADHD may demand structured routines and medication management.

4.2 Reliability of Scales and Descriptive Statistics

Table 4.2 presents the study's descriptive statistics for the scales and subscales, providing insight into parental stress, coping mechanisms, and quality of life among parents of children with neurodevelopmental disorders. These statistics offer a comprehensive overview of the psychological and emotional burden experienced by parents, as well as their adaptive strategies in response to stress.

Table 4.2: Descriptive Statistics

Scales	N	α	M	SD	Range		S	K
					A	P		
PSS	18	.88	62.48	9.60	18 – 90	43 - 80	.260	-1.19
PF	8	.86	18.28	4.36	8 – 32	10 - 27	-.05	-1.30
EF	12	.10	25.69	2.95	12 – 48	18 - 32	-.53	-.07
AC	8	.87	16.98	4.94	8 – 32	8 - 29	.09	-1.20
Physical	7	.82	18.64	3.70	7 – 35	10 - 28	.27	-.53
Psychological	5	.83	13.33	2.81	5 – 25	7 - 21	-.06	-1.06
Social	3	.83	6.78	2.02	3 – 15	3 - 12	.27	-.25
Environmental	8	.76	20.45	3.31	8 – 40	13 - 31	.20	-.13

Note. N = Total number of items, M = Mean, SD = Standard Deviation, α = Cronbach's Alpha < 0.7** , P= Potential, A= Actual, S= Skewness.

The Parental Stress Scale (PSS), which consists of 18 items and has a Cronbach's alpha of 0.88, reported a mean score of 62.48 (SD = 9.60) within an actual range of 43–80. This suggests that parents in the study experience moderate to high levels of stress, potentially influenced by the challenges associated with caregiving responsibilities, emotional demands, and daily life adjustments.

Among the coping mechanisms assessed, the mean scores varied across different domains. Physical health, a key component of well-being, had a mean score of 18.64 (SD = 3.70), reflecting the extent to which parents are able to maintain their health despite caregiving stress. Psychological health, with a mean score of 13.33 (SD = 2.81), indicates the emotional and cognitive resilience of parents in managing stressors. Social relationships, which received a mean score of 6.78 (SD = 2.02), highlight the level of perceived social support and interpersonal interactions available to parents. Lastly, environmental quality, with a mean score of 20.45 (SD = 3.31), reflects the influence of external factors such as financial resources, living conditions, and access to support systems in shaping overall well-being.

Cronbach's alphas for these coping mechanisms ranged from 0.76 to 0.83, indicating acceptable to good internal consistency. These findings underscore the importance of targeted interventions that enhance coping resources, promote social support, and improve the overall quality of life for parents managing the

complexities of raising children with neurodevelopmental disorders.

4.3 Normality Assumptions

TABLE 4.3: Normality assumption

Scale	Mean	Median	Mode	SD	Skewness	Kurtosis	K-S	P
PSS	62.48	60.00	54	8.81	0.26	-1.19	0.13	<.001
Problem Focused	18.28	19.00	14	4.35	-0.05	-1.30	0.13	<.001
Emotion Focused	25.69	26.00	27	2.94	-0.53	-0.07	0.13	<.001
Avoidant	16.98	16.00	22	4.90	0.09	-1.20	0.13	<.001
Physical	18.64	18.00	16	3.70	0.27	-0.53	0.09	<.001
Psychological	13.33	14.00	16	2.81	-0.06	-1.06	0.16	<.001
Social	6.78	6.00	6	2.02	0.27	-0.25	0.15	<.001
Environment	20.45	20.00	21	3.33	0.20	-0.13	0.08	0.001

Note. M= Mean , SD= Standard Deviation, K-S Kolmogorov-Smirnov , p = K-S significance value , PSS= parental Stress Scale.

Table 4.3 indicates that the outcomes of the Kolmogorov-Smirnov and Shapiro-Wilk tests showed significant departures from normality across all variables, including the Parental Stress Scale (PSS), Problem-Focused (PF) coping, Emotion-Focused (EF) coping, Avoidant coping, and the different quality of life dimensions (physical, psychological, social, and environmental), with p-values $< .05$. These results suggest that the data do not fulfill the criteria for normality.

The descriptive statistics provide additional insight into the dataset's characteristics. The mean for PSS was 62.49 (SD = 8.81), with scores varying between 43 and 80. PF and EF had means of 18.28 (SD = 4.36) and 25.70 (SD = 2.94), respectively. Avoidant coping had a mean of 16.99 (SD = 4.94), with skewness and kurtosis values close to zero, indicating slight asymmetry.

The quality of life dimensions had mean scores of 18.65 (SD = 3.71) for physical, 13.33 (SD = 2.82) for psychological, 6.78 (SD = 2.03) for social, and 20.46 (SD = 3.33) for environmental. There is a deviation from normal values, where the left tail in the lower range fell below the anticipated normal values, whereas the right

tail in the higher range exceeded expected values, indicating positive skewness. For PSS, skewness was 0.260 and kurtosis was -1.198.

4.4 Spearman Correlation

TABLE 4.4: Correlation Matrix

Variables	1	2	3	4	5
Parental Stress Scale	1				
Problem Focused	-0.67**	1			
Emotion Focused	-0.25**	0.37**	1		
Avoidant Coping	0.71**	-0.79**	-0.46**	1	
Quality of Life	-0.64**	0.85**	0.36**	-0.77**	1

*Note. P ¡ 0.001 ***, p ¡ 0.05 **, p ¡ 0.01.*

Test Hypothesis H1

Table 4.4 indicates significant relationship between different coping strategies and quality of life shown by the Spearman correlation coefficients. The Parental Stress Scale and Quality of Life are strongly correlated negatively (r= -.64)indicating that increase in parental stress leads towards lower quality of life which align with previous study result that parents of children with NDDs experience notably lower quality of life (QoL) and higher levels of parental stress than parents of typically developing children (Faden et al., 2023). Another study ASD reported elevated parenting stress, which was associated with deteriorating quality of life (Suen et al., 2021). Quality of life is strongly positively correlated with the Problem-Focused Coping approach.85 showing that having good problem-solving abilities improves one's perception of life quality, a similar study result that highlights that problem-solving and emotion focused coping techniques are associated with increased positive impact on life satisfaction (Adams et al., 2018). Avoiding Coping has a positive correlation with parental stress (0.71) and a negative correlation with both quality of life (0.77), indicating that avoidance coping increase stress and lower overall quality of life ,as previous study have similar results that active

avoidance coping although less frequently used, is correlated with higher levels of negative emotions, anxiety and depression (Adams et al., 2018).

4.5 Ordinal Logistic Regression

Test hypothesis H2 -H4

H2: Parental stress has negative impact and problem focus has positive impact on QoL

TABLE 4.5: Ordinal Logistic Regression Results for PSS, Problem focused and Quality life .

Predictors	B	SE	X^2	*P*	R^2	95% Cl	
						Lower Bound	Upper Bound
PFC	-0.28	0.06	22.7	<.001	0.45	-0.4	-0.16
QoL	-0.23	0.13	3.07	0.08	0.45	-0.5	0.02

*Note. PFC= problem focused coping , QoL=quality of life , B= Estimated , p < .05**

H2: Parental stress has a negative impact, and problem focus has a positive impact on QoL

Table 4.5 indicates the effect of parental stress, problem-focused coping, and quality of life on the probability of various quality of life outcomes was evaluated using ordinal regression analysis. The model's overall significance is confirmed by its Chi-Square of 120.818 (df = 2, $p < 0.001$), which shows a considerable improvement over the intercept-only model. The model fits the data well, according to the Goodness-of-Fit statistics, which show non-significant Pearson ($p = 0.865$) and Deviance ($p = 1.000$) values. According to the pseudo R-squared values, the model explains around 45% of the variation in quality of life outcomes, according to Cox and Snell (0.453) and Nagelkerke (0.454).

Additional information about the relationships between variables is provided by the parameter estimations. With negative coefficients showing that higher stress levels are linked to decreased odds of falling into quality of life categories, the

threshold estimates for the Total Parental Stress Scale (PSS) are all highly significant ($p < 0.001$). Problem-focused coping (Total_PF) significantly lowers quality of life for the predictors ($B = -0.284$, $p < 0.001$), indicating that the more problem-focused coping one has, the more likely one is to fall into a lower quality of life category. Despite being marginally significant ($p = 0.080$), Total Quality of Life (Total_QL26) has a negative correlation with the outcome variable, indicating a tendency toward a lower parental stress and lower quality of life with higher QL26 quality of life scores.

These results imply that coping strategies and parental stress both have a substantial impact on quality of life, even while quality of life had a negligible impact on itself, in contrast to previous study results which indicated that problem-focused coping had a positive impact on quality of life and negative on parental stress (Saeed and Merza, 2024). The results partially align with study results which highlight that problem focused coping less effective because of child severity of disorder, which restricted coping strategies effectiveness leads towards emotional exhaustion and lower quality of life (Faden et al., 2023).

H3: Emotion focused has positive impact on QOL

The model performs better than a model with no predictors, as indicated by the chi-square value of 96.429 ($p < 0.001$), which indicates that it fits the data well. The pseudo R-squared values, which show how much of the variation in the data the model explains, were Cox and Snell = 0.383, Nagelkerke = 0.383, and McFadden = 0.073. Every threshold estimate had confidence intervals that excluded zero and was statistically significant ($p < 0.001$). The findings demonstrated that when parental stress (*Total_PSS*) rises, quality of life (*Total_QL26*) falls ($B = -0.75$, $p < 0.001$). On the other hand, stress was not significantly impacted by emotion-focused coping (*Total_EF*) ($B = -0.002$, $p = 0.95$), a study outcome that aligns with my results, which were conducted on Kurdish parents of children with neurodevelopmental disorders (NDDs). With a sample of 206 parents and a quantitative, correlational design, the results indicate that emotion-focused coping has no effect on quality of life (Saeed and Merza, 2024).

TABLE 4.6: Ordinal Logistic Regression Results for PSS, Emotion focused and Quality life.

Predictors	B	SE	X^2	*P*	R^2	95% Cl	
						Lower Bound	Upper Bound
EFC	-0.002	0.04	0.003	0.95	0.38	-0.09	0.08
QoL	-0.75	0.13	77.47	<.001	0.38	-0.92	-0.58

*Note. EFC= Emotion focused coping , QoL=quality of life , B= Estimated ,SE= Standard Error, p ¡ .05**

H4: Avoidant focused has negative impact on quality of life

TABLE 4.7: Ordinal Logistic Regression Results for PSS, Avoidant coping and Quality life.

Predictors	B	SE	X^2	*P*	R^2	95% Cl	
						Lower Bound	Upper Bound
AC	-0.29	0.04	48.22	<.001	0.38	-0.21	-0.38
QoL	-0.28	0.10	7.18	0.007	0.38	-0.48	-0.07

*Note. AC= Avoidant coping , QoL=quality of life , B= Estimated ,SE= Standard Error, p ¡ .05**

Table 4.7 shows that the ordinal regression analysis revealed that the final model significantly improved the fit compared to the intercept-only model (Chi-square = 149.777, $p < 0.001$). The pseudo R-squared values were Cox and Snell = 0.527, Nagelkerke = 0.528, and McFadden = 0.113. The threshold estimates for *Total_PSS* were significant for most values ($p < 0.05$). The analysis also showed that avoidant coping was positively associated with stress ($B = 0.29$, $p < 0.001$), and quality of life (*Total_QL26*) was negatively associated with stress ($B = -0.28$, $p = 0.007$). These findings suggest that avoidant coping worsens stress and lowers quality of life, similar to results from previous literature, as avoidant coping strategies are at highest risk for high levels of parental stress and poor mental health (Enea and Rusu, 2020).

4.6 Independent Sample Test

Test hypothesis H5

TABLE 4.8: Occupation Respondents

Measure	Unemployed M (200)	Employed M (200)	U	P
PSS	70.27	107.36	1897.00	<.001
Problem Focused	116.01	96.98	2441.50	0.070
Emotion Focused	120.31	96.00	2282.50	0.020
Avoidant Coping	67.80	107.92	1805.50	<.001
Physical	117.04	96.75	2403.50	0.053
Psychological	127.27	94.42	2025.00	0.002
Social	107.28	98.96	2764.50	0.422
Environmental	111.31	98.05	2615.50	0.206

*Note. M= Mean, U= Mann Whitney, P= Significance level, **p ¡ .01, *p ¡ .05.*

Table 4.8 indicates that parental stress (*PSS*) ($M = 107.36$), emotion-focused coping (*EF*) ($M = 120.31$), and avoidant coping ($M = 107.92$) all showed statistically significant differences between employed and unemployed parents, according to the Mann-Whitney U test. Unemployed parents reported higher quality of life in the physical ($M = 117.04$), psychological ($M = 127.27$), social ($M = 107.28$), and environmental ($M = 111.31$) domains than employed parents (physical = 96.75, psychological = 94.42, social = 98.96, environmental = 98.05). The psychological domain ($p < 0.05$) results slightly oppose previous studies, which highlighted that part-time employed parents had higher levels of life satisfaction and quality of life than unemployed parents (Tokić et al., 2023). Another study fidings shows no statistical significance of emplyment status on qulaity life of parents of children with neurodevelopmental disabilities (Dizdarevic et al., 2022).

Table 4.9 depicts the Mann-Whitney U test was used to compare parental stress, coping strategies, and quality of life between families with extended and nuclear systems. Significant differences were found across all variables, with p-values of

TABLE 4.9: Family System

Measure	Extended M (200)	Nuclear M (200)	U	P
PSS	65.59	144.04	1064.50	<.001
Problem Focused	134.47	58.13	1169.00	<.001
Emotion Focused	119.99	76.20	2776.50	<.001
Avoidant Coping	69.01	139.77	1444.50	<.001
Physical	132.16	61.02	1425.50	<.001
Psychological	133.75	59.03	1249.00	<.001
Social	124.69	70.33	2254.50	<.001
Environmental	127.99	66.22	1888.50	<.001

*Note. M= Mean, U= Mann Whitney, P= Significance level, **p ¡ .01, *p ¡ .05.*

¡.001, indicating that the family system significantly affects these aspects. Parents in nuclear families reported higher mean ranks in stress (PSS) (144.04) and avoidant coping (139.77) compared to those in extended families (PSS = 65.59, Avoidant = 69.01). Conversely, extended family systems had higher mean ranks for problem-focused coping (PF) (134.47), emotion-focused coping (EF) (119.99), and quality of life domains such as physical (132.16), psychological (133.75), social (124.69), and environmental (127.99). These findings suggest that family structure plays a crucial role in shaping parental experiences and coping strategies, with nuclear families exhibiting higher stress and avoidant coping, while extended families show better quality of life and adaptive coping strategies align with study findings that conducted in KPK on quality life of parents having children with neurodevelopmental disabilities that indicates parents from extended family feels more relaxed than nuclear because they get support in child care (Ahmed, 2015).

4.7 Kruskal-Walis Test

Table 4.10 indicates that parental stress (*PSS*), problem-focused coping (*PF*), avoidant coping, and quality of life categories (physical, psychological, social, and environmental) did not significantly differ by parents' age groups, according to

TABLE 4.10: Age of Respondents

Scales	Young M (27)	Early Middle M (108)	Late Middle M (65)	χ^2	P
PSS	100.30	98.60	103.74	0.32	0.85
Problem Focused	100.61	98.45	103.86	0.35	0.83
Emotion Focused	126.81	101.13	88.52	8.47	0.01
Avoidant Coping	91.48	98.96	106.80	1.51	0.47
Physical	109.54	94.94	105.98	2.25	0.32
Psychological	113.26	97.94	99.46	1.57	0.45
Social	109.83	95.08	105.63	2.22	0.32
Environmental	108.06	97.14	102.94	0.94	0.62

Note. M= Mean, χ^2=Chi-square, P= Significance level.

the Kruskal-Wallis H test ($p > 0.05$). However, there was a significant age-group difference in emotion-focused coping (EF) ($H = 8.479$, $p = 0.014$), with younger parents (25–30 years) reporting higher EF. Overall, these scores align with study results which highlight that there is no statistically significant difference in age among parents of children with neurodevelopmental disabilities (Bujnowska et al., 2021).

Table 4.11 explains that parental stress, functioning, coping strategies, and quality of life (QoL) aspects were compared across parental education levels (bachelor's, master's, and PhD) using the Kruskal-Wallis test. The findings showed that the majority of the variables had significant differences, underscoring the influence of educational attainment on these results.

Across educational levels, parental stress ($Total\_PSS$) varied considerably ($H = 9.925$, $p = 0.007$). Parents with doctorates reported the lowest levels of stress (Mean Rank = 71.32), followed by those with master's (92.75) and bachelor's degrees (112.39). Higher education levels were positively correlated with problem focused (PF), which also varied considerably (Mean Rank for doctorate =

TABLE 4.11: Education of Respondents

Scales	Bachelor M (92)	Masters M (90)	Doctorate M (17)	χ^2	P
PSS	112.39	92.75	71.32	9.92	0.007
Problem Focused	81.64	113.53	127.71	18.37	<.001
Emotion Focused	97.07	101.85	106.06	0.52	0.769
Avoidant Coping	114.92	89.06	77.21	12.15	0.002
Physical	85.76	109.28	127.94	12.05	0.002
Psychological	85.76	106.18	144.35	17.07	<.001
Social	87.12	108.96	122.29	9.62	0.008
Environmental	83.91	109.03	139.26	17.44	<.001

*Note. PSS= Parental Stress Scale, χ^2= Chi-square, P= Asymptotic significance level, **p ¡ .01, *p ¡ .05.*

127.71, master's = 113.53, bachelor's = 81.64) ($H = 18.376$, $p < 0.001$). Parents with higher levels of education had significantly fewer avoidant coping methods (*Total_Avoidant*) ($H = 12.151$, $p = 0.002$), slightly agreeing with previous study findings which highlight the association between no formal education and poor quality of life among parents of children with neurodevelopmental disabilities (Dereje et al., 2024).

Table 4.12 indicates that the Kruskal-Wallis H test evaluated differences in parental stress, coping strategies, and quality of life based on the child's disorder (ASD, ADHD, ID). The results revealed that parental stress (*PSS*), coping strategies, and quality of life varied depending on the child's disorder. Specifically, emotional coping (*EF*) showed significant differences ($p = 0.007$), with parents of children with ADHD reporting higher mean ranks (117.56) compared to those with ASD (94.06) and ID (88.11). In contrast, no significant differences were observed in parental stress (*PSS*) ($p = 0.085$), problem-focused coping (*PF*) ($p = 0.227$), avoidant coping ($p = 0.192$), and quality of life domains, including physical ($p = 0.706$), psychological ($p = 0.104$), social ($p = 0.917$), and environmental ($p = 0.395$) factors. These findings suggest that while emotional coping strategies vary based on the child's disorder, other aspects of parental experience, such as stress

TABLE 4.12: Child Disorder

Scales	ASD M (70)	ADHD M (70)	ID M (60)	χ^2	P
PSS	11.09	100.19	88.50	4.93	0.085
Problem Focused	92.82	109.46	99.01	2.96	0.227
Emotion Focused	94.06	117.56	88.11	9.81	0.007
Avoidant Coping	110.42	93.57	97.01	3.29	0.192
Physical	99.94	104.68	96.28	0.696	0.706
Psychological	88.84	107.93	105.44	4.51	0.104
Social	98.23	101.89	101.53	0.172	0.917
Environmental	93.81	107.08	100.63	1.85	0.395

*Note. ASD= Autism Spectrum Disorder, ADHD= Attention Deficit Hyperactivity Disorder, ID= Intellectual Disability Disorder, PSS= Parental Stress Scale, χ^2= Chi-square, P= Asymptotic significance level, **p ¡ .01, *p ¡ .05.*

and quality of life, remain consistent across the three disorders.

TABLE 4.13: Severity of Disorder

Scales	Mild M (02)	Moderate M (105)	Severe M (93)	χ^2	P
PSS	40.50	67.28	139.30	78.71	<.001
Problem Focused	164.50	135.19	59.96	86.35	<.001
Emotion Focused	126.50	118.76	79.32	23.58	<.001
Avoidant Coping	57.00	64.00	142.65	92.68	<.001
Physical	142.75	131.30	64.81	66.62	<.001
Psychological	160.50	134.75	60.54	84.85	<.001
Social	118.50	125.78	71.57	44.84	<.001
Environmental	139.00	129.77	66.00	60.09	<.001

*Note. PSS= Parental Stress Scale, χ^2= Chi-square, P= Asymptotic significance level, **p ¡ .01, *p ¡ .05.*

Table 4.13 indicates the Kruskal-Wallis H test results, which indicate the differences in parental stress (*PSS*), coping strategies (*PF*, *EF*, *Avoidant*), and quality of life (physical, psychological, social, environmental) among parents of children

with neurodevelopmental disorders based on the severity of their child's condition (mild, moderate, severe). Results revealed significant differences across all variables, as indicated by the asymptotic significance values ($p < 0.001$).

For parental stress (PSS), parents of children with severe conditions reported the highest levels (Mean Rank = 139.30) compared to moderate (M = 67.28) and mild (M = 40.50). Similarly, avoidant coping was significantly higher in parents of severe cases (M = 142.65) than in moderate (M = 64.00) and mild (M = 57.00) cases. Conversely, problem-focused (PF) and emotion-focused (EF) coping strategies were more commonly employed by parents of children with mild or moderate conditions, with mean ranks decreasing for severe cases.

Quality of life domains followed a similar trend. Parents of children with severe conditions reported significantly lower physical (M = 64.81), psychological (M = 60.54), social (M = 71.57), and environmental (M = 66.63) well-being compared to those with mild or moderate conditions, similar to the results of a mixed-method study conducted to investigate quality of life and parental stress among parents of children with NDDs. Their results indicated that parents of children with severe disorders had poor quality of life compared to those with mild and moderate conditions Faden et al. (2023).

4.8 Summary of Hypothesis Accepted and Rejected

H1: There is an association between parental stress, coping strategies, and quality of life. Result: Accepted

This hypothesis suggests that parental stress, coping strategies, and quality of life are interconnected. The acceptance of this hypothesis indicates that the data supports a significant relationship among these variables. This could mean that as parental stress levels increase, the coping strategies employed and the quality of life experienced by parents are directly influenced. The findings suggest a comprehensive interrelation where these factors cannot be studied in isolation but must be considered as part of a broader dynamic.

H2: Parental stress has a negative impact on QoL. Problem-focused coping has a positive impact on QoL. Result: Accepted (for parental stress), Rejected (for problem-focused coping)

The first part of H2, which asserts that parental stress negatively affects quality of life, was accepted. This supports the idea that higher levels of stress among parents lead to a decrease in their overall quality of life. However, the second part, which suggests that problem-focused coping strategies have a positive impact on quality of life, was rejected. This suggests that, in this study, problem-focused coping did not yield the expected benefits for improving quality of life, possibly due to contextual factors or limitations in the coping mechanisms employed.

H3: Emotion-focused coping had a positive impact on QoL. Result: Rejected

This hypothesis, which proposed a positive relationship between emotion-focused coping and quality of life, was rejected. The data does not support the idea that emotion-focused coping strategies directly enhance the quality of life for parents. It could be that emotion-focused coping, which often involves managing feelings and emotions, may not be as effective in improving external aspects of life quality compared to other strategies like problem-solving.

H4: Avoidant-focused coping has a negative impact on quality of life. Result: Accepted

The acceptance of this hypothesis suggests that avoidant-focused coping, which involves avoiding stressors or suppressing emotions, negatively impacts the quality of life. Parents who engage in avoidance may be unable to address underlying issues, leading to poorer mental and emotional well-being, which in turn diminishes their overall quality of life.

H5: There is an influence of parental age on parental stress, coping strategies, and quality of life. Result: Rejected

This hypothesis, suggesting that parental age influences stress, coping strategies, and quality of life, was rejected. The findings indicate that age may not play a significant role in determining how parents cope with stress or how it affects

their quality of life. This could point to other more significant factors, such as socioeconomic status or family dynamics, that influence these outcomes.

H6: Family system influences parental stress, coping strategies, and quality of life. Result: Accepted

The acceptance of this hypothesis highlights the role of family systems in shaping parental experiences of stress and coping. The family environment can provide critical emotional and social support, which may alleviate stress and improve quality of life. Family dynamics, including support networks, influence how parents handle stress and manage their well-being.

H7: There is an influence of occupation on parental stress and quality of life. Result: Accepted

The acceptance of this hypothesis underscores the impact of occupation on parental stress and quality of life. Employment can contribute to financial stability and social identity, but it may also introduce stress due to work demands. The results suggest that occupation affects both the stress levels parents experience and their overall quality of life.

H8: Parental education influences parental stress and quality of life. Result: Accepted

This hypothesis was accepted, suggesting that parents' education levels are a significant factor in their ability to manage stress and maintain quality of life. Educated parents may have better coping mechanisms, problem-solving skills, and access to resources that help them manage stress and improve their quality of life.

H9: Child disorder influences parental stress, coping strategies, and quality of life. Result: Rejected

The rejection of this hypothesis indicates that child disorders (e.g., ASD, ADHD, ID) did not significantly influence parental stress or quality of life in this study. It could be that other mediating factors, such as support systems or personal coping strategies, play a larger role in shaping parental experiences than the specific disorders themselves.

H10: Child severity influences parental stress, coping strategies, and quality of life. Result: Accepted

The acceptance of this hypothesis suggests that the severity of a child's condition impacts how parents experience stress and quality of life. More severe conditions may result in greater challenges, increasing stress levels and decreasing quality of life. Parents may struggle with caregiving demands, leading to higher stress and lower well-being.

In summary, the hypotheses related to the influence of parental stress, family systems, occupation, education, and child severity on quality of life were largely supported. However, the role of problem-focused coping, emotion-focused coping, child disorder, and parental age were not as significant in shaping these outcomes in this study. The findings provide important insights into the complexities of parental stress and coping strategies, highlighting the importance of family dynamics, education, and child severity in determining overall well-being. According to the Mann-Whitney U test, mothers and fathers did not significantly differ in their overall parental stress ($p = .507$) or problem-focused coping mechanisms ($p = .379$). However, when it came to emotion-focused coping, there was a notable difference, with women reporting more use than fathers ($p = .000$). There were no discernible differences between the two groups in the domains of physical, psychological, social, and environmental quality of life (all p-values $> .05$). These results highlight the value of including fathers in support programs, as their experiences and coping mechanisms are essential to the overall dynamics of caregiving.

Chapter 5

Discussion

A non-experimental correlational study design was used to test the association between variables, impact of parental stress and coping strategies on quality of life among parents of children with NDDs. The study's sample consists of 100 Fathers and 100 mothers (N=200) of children having neurodevelopmental disorders from a center in Rawalpindi and Islamabad. All the respondents in the study are from private sectors, educated and middle to high socioeconomic background. The questionnaire in this study includes a demographic sheet, Parental Stress Scale, Brief cope Scale, WHO quality of life. Cronbach's alpha for Parental Stress Scale is 0.88 which is consider good reliability (Faden et al., 2023).

The value of Cronbach alpha Brief Cope Subscales, Problem Focused Coping 0.86. Emotion Focused 0.10, and Avoidant Coping 0.87. The Cronbach alpha value for WHO BRIEF- Quality of life subscales, physical= 0.82, Psychological= 0.83, Social = 0.83 and Environmental 0.76. For normality analysis descriptive statistics were computed of collected data. The results indicate data were not normally distributed, as the skewness and kurtosis mild deviated, Kolmogorov – Smirnov statistics not in normal range. The results showed a significant negative relationship between parental stress and quality of life, suggesting that parents' quality of life is greatly impacted by greater parental stress levels. Better quality of life and less parental stress were positively correlated with problem-focused coping strategies, whereas avoidant coping had the opposite impact, increasing parental stress and decreasing quality of life. There was no significant effect of emotion-focused

coping on stress or life quality. These findings are consistent with earlier research, which highlights the protective function of problem focused coping strategies and the negative consequences of avoidant coping ones. Study results were impacted by demographic factors such as family structure, education, occupation, and the severity of the condition. Extended families showed greater quality of life and coping than nuclear families, but parents with employment reported a lower quality of life than parents unemployed. Parental stress and quality of life were greatly impacted by parental education and the severity of the child's illness.

5.1 Research Question 1

What is the association between parental stress, coping strategies and quality of life among parents of children with NDDs?

The findings of this study highlight the critical role coping strategies play in influencing the quality of life, particularly in the context of parental stress. The strong negative correlation between the Parental Stress Scale and Quality of Life (r = -0.64) underscores the detrimental impact that heightened stress has on overall well-being. Furthermore, the positive correlation between Problem-Focused Coping and quality of life (r = 0.85) suggests that active problem-solving and focused coping strategies can significantly enhance life satisfaction, potentially serving as effective interventions for improving quality of life in stressful situations.

On the other hand, the positive correlation between Avoidant Coping and parental stress (r = 0.71), along with its negative correlation with quality of life (r = -0.77), emphasizes the detrimental effect of avoidance as a coping mechanism. This aligns with existing research that suggests avoidance may exacerbate stress, leading to a diminished sense of well-being. The results of this study support the hypothesis that adaptive coping strategies, such as problem-focused coping, are associated with better quality of life, while maladaptive strategies, such as avoidant coping, contribute to higher levels of stress and reduced quality of life.

5.1.1 Discussion Hypothesis 1

The negative correlation between the Parental Stress Scale and Quality of Life (r = -0.64) in this study further corroborates the notion that increased parental stress is a significant factor contributing to a reduced quality of life. This finding aligns with previous research, such as the study by Faden et al. (2023), which highlighted that parents of children with neurodevelopmental disorders (NDDs) experience a notably lower quality of life and higher levels of stress compared to parents of typically developing children. Similarly, Suen et al. (2021) also reported elevated parenting stress in parents of children with autism spectrum disorder (ASD), with the stress being directly linked to a deteriorating quality of life. These studies, along with the current findings, emphasize the pervasive impact of parental stress on life satisfaction, particularly in families navigating the challenges associated with raising children with NDDs.

This body of evidence suggests that interventions aimed at reducing parental stress could play a pivotal role in improving the overall quality of life for parents in these situations. Given the strong correlation observed in the current study, addressing the factors contributing to parental stress—such as implementing stress management techniques or providing targeted support—could help mitigate the negative effects of stress, thereby enhancing the well-being of parents and improving their overall life satisfaction.

5.2 Research Question 2

What is impact of parental stress and coping strategies on quality of life among parents of children with NDDs?

The results from the hypothesis testing offer further insights into the relationship between coping strategies, stress, and quality of life. Hypothesis H2, which postulated a significant association between problem-focused coping and quality of life, was accepted. The findings revealed that problem-focused coping ($Total\_PF$) was significantly linked to a higher quality of life ($\beta = -0.284$, $p < 0.001$), meaning

that individuals who adopt problem-focused coping strategies tend to experience a better quality of life. This underscores the importance of actively engaging in problem-solving and goal-oriented behaviors to improve well-being. Conversely, emotion-focused coping (*Total_EF*) was not found to have a significant impact on stress ($b = -0.002$, $p = 0.95$), leading to the rejection of hypothesis H3. This suggests that emotion-focused coping may not be as effective in directly reducing stress levels in the context of this study.

Additionally, the findings indicate that avoidant coping was positively associated with stress ($b = 0.299$, $p < 0.001$), which is consistent with prior research suggesting that avoidance exacerbates stress. In contrast, the negative association between quality of life (*Total_QL26*) and stress ($b = -0.282$, $p = 0.007$) further emphasizes the detrimental effects of stress on overall life satisfaction. The model's pseudo R-squared values—Cox and Snell = 0.527, Nagelkerke = 0.528, and McFadden = 0.113—suggest that the predictors included in the model explain a significant portion of the variance in both quality of life and stress. These findings highlight the importance of focusing on adaptive coping strategies, such as problem-focused coping, to mitigate stress and enhance quality of life.

5.2.1 Discussion Hypothesis H2 – H4

The study results underscore the significant influence that coping strategies and parental stress have on quality of life. Interestingly, while the quality of life was found to have a negligible impact on itself, coping strategies, especially problem-focused coping, emerged as key predictors of a higher quality of life and lower levels of parental stress. An overemphasis on stressors may result in rumination and emotional tiredness, which could explain the negative correlation between problem-focused coping and quality of life ($\beta = -0.284$, $p < 0.001$). Although the goal of problem-focused coping is to deal with difficulties, an excessive focus on problems can impede emotional healing and reduce quality of life. Additionally, other factors such as social support also play a vital role. These findings align with previous research, such as the study by Saeed and Merza (2024), which demonstrated that problem-focused coping not only positively impacted quality

of life but also had a negative effect on parental stress. The active approach of addressing problems and finding solutions thus appears to buffer against the negative effects of stress, contributing to improved well-being.

In contrast, avoidant coping strategies were found to exacerbate both stress and the deterioration of quality of life, consistent with prior literature. The study by Enea and Rusu (2020) noted that avoidant coping strategies place individuals at higher risk for elevated parental stress and poor mental health outcomes. This reinforces the idea that avoidance, rather than alleviating stress, tends to lead to greater emotional burden, further diminishing quality of life. Together, these findings highlight the importance of promoting adaptive coping strategies, such as problem-focused coping, to mitigate stress and enhance the overall well-being of parents, especially in high-stress parenting environments.

5.3 Research Question 3

What is the influence and difference in study variables based upon age, parents occupation , education , family system, type of disorder of child, severity of condition ?

The further examination of the study variables through hypotheses H5, H6, H7, H8, H9, and H10 provided additional insights into the factors influencing parental stress and quality of life. Hypothesis H5, which suggested that age would influence parental stress and quality of life, was rejected. The results did not reveal any significant effects of age on either parental stress or quality of life, indicating that age may not be a critical factor in determining how parents experience stress or well-being in the context of this study. Similarly, Hypothesis H9, which postulated that the type of disorder would affect parental stress and quality of life, was also rejected. The data did not show any significant differences based on the type of disorder, suggesting that other factors, such as coping strategies or support systems, may play a more prominent role in shaping parental stress and quality of life, regardless of the disorder type.

This rejection of H5 and H9 highlights the complexity of the factors influencing parental well-being and the need to explore additional variables that may better explain the variance in stress and quality of life outcomes. Future research could benefit from investigating other demographic or environmental factors that might be more directly associated with parental experiences.

5.3.1 Discussion Hypothesis H5 – H10

Parental stress (PSS), problem-focused coping (PF), avoidant coping, and quality of life categories (physical, psychological, social, and environmental) did not significantly differ by parents' age groups, according to the Kruskal-Wallis H test *(p ¿.05)* align with results of studies (Faden et al., 2023; Dijkstra-de Neijs et al., 2024). However, results were opposite to a study conducted on parents of children with neurodevelopmental disorders which highlighted that age was significantly associated with physical and environmental domain (Dereje et al., 2024).

Significant differences were found across all variables, with p-values of ¡.001, indicating that the family system significantly affects these aspects these findings suggest that family structure plays a crucial role in shaping parental experiences and coping strategies, with nuclear families exhibiting higher stress and avoidant coping, while extended families show better quality of life and adaptive coping strategies (Ahmed, 2015).

According to the Mann-Whitney U test, unemployed parents reported higher quality of life in the physical (M = 117.04), psychological (M = 127.27), social (M = 107.28), and environmental (M = 111.31) domains than employed parents (physical = 96.75, psychological = 94.42, social = 98.96, environmental = 98.05). The psychological domain ($p < 0.05$) results slightly oppose previous study findings, which highlighted that part-time employed parents had higher levels of life satisfaction and quality of life than unemployed parents (Tokić et al., 2023).

Across educational levels, parental stress (*Total_PSS*) varied considerably ($H = 9.925$, $p = 0.007$), slightly agreeing with previous study findings, which highlight the association between no formal education and poor quality of life among parents of children with neurodevelopmental disabilities (Dereje et al., 2024). No

significant differences in child disorder types were observed in parental stress (PSS) ($p = 0.085$), problem-focused coping (PF) ($p = 0.227$), avoidant coping ($p = 0.192$), and quality of life domains, including physical ($p = 0.706$), psychological ($p = 0.104$), social ($p = 0.917$), and environmental influences ($p = 0.395$).

Similar to the severity of the disorder, asymptotic significance values ($p < 0.001$) show significant differences across all variables. According to the literature, parents of children with severe disorders have a lower quality of life than those with mild and moderate disorders (Faden et al., 2023).

Chapter 6

Conclusion

6.1 Research Implications

6.1.1 Theoretical Implications

In the context of educated parents from the private sector in Rawalpindi and Islamabad, our study contributes to a deeper understanding of the complex relationships between parental stress, coping strategies, and quality of life (QoL) among parents of children with neurodevelopmental disorders (NDDs). The positive relationship between problem-focused coping and quality of life, as well as its negative relationship with parental stress, aligns with Lazarus and Folkman's transactional model of stress and coping. This finding suggests that interventions focusing on promoting problem-focused coping could be effective in enhancing the quality of life for parents. On the other hand, avoidant coping, which was positively associated with parental stress and negatively impacted quality of life, highlights the need for interventions that reduce reliance on avoidant coping mechanisms, ultimately improving quality of life for parents.

The study also expands on earlier research that demonstrates caregivers of children with NDDs experience higher levels of parental stress and a diminished quality of life. These challenges often relate to factors such as age, socioeconomic status, and family dynamics, as noted by Faden et al. (2023). In line with these findings, our study indicates that parents with lower levels of education and those who

are unemployed tend to experience higher levels of parental stress. Additionally, the severity of the child's condition was found to exacerbate stress and reduce the quality of life. Regarding family dynamics, the study suggests that parents from extended family systems report higher quality of life compared to those from nuclear families, emphasizing the role of familial support networks. This highlights the interdependence of family members and encourages future interventions to incorporate social support systems, particularly in fostering stronger connections with extended family and community resources.

6.2 Limitation and Future Recommendation

The study's findings, while insightful, cannot be generalized to a broader population due to the limited sample, which primarily consists of educated parents from middle to upper-class private sector backgrounds. This sampling limitation restricts the applicability of the results to more diverse groups, especially those with varying educational levels and socioeconomic statuses. Future studies should aim to include a wider range of participants, such as parents with different educational backgrounds and those from lower socioeconomic backgrounds or government sectors. By doing so, the findings could offer a more comprehensive understanding of how these factors influence parental stress and quality of life across different societal segments.

In addition, the current study's cross-sectional design limits the ability to draw conclusions about the long-term effects of parental stress and coping strategies on quality of life. Longitudinal research is needed to explore how these dynamics evolve over time and whether certain coping strategies become more or less effective as parents face ongoing challenges. This could provide deeper insights into the long-term impact of stress and coping on family well-being and inform the development of targeted interventions that support parents across different stages of their parenting journey.

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Appendix A

Consent Form

Dear Participants,

I am a student of MS Psychology at Capital University of Science and Technology, Islamabad. I am conducting research on parents of children with neurodevelopmental disorders.

I assure you that your information will remain confidential and will not be used for any other purposes. The participants have the right to withdraw from the research at any time without any pressure. If you face any kind of problem or have any queries, don't hesitate to ask. I will be very thankful if you may provide the required information.

I have read this form, and the research has been explained to me. I have been given the opportunity to ask questions, which have been answered. If I have any additional questions, I have been informed whom to contact. I agree to participate in the research described above.

Participant Signature: _____

Appendix B

Demographic Sheet

Characteristics of the Parents:

- **Age:** _____
- **Gender:** Male ☐ Female ☐
- **Marital Status:** Married ☐ Divorced/Separated ☐ Widow ☐ Other ☐
- **Mother/Father Education:** Metric ☐ Intermediate ☐ Bachelor ☐ Masters ☐ Doctorate ☐ Other ☐
- **Occupation:** Unemployed ☐ Employed ☐
- **Family System:** Extended ☐ Nuclear ☐
- **Monthly Household Income:** Less than 40,000 ☐ 40,000 – 100,000 ☐ More than 100,000 ☐

Characteristics of the Child:

- **Age:** _____
- **Child Gender:** Male ☐ Female ☐
- **Any Siblings:** Yes ☐ No ☐

- **Child Birth Order:** First Child ☐ Second Child ☐ Third Child or higher ☐
- **Disorder of Child:** Autism (ASD) ☐ ADHD ☐ Intellectual Disability (ID) ☐ Other/Co-morbid ☐
- **Severity of Child Condition:** Mild ☐ Moderate ☐ Severe ☐
- **Duration of Illness:** Less than 1 year ☐ 1 – 2 years ☐ 3 – 4 years ☐ 5+ years ☐
- **Have you taken therapy/treatment before?** Yes ☐ No ☐

Appendix C

Scale 2: Coping Strategies

Please rate how often you have used each coping strategy in stressful situations recently, using the scale:

Not at all A little bit A medium amount A lot

1. I have been turning to work or other activities to take my mind off things. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

2. I have been concentrating my efforts on doing something about the situation I'm in. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

3. I have been saying to myself 'this isn't real'. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

4. I have been using alcohol or other drugs to make myself feel better. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

5. I have been getting emotional support from others. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

6. I have been giving up trying to deal with it. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

7. I have been taking action to try to make the situation better. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

8. I have been refusing to believe that it has happened. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

9. I have been saying things to let my unpleasant feelings escape. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

10. I have been getting help and advice from other people. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

11. I have been using alcohol or other drugs to help me get through it. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

12. I have been trying to see it in a different light, to make it seem more positive. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

13. I have been criticizing myself. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

14. I have been trying to come up with a strategy about what to do. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

15. I have been getting comfort and understanding from someone. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

16. I have been giving up the attempt to cope. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

17. I have been looking for something good in what is happening. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

18. I have been making jokes about it. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

19. I have been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

20. I have been accepting the reality of the fact that it has happened. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

21. I have been expressing my negative feelings. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

22. I have been trying to find comfort in my religion, spiritual beliefs. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

23. I have been trying to get advice or help from other people about what to do. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

24. I have been learning to live with it. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

25. I have been thinking hard about what steps to take. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

26. I have been blaming myself for things that happened. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

27. I have been praying or meditating. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

28. I have been making fun of the situation. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

Appendix D

Scale 2: Coping Strategies

Please rate how often you have used each coping strategy in stressful situations recently, using the scale:

Not at all A little bit A medium amount A lot

1. I have been turning to work or other activities to take my mind off things. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

2. I have been concentrating my efforts on doing something about the situation I'm in. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

3. I have been saying to myself 'this isn't real'. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

4. I have been using alcohol or other drugs to make myself feel better. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

5. I have been getting emotional support from others. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

6. I have been giving up trying to deal with it. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

7. I have been taking action to try to make the situation better. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

8. I have been refusing to believe that it has happened. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

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11. I have been using alcohol or other drugs to help me get through it. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

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13. I have been criticizing myself. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

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27. I have been praying or meditating. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

28. I have been making fun of the situation. ☐ Not at all ☐ A little bit ☐ A medium amount ☐ A lot

Appendix E

Instructions

This assessment asks how you feel about your quality of life, health ,or other areas of your life . Please answer all the questions .If you are unsure about which response to give to a question, please choose the one that appears most appropriate. This can often be your first response.

1. **How would you rate your quality of life?**

- ☐ Very Poor
- ☐ Poor
- ☐ Neither Poor Nor Good
- ☐ Good
- ☐ Very Good

2. **How satisfied are you with your health?**

- ☐ Very Dissatisfied
- ☐ Dissatisfied
- ☐ Neither Satisfied nor Dissatisfied
- ☐ Satisfied
- ☐ Very Satisfied

The following questions ask about how much you have experienced certain things in the last two weeks.

3. **To what extent do you feel that (physical) pain prevents you from doing what you need to do?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much
- ☐ An extreme amount

4. **How much do you need any medical treatment to function in your daily life?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much
- ☐ An extreme amount

5. **How much do you enjoy life?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much

- ☐ An extreme amount

6. **To what extent do you feel your life to be meaningful?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much
- ☐ An extreme amount

7. **How well are you able to concentrate?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much
- ☐ An extreme amount

8. **How safe do you feel in your daily life?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much
- ☐ An extreme amount

9. **How healthy is your physical environment?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much
- ☐ An extreme amount

10. **Do you have enough energy for everyday life?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much
- ☐ An extreme amount

11. **Are you able to accept your bodily appearance?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much
- ☐ An extreme amount

12. **Have you enough money to meet your needs?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much
- ☐ An extreme amount

13. **How available to you is the information that you need in your day-to-day life?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much
- ☐ An extreme amount

14. **To what extent do you have the opportunity for leisure activities?**

- ☐ Not at all
- ☐ A little
- ☐ A moderate amount
- ☐ Very much
- ☐ An extreme amount

15. **How well are you able to get around?**

- ☐ Very poor

- ☐ Poor
- ☐ Neither poor nor good
- ☐ Good
- ☐ Very good

The following questions ask you to say how good or satisfied you have felt about various aspects of your life over the last two weeks.

16. **How satisfied are you with your sleep?**

- ☐ Very dissatisfied
- ☐ Dissatisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

17. **How satisfied are you with your ability to perform your daily living activities?**

- ☐ Very dissatisfied
- ☐ Dissatisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

18. **How satisfied are you with your capacity for work?**

- ☐ Very dissatisfied
- ☐ Dissatisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

19. **How satisfied are you with yourself?**

- ☐ Very dissatisfied
- ☐ Dissatisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

20. **How satisfied are you with your personal relationships?**

- ☐ Very dissatisfied
- ☐ Dissatisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

21. **How satisfied are you with your sex life?**

- ☐ Very dissatisfied

- ☐ Dissatisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

22. **How satisfied are you with the support you get from your friends?**

- ☐ Very dissatisfied
- ☐ Dissatisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

23. **How satisfied are you with the conditions of your living place?**

- ☐ Very dissatisfied
- ☐ Dissatisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

24. **How satisfied are you with your access to health services?**

- ☐ Very dissatisfied
- ☐ Dissatisfied

- ☐ Neither satisfied nor dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

25. **How satisfied are you with your transport?**

- ☐ Very dissatisfied
- ☐ Dissatisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

The following question refers to how often you have felt or experienced certain things in the last two weeks.

26. **How often do you have negative feelings such as blue mood, despair, anxiety, depression?**

- ☐ Never
- ☐ Seldom
- ☐ Quite often
- ☐ Very often
- ☐ Always

27. **Did someone help you to fill out this form?**

- ☐ Yes

- ☐ No

28. **How long did it take to fill this form out?**

- ☐ Less than 10 minutes
- ☐ 10-20 minutes
- ☐ 20-30 minutes
- ☐ More than 30 minutes